



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

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BY HAND

May 5, 2015

Wanda Santiago
Regional Hearing Clerk
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: *In the Matter of Chlor-Alkali Facility (Former) Superfund Site, Fort James LLC
and Georgia-Pacific Consumer Products LP*
Docket No. CERCLA-01-2015-0043

Dear Ms. Santiago:

Enclosed for filing in the above-referenced action, please find one copy of an Administrative Order on Consent under which Fort James LLC and Georgia-Pacific Consumer Products LP will conduct a Supplemental Remedial Investigation and Feasibility Study at the Chlor-Alkali Facility, located in Berlin, NH.

Thank you for your attention to this matter.

Sincerely,

Lauren O'Neill

Enclosure

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 1

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_____)
IN THE MATTER OF:)
)
CHLOR-ALKALI FACILITY (FORMER))
SUPERFUND SITE, Berlin, NH,)
)
FORT JAMES LLC)
)
and)
)
GEORGIA-PACIFIC CONSUMER)
PRODUCTS LP,)
)
Respondents.)
)
)
)
Proceeding Under Sections 104, 107)
and 122 of the Comprehensive)
Environmental Response, Compensation,)
and Liability Act, 42 U.S.C. §§ 9604,)
9607 and 9622.)
_____)

U.S. EPA Region 1
CERCLA Docket No. 01-2015-0043

**ADMINISTRATIVE SETTLEMENT
AGREEMENT AND ORDER ON
CONSENT FOR SUPPLEMENTAL
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY**

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ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (“Settlement Agreement”) is entered into voluntarily by the United States Environmental Protection Agency (“EPA”) and Georgia-Pacific Consumer Products LP and Fort James LLC (“Respondents”). The Settlement Agreement concerns the preparation and performance of a supplemental remedial investigation and feasibility study (“SRI/FS”) at or in connection with the Chlor-Alkali Facility (Former) Superfund Site located in Berlin, New Hampshire (“Site”) and payment of Future Response Costs incurred by EPA in connection with the SRI/FS.

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9604, 9607, and 9622 (“CERCLA”). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (Jan. 29, 1987), and further delegated to Regional Administrators on May 11, 1994, by EPA Delegation Nos. 14-14-C (Administrative Actions Through Consent Orders) and 14-14-D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders). These authorities were further redelegated by the Regional Administrator of EPA Region 1 to the Director of the Office of Site Remediation and Restoration on September 3, 1996, by Region 1 Delegation Nos. 14-14-C (Administrative Actions Through Consent Orders) and 14-14-D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders).

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the U.S. Department of the Interior, the U.S. Department of Commerce-National Oceanic and Atmospheric Administration, and the New Hampshire Department of Environmental Services (“NHDES”) on November 25, 2014, of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal and/or State trusteeship.

4. EPA and Respondents recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of fact in Section V and the conclusions of law and determinations in Section VI. Respondents agree to comply with and be bound by the terms of this Settlement Agreement and further agree that they will not contest the basis or validity of this Settlement Agreement or its terms.

II. PARTIES BOUND

5. This Settlement Agreement applies to and is binding upon EPA and upon Respondents and their successors and assigns. Any change in ownership or corporate status of

Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondents' responsibilities under this Settlement Agreement.

6. Respondents are jointly and severally liable for carrying out all activities required by this Settlement Agreement.

7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondents shall be responsible for any noncompliance with this Settlement Agreement.

8. The undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to execute and legally bind Respondents to this Settlement Agreement.

III. STATEMENT OF PURPOSE

9. In entering into this Settlement Agreement, the objectives of 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, by conducting a Supplemental Remedial Investigation as more specifically set forth in the Statement of Work ("SOW") attached as Appendix A to this Settlement Agreement; (b) to identify and evaluate remedial alternatives 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, within two or more Operable Units ("OUs"), by conducting a Feasibility Study as more specifically set forth in the SOW in Appendix A to this Settlement Agreement; and (c) to require Respondents to pay Future Response Costs as defined below.

10. The Work conducted under this Settlement Agreement is subject to approval by EPA, after reasonable opportunity for review and comment by the State, and shall provide all appropriate and necessary information to assess Site conditions and evaluate alternatives to the extent necessary to select a remedy that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("NCP"). Respondents shall conduct all Work under this Settlement Agreement in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

IV. DEFINITIONS

11. Unless otherwise expressly provided in this Settlement Agreement, terms used in this Settlement Agreement 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 Settlement Agreement or its appendices, the following definitions shall apply:

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“DOJ” shall mean the United States Department of Justice and its successor departments, agencies, or instrumentalities.

“Day” or “day” shall mean a calendar day. In computing any period of time under this Settlement Agreement, 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 effective date of this Settlement Agreement as provided in Section XXIX.

“Engineering Controls” shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration, or seepage of surface runoff or rain; or natural leaching migration of contaminants through the subsurface over time. Examples include caps, engineered bottom barriers, immobilization processes, and vertical barriers.

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

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

“Future Response Costs” shall mean all costs incurred after the Effective Date, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports, and other deliverables submitted pursuant to this Settlement Agreement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, costs under a cooperative agreement with the State, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry costs, the costs incurred pursuant to Section XII (Access and Institutional Controls) (including, but not limited to, the cost of attorney time and any monies paid to secure access, including, but not limited to, the amount of just compensation), Paragraph 38 (emergency response), Paragraph 82 (Work takeover), and the costs incurred by the United States in enforcing the terms of this Settlement Agreement, including all costs incurred in connection with Section XV (Dispute Resolution), and all litigation costs.

“Institutional Controls” shall mean non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Examples of institutional controls include activity and use restrictions as contemplated under New Hampshire Code of Administrative Rules, Part Env-Or 608, easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.

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

rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

“Chlor-Alkali Facility (Former) Superfund Site Special Account” shall mean the special account, within the EPA Hazardous Substance Superfund, established for the Site by EPA pursuant to Section 122(b)(3) of CERCLA, 42 U.S.C. § 9622(b)(3).

“NHDES” shall mean the New Hampshire Department of Environmental Services, and any successor departments or agencies of the State of New Hampshire.

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

“Paragraph” shall mean a portion of this Settlement Agreement identified by an Arabic numeral or an upper or lower case letter. References to paragraphs in the SOW will be so identified, e.g., “SOW Paragraph 15.”

“Parties” shall mean EPA and Respondents.

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

“Respondents” shall mean Fort James LLC and Georgia-Pacific Consumer Products LP.

“Section” shall mean a portion of this Settlement Agreement identified by a Roman numeral. References to sections in the SOW will be so identified, e.g., “SOW Section V.”

“Settlement Agreement” shall mean this Administrative Settlement Agreement and Order on Consent, the SOW, all appendices attached hereto (listed in Section XXVII) and all documents incorporated by reference into this document including without limitation EPA-approved submissions. EPA-approved submissions (other than progress reports) are incorporated into and become a part of the Settlement Agreement upon approval by EPA. In the event of conflict between this Settlement Agreement and any appendix or other incorporated documents, this Settlement Agreement shall control.

“Site” shall mean the Chlor-Alkali Facility (Former) Superfund Site, which is further described in Paragraphs 12 and 13 below.

“State” shall mean the State of New Hampshire.

“Statement of Work” or “SOW” shall mean the Statement of Work for development of a Supplemental Remedial Investigation/Feasibility Study (“SRI/FS”) for the Site, as set forth in Appendix A to this Settlement Agreement. The Statement of Work is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement as are any modifications made thereto in accordance with this Settlement Agreement.

“United States” shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Materials” shall mean (a) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); (d) any “hazardous waste” or “hazardous materials” under New Hampshire Revised Statutes Annotated 147-B:2, VII or VIII; and (5) any “hazardous waste” under New Hampshire Revised Statutes Annotated 147-A:2, VII.

“Work” shall mean all activities Respondents are required to perform under this Settlement Agreement, except those required by Section XIV (Retention of Records).

V. FINDINGS OF FACT

12. The Chlor-Alkali Facility (Former) Superfund Site (“Site”) is located in the City of Berlin, Coos County, New Hampshire, on the eastern bank of the Androscoggin River (“Androscoggin River” or the “River”). The main part of the Site, which is referred to as the Cell House Property (or parcel) (“CHP”), is a landfill that contains debris and remnants of a former chlor-alkali facility/chemical plant that operated primarily in that same location. The entire Site includes the CHP and former chemical plant, all areas within the Androscoggin River with Site-related contaminants, its impoundments and floodplains, as well as any other location where hazardous substances from the contamination from the former chlor-alkali facility/chemical plant have come to be located. For purposes of this Settlement Agreement, the only area of the Androscoggin River to be included in the Work and investigated as described in the SOW will be the section of the river between the Sawmill dam and the Riverside dam adjacent to the CHP in Berlin, New Hampshire.

13. The former chemical plant was built during the late 1890s and operated through much of the 20th century by the Brown Company. Electrolytic cells were installed in cell houses to produce chlorine and sodium hydroxide for pulp and paper manufacturing. The chemical plant also produced other chemicals including chloroform, carbon tetrachloride, carbon disulfide, and calcium arsenate. The chemical plant, rail yard, and other structures were gradually dismantled over a number of years with demolition debris often consolidated into former building structures and left on Site. The CHP landfill was closed in 1999 with the installation of a low-permeability cap covered by two feet of wood chips. A slurry wall was added to control groundwater from migrating into the capped landfill area.

14. Respondents are successors to the former owner/operators at the Site or have assumed the liabilities of one or more of the former owner/operators.

15. Sampling reveals the presence hazardous substances in soils, groundwater, and sediments at the Site including, but not limited to, the following: mercury, asbestos, polychlorinated dibenzodioxins, polychlorinated dibenzofurans, and polychlorinated biphenyls, although not all of these hazardous substances are found in every environmental media at the Site.

16. In 1999, mercury was discovered to be discharging into the River through bedrock fractures in the riverbank, adjacent to the CHP. The NHDES completed several removals of mercury and mercury contaminated debris from the Androscoggin River together with the then current owners of the former chemical plant and surrounding pulp and paper mill property, or independently upon property abandonment pursuant to certain orders entered in a former owner's Chapter 11 bankruptcy proceeding.

17. At the request of the NHDES, the Site was proposed for listing to the National Priorities List ("NPL") on April 27, 2005, Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the NPL, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 14, 2005, 70 Fed. Reg. 54286.

18. In 2009, EPA began a Remedial Investigation/Feasibility Study at the Site pursuant to 40 C.F.R. § 300.430.

19. After EPA identified Respondents as potentially responsible parties for the Site, Respondents expressed interest in taking over the performance of a SRI/FS.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth in Section V, EPA has determined that:

20. The Chlor-Alkali Facility (Former) Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

21. The contamination, including but not limited to, mercury, asbestos, polychlorinated dibenzodioxins, polychlorinated dibenzofurans, and polychlorinated biphenyls, found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

22. The conditions described in Paragraphs 12 to 16 of the Findings of Fact in Section V above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

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

24. Respondents are responsible parties under Sections 104, 107, and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622. Respondents are or have succeeded to the liabilities of the "owner" and/or "operator" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) and (a)(2) of CERCLA, 42 U.S.C. § 9607(a)(1) and (a)(2).

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

26. The actions called for in this Order will be consistent with the NCP, provided that Respondents perform all such actions in accordance with the terms of this Order and the SOW and any modifications thereto.

27. EPA has determined that Respondents are qualified to conduct the SRI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Settlement Agreement.

VII. SETTLEMENT AGREEMENT AND ORDER

28. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Settlement Agreement, including, but not limited to, all appendices to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

VIII. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

29. Selection of Contractors, Personnel. All Work performed under this Settlement Agreement shall be under the direction and supervision of qualified personnel. Within 30 days after the Effective Date, and before the Work outlined below begins, Respondents shall notify EPA and NHDES 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, Respondents shall demonstrate that the proposed contractor has a quality system that complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), 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; Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Settlement Agreement is contingent on Respondents' demonstration to EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Settlement Agreement. If EPA disapproves in writing of any person's technical qualifications, Respondents shall notify EPA and NHDES of the identity and qualifications of the replacements within 30 days after the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Settlement Agreement and to conduct a complete SRI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the SRI/FS, Respondents shall notify EPA and NHDES in writing of any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

30. Within 30 days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required

by this Settlement Agreement and shall submit to EPA and NHDES the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA and NHDES of that person's name, address, telephone number, and qualifications within 14 days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA and NHDES 14 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondents.

31. EPA has designated Darryl Luce in the Office of Site Remediation and Restoration as its Remedial Project Manager. EPA will notify Respondents of a change of its designated Remedial Project Manager. Except as otherwise provided in this Settlement Agreement, Respondents shall direct all submissions required by this Settlement Agreement to the Remedial Project Manager, Office of Site Remediation and Restoration, EPA Region 1 at 5 Post Office Square, Suite 100, Mail Code: OSRR07-1, Boston, MA 02109-3912, and to NHDES of New Hampshire Remedial Project Manager, Waste Management Division, Hazardous Waste Remediation Bureau, 29 Hazen Drive, PO Box 95, Concord, New Hampshire 03302-0095.

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

33. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the SRI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the SRI/FS Work Plan.

IX. WORK TO BE PERFORMED

34. Respondents shall conduct the SRI/FS in accordance with the provisions of this Settlement Agreement, the SOW, CERCLA, the NCP, and EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" ("RI/FS Guidance") (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment (Part B)" (OSWER Directive #9285.7-09B, PB92-963362, May 1992 or subsequently issued guidance), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. The SRI shall consist of collecting data to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to

human health and the environment, and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study ("FS") shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate, or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). Respondents shall submit all portions of any plan, report, or other deliverable Respondents are required to submit pursuant to provisions of this Settlement Agreement in accordance with the SOW.

35. Upon receipt of the draft FS report, EPA will 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 and will evaluate the durability, reliability, and effectiveness of any proposed Institutional Controls.

36. Modification of the SRI/FS Work Plan.

a. If at any time during the SRI/FS, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA Remedial Project Manager within 14 days after identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into plans, reports, and other deliverables.

b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA Remedial Project Manager by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the unanticipated or changed circumstances warrant changes in the SRI/FS Work Plan, EPA shall modify or amend the SRI/FS Work Plan in writing accordingly. Respondents shall perform the SRI/FS Work Plan as modified or amended.

c. EPA may determine that in addition to tasks defined in the initially approved SRI/FS Work Plan, other additional Work may be necessary to accomplish the objectives of the SRI/FS. Respondents agree to perform these response actions in addition to those required by the initially approved SRI/FS Work Plan, including any approved modifications, if EPA determines that such actions are necessary for a complete SRI/FS.

d. Respondents shall confirm their willingness to perform the additional Work in writing to EPA within 14 days after receipt of the EPA request. If Respondents object to any modification determined by EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). The SOW or SRI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.

e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the SRI/FS Work Plan or written SRI/FS Work Plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, and to seek any other appropriate relief.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

37. Off-Site Shipment.

a. Respondents may ship hazardous substances, pollutants and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA Section 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b). Respondents may ship Investigation Derived Waste ("IDW") from the Site to an off-Site facility only if Respondents comply with EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992).

b. Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, Respondents provide written notice to the appropriate state environmental official in the receiving facility's state and to EPA's Remedial Project Manager. This written notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents also shall notify the state environmental official referenced in Paragraph 31 and EPA's Remedial Project Manager of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the written notice after the award of the contract for remedial investigation and feasibility study and before the Waste Material is shipped.

38. Progress Reports. In addition to the plans, reports, and other deliverables set forth in this Settlement Agreement, Respondents shall provide to EPA and NHDES monthly progress reports by the 10th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall: (a) describe the actions that have been taken to comply with this Settlement Agreement during that month, (b) include all results of sampling and tests and all other data received by Respondents, (c) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for SRI/FS completion, and (d) 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.

39. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence during, arising from, or relating to performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the EPA Remedial Project Manager or, in the event of his/her unavailability, or the Regional Duty Officer of the Emergency Planning and Response Branch, EPA Region 1, at (617) 918-1224 and the National Response Center, at (800) 424-8802, and the NHDES Remedial Project Manager, of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Future Response Costs).

b. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall immediately notify the EPA Remedial Project Manager or Regional Duty Officer at (617) 918-1224, the NHDES Remedial Project Manager, and the National Response Center at (800) 424-8802. Respondents shall submit a written report to EPA and NHDES within seven days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

X. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

40. After review of any plan, report, or other item that is required to be submitted for approval pursuant to this Settlement Agreement, in a notice to Respondents, EPA, after reasonable opportunity for review and comment by NHDES, shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above.

41. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 40.a, 40.b, 40.c, or 40.e, Respondents shall proceed to take any action required by the plan, report, or other deliverable, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XV (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submission or portion thereof, Respondents shall not thereafter alter or amend such submission or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 40.c and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XVI (Stipulated Penalties).

42. Resubmission.

a. Upon receipt of a notice of disapproval, Respondents shall, within 21 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Any stipulated penalties applicable to the submission, as provided in Section XVI, shall accrue during the 21-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraph 44.

b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for stipulated penalties under Section XVI (Stipulated Penalties).

c. 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 SRI/FS.

43. If EPA disapproves a resubmitted plan, report, or other deliverable, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA shall also retain the right to modify or develop the plan, report, or other deliverable. Respondents shall implement any such plan, report, or deliverable as corrected, modified, or developed by EPA, subject only to Respondents' right to invoke the procedures set forth in Section XV (Dispute Resolution).

44. If upon resubmission, a plan, report, or other deliverable is disapproved or modified by EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution) and EPA's action is revoked or substantially modified pursuant to a Dispute Resolution decision issued by EPA or superseded by an agreement reached pursuant to that Section. The provisions of Section XV (Dispute Resolution) and Section XVI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is not otherwise revoked, substantially modified, or superseded as a result of a decision or agreement reached pursuant to the Dispute Resolution process set forth in Section XV, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVI.

45. In the event that EPA takes over some of the tasks, but not the preparation of the SRI Report or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into the final reports.

46. All plans, reports, and other deliverables submitted to EPA under this Settlement Agreement shall, upon approval or modification by EPA, be incorporated into and enforceable under this Settlement Agreement. In the event EPA approves or modifies a portion of a plan, report, or other deliverable submitted to EPA under this Settlement Agreement, the approved or modified portion shall be incorporated into and enforceable under this Settlement Agreement.

47. Neither failure of 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 EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

XI. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION

48. Quality Assurance. Respondents shall assure that Work performed, samples taken, and analyses conducted conform to the requirements of the SOW, the Quality Assurance Project Plan ("QAPP"), and guidances 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 that have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001; Reissued May 2006) or equivalent documentation as determined by EPA.

49. Sampling.

a. All results of sampling, tests, modeling, or other data (including raw data) generated by Respondents, or on Respondents' behalf, during the period that this Settlement Agreement is effective, shall be submitted to EPA and NHDES in the next monthly progress report as described in Paragraph 38. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Respondents shall notify EPA and NHDES at least 21 days prior to conducting significant field events as described in the SOW, SRI/FS Work Plan, or Sampling and Analysis Plan. At EPA's oral or written request, or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) or NHDES of any samples collected in implementing this Settlement Agreement. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

50. Access to Information.

a. Respondents shall provide to EPA and NHDES, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as "Records") within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA and NHDES, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

b. Respondents may assert business confidentiality claims covering part or all of the Records submitted to EPA and NHDES under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and

40 C.F.R. § 2.203(b). Records determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA and NHDES, or if EPA has notified Respondents that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondents. Respondents shall segregate and clearly identify all Records submitted under this Settlement Agreement for which Respondents asserts business confidentiality claims.

c. Respondents may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents asserts such a privilege in lieu of providing Records, it shall provide EPA and NHDES with the following: (i) the title of the Record; (ii) the date of the Record; (iii) the name, title, affiliation (e.g., company or firm), and address of the author of the Record; (iv) the name and title of each addressee and recipient; (v) a description of the contents of the Record; and (vi) the privilege asserted by Respondents. However, no Records created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged or confidential.

d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other Records evidencing conditions at or around the Site.

51. In entering into this Settlement Agreement, Respondents waive any objections to any data gathered, generated, or evaluated by EPA, NHDES 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 Settlement Agreement or any EPA-approved SRI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the SRI/FS, Respondents shall submit to EPA a report that specifically identifies and explains its 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 EPA within 15 days after the monthly progress report containing the data.

XII. SITE ACCESS AND INSTITUTIONAL CONTROLS

52. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by Respondents, such Respondents shall, commencing on the Effective Date, provide EPA, NHDES, and their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

53. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within 30 days after the Effective Date, or as otherwise specified in writing by the EPA Remedial Project Manager. Respondents shall immediately notify EPA if after using its best efforts Respondents is unable to obtain such agreements. For purposes of this Paragraph, “best efforts” includes the payment of reasonable sums of money in consideration of access. Respondents shall describe in writing its efforts to

obtain access. If Respondents cannot obtain access agreements, EPA may either (a) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described in this Settlement Agreement, using such means as EPA deems appropriate; (b) perform those tasks or activities with EPA contractors; or (c) terminate the Settlement Agreement. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XVIII (Payment of Future Response Costs). If EPA performs those tasks or activities with EPA contractors and does not terminate the Settlement Agreement, Respondents shall perform all other tasks or activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such tasks or activities. Respondents shall integrate the results of any such tasks or activities undertaken by EPA into its plans, reports, and other deliverables.

54. Notwithstanding any provision of this Settlement Agreement, EPA and the State retain all of their access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIII. COMPLIANCE WITH OTHER LAWS

55. Respondents shall comply with all applicable state and federal laws and regulations when performing the SRI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-Site and requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Settlement Agreement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIV. RETENTION OF RECORDS

56. During the pendency of this Settlement Agreement and for a minimum of ten years after commencement of construction of any remedial action, Respondents shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until ten years after commencement of construction of any remedial action, Respondents shall also instruct its contractors and agents to preserve all Records of whatever kind, nature, or description relating to performance of the Work.

57. At the conclusion of this document retention period, Respondents shall notify EPA at least 90 days prior to the destruction of any such Records, and, upon request by EPA, Respondents shall deliver any such Records to EPA. Respondents may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: (a) the title of the Record; (b) the date of the Record; (c) the name and title of the author of the

Record; (d) the name and title of each addressee and recipient; (d) a description of the subject of the Record; and (f) the privilege asserted by Respondents. However, no Records created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged or confidential.

58. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since the earlier of notification of potential liability by EPA or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA and NHDES requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law.

XV. DISPUTE RESOLUTION

59. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

60. If Respondents object to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, Respondents shall notify EPA in writing of its objection(s) within five days after such action, unless the objection(s) has/have been resolved informally. EPA and Respondents shall have 14 days from EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Such extension may be granted verbally but must be confirmed in writing.

61. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, an EPA management official at the Office of Site Remediation & Restoration, Branch Chief level or higher, will issue a written decision. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondents' obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs, and regardless of whether Respondents agree with the decision.

XVI. STIPULATED PENALTIES

62. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 63 and 64 for failure to comply with any of the requirements of this Settlement Agreement specified below unless excused under Section XVII (Force Majeure). "Compliance" by Respondents shall include completion of the Work under this Settlement Agreement or any activities contemplated under any SRI/FS Work Plan or other plan approved

under this Settlement Agreement identified below, in accordance with all applicable requirements of law, this Settlement Agreement, the SOW, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

63. Stipulated Penalty Amounts - Major Violations.

The following stipulated penalties shall accrue per day for any noncompliance, including but not limited to failure to submit timely or adequate deliverables, except for any non-compliance specifically identified in Paragraph 64:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1,500	1st through 14th day
\$ 3,000	15th through 30th day
\$ 5,000	31st day and beyond

64. Stipulated Penalty Amounts – Minor Violations.

The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate monthly progress reports as required by Paragraph 38:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1,000	1st through 14th day
\$ 1,500	15th day and beyond

65. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 82 (Work Takeover), Respondents shall be liable for a stipulated penalty in the amount of \$250,000.

66. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section X (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA’s receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (b) with respect to a decision by the EPA management official designated in Paragraph 61 of Section XV (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA management official issues a final decision regarding such dispute. Nothing in this Settlement Agreement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

67. Following EPA's determination that Respondents have failed to comply with a requirement of this Settlement Agreement, EPA may give Respondents written notification of the same and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.

68. All penalties accruing under this Section shall be due and payable to EPA within 30 days after Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures under Section XV (Dispute Resolution). Respondents shall make all payments required by this Paragraph to EPA by Fedwire Electronic Funds Transfer to:

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

and shall reference stipulated penalties, Site/Spill ID Number 01BQ, and the EPA docket number for this action. At the time of payment, Respondents shall send notice that payment has been made as provided in Paragraph 76.b below.

69. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Settlement Agreement.

70. Penalties shall continue to accrue as provided in Paragraph 66 during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

71. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 68.

72. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Settlement Agreement, except in the case of willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX

(Reservation of Rights by EPA), Paragraph 82. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XVII. FORCE MAJEURE

73. Respondents agree to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, *force majeure* is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondents' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

74. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondents shall notify EPA orally within 48 hours of when Respondents first knew that the event might cause a delay. Within five days thereafter, Respondents shall provide to EPA in writing an explanation and description of 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 prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; 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. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

75. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. PAYMENT OF FUTURE RESPONSE COSTS

76. Payment of Future Response Costs.

a. Respondents shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondents a bill requiring payment that includes an itemized cost summary, which includes direct and indirect costs incurred by EPA, its

contractors, and DOJ. Respondents shall make all payments within 30 days after receipt of each bill requiring payment, except as otherwise provided in Paragraph 78 of this Settlement Agreement. Payments shall be made to EPA by Fedwire Electronic Funds Transfer (“EFT”) to:

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

and shall reference Site/Spill ID Number 01BQ, and the EPA docket number for this action.

b. At the time of payment, Respondents shall send notice that payment has been made to Darryl Luce, and to the EPA Cincinnati Finance Office by email at cinwd_acctsreceivable@epa.gov, or by mail to

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

Such notice shall reference Site/Spill ID Number 01BQ and the EPA docket number for this action.

c. The total amount to be paid by Respondents pursuant to Subparagraph 76.a shall be deposited by EPA in the Chlor-Alkali Facility (Former) Superfund Site Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund

77. Interest. If Respondents do not pay Future Response Costs within 30 days after Respondents’ receipt of a bill, Respondents shall pay Interest on the unpaid balance. The Interest on unpaid Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents’ failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVI. Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 76.

78. Respondents may contest payment of any Future Response Costs billed under Paragraph 76 if it determines that EPA has made a mathematical error or included a cost item that is not within the definition of Future Response Costs, or if it believes EPA incurred excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP. Such objection shall be made in writing within 30 days after receipt of the bill and must be sent to the EPA Remedial Project Manager. Any such objection shall

specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall, within the 30-day period, pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 76. Simultaneously, Respondents shall establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation, and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the EPA Remedial Project Manager a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XV (Dispute Resolution). If EPA prevails in the dispute, within five days after the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 76. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which it did not prevail to EPA in the manner described in Paragraph 76. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XV (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse EPA for its Future Response Costs.

XIX. COVENANT NOT TO SUE BY EPA

79. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. This covenant not to sue shall take effect upon receipt by EPA of the payment required by Paragraph 76 (Payment of Future Response Costs) and any Interest or Stipulated Penalties due thereon under Paragraph 77 (Interest) or Section XVI (Stipulated Penalties). This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Paragraph 76 (Payment of Future Response Costs). This covenant not to sue extends only to Respondents and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

80. Except as specifically provided in this Settlement Agreement, nothing in this Settlement Agreement shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement Agreement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems

appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

81. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

- a. liability for failure by Respondents to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and,
- g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site not paid as Future Response Costs under this Settlement Agreement.

82. Work Takeover. In the event EPA determines that Respondents have ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice (“Work Takeover Notice”) to the Respondents. Any Work Takeover Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Respondents a period of ten days within which to remedy the circumstances giving rise to EPA’s issuance of such notice. If after expiration of the ten-day notice period specified in the preceding sentence, Respondents have not remedied to EPA’s satisfaction the circumstances giving rise to EPA’s issues of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portion of the Work as EPA determines necessary (“Work Takeover”). EPA shall notify Respondents in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted. Respondents may invoke the procedures set forth in Section XV (Dispute Resolution) to dispute EPA’s determination that Work Takeover is warranted under this Paragraph. However, notwithstanding Respondent’s invocation of such dispute resolution procedures, and during the pendency of any such dispute, EPA may in its sole discretion commence and continue a Work Takeover until the earlier of (1) the date that Respondent’s remedy, to EPA’s satisfaction, the circumstances giving rise to EPA’s issuance of the relevant Work Takeover Notice, or (2) the date that a final decision is rendered in accordance with ¶ 61 (Dispute Resolution) requiring EPA to terminate such Work Takeover. Costs incurred

by EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XVIII (Payment of Future Response Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. COVENANT NOT TO SUE BY RESPONDENTS

83. Respondents covenant not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law; or

c. any claim pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law relating to the Work or payment of Future Response Costs.

84. Except as expressly provided in Paragraph 87 (Claims Against De Micromis Parties), these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Section XX (Reservations of Rights by EPA), other than in Paragraph 81.a (liability for failure to meet a requirement of the Settlement Agreement) or 81.d (criminal liability), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

85. Respondents reserve, and this Settlement Agreement is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and brought pursuant to any statute other than CERCLA or RCRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or RCRA, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States, as that term is defined in 28 U.S.C. § 2671, while acting within the scope of his or her office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, the foregoing shall not include any claim based on EPA's selection of response actions, or the oversight or approval of Respondents' plans, reports, other deliverables, or activities.

86. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

87. Claims Against De Micromis Parties. Respondents agree not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) or 113 of CERCLA) that it may have for all matters relating to the Site against any person where the person's liability to Respondents with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if all or part of the disposal, treatment, or transport occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the Site was less than 110 gallons of liquid materials or 200 pounds of solid materials.

88. The waiver in Paragraph 87 shall not apply with respect to any defense, claim, or cause of action that a Respondents may have against any person meeting the above criteria if such person asserts a claim or cause of action relating to the Site against such Respondents. This waiver also shall not apply to any claim or cause of action against any person meeting the above criteria if EPA determines:

a. that such person has failed to comply with any EPA requests for information or administrative subpoenas issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) or 9622(e), or Section 3007 of RCRA, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site, or has been convicted of a criminal violation for the conduct to which this waiver would apply and that conviction has not been vitiated on appeal or otherwise; or

b. that the materials containing hazardous substances contributed to the Site by such person have contributed significantly, or could contribute significantly, either individually or in the aggregate, to the cost of response action or natural resource restoration at the Site.

XXII. OTHER CLAIMS

89. By issuance of this Settlement Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.

90. Except as expressly provided in Paragraph 87 (Claims Against De Micromis Parties), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages, and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

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

XXIII. EFFECT OF SETTLEMENT/CONTRIBUTION

92. Except as provided in Paragraphs 87 (Claims Against De Micromis Parties), nothing in this Settlement Agreement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement Agreement. Except as provided in Section XXI (Covenant Not to Sue by Respondent), each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Settlement Agreement diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

93. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), and that Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), or as may be otherwise provided by law, for “matters addressed” in this Settlement Agreement. The “matters addressed” in this Settlement Agreement are the Work and Future Response Costs. The Parties further agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondents have, as of the Effective Date, resolved its liability to the United States for the Work and Future Response Costs.

94. Respondents shall, with respect to any suit or claim brought by it for matters related to this Settlement Agreement, notify EPA in writing no later than 60 days prior to the initiation of such suit or claim. Respondents also shall, with respect to any suit or claim brought against it for matters related to this Settlement Agreement, notify EPA in writing within 10 days after service of the complaint or claim upon them. In addition, Respondents shall notify EPA within 10 days after service or receipt of any Motion for Summary Judgment and within ten days after receipt of any order from a court setting a case for trial, for matters related to this Settlement Agreement.

95. In any subsequent administrative or judicial proceeding initiated by EPA, or by the United States on behalf of EPA, for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenant by EPA set forth in Section XIX.

96. Effective upon signature of this Settlement Agreement by Respondents, Respondents agree that the time period commencing on the date of its signature and ending on the date EPA receives from Respondents the payment(s) required by Section XVIII (Payment of

Future Response Costs) and, if any, Section XVI (Stipulated Penalties) shall not be included in computing the running of any statute of limitations potentially applicable to any action brought by the United States related to the “matters addressed” as defined in Paragraph 93 and that, in any action brought by the United States related to the “matters addressed,” such Respondents will not assert, and may not maintain, any defense or claim based upon principles of statute of limitations, waiver, laches, estoppel, or other defense based on the passage of time during such period. If EPA gives notice to Respondents that it will not make this Settlement Agreement effective, the statute of limitations shall begin to run again commencing ninety days after the date such notice is sent by EPA.

XXIV. INDEMNIFICATION

97. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees, and representatives from any and all claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors, and representatives in carrying out actions pursuant to this Settlement Agreement. In addition, Respondents agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys’ fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Settlement Agreement. Neither Respondents nor any such contractor shall be considered an agent of the United States.

98. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

99. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

XXV. INSURANCE

100. At least seven days prior to commencing any on-Site Work under this Settlement Agreement, Respondents shall ensure that its contractors and consultants for the Work secure, and shall maintain for the duration of this Settlement Agreement, commercial general liability insurance and automobile insurance with limits of five million dollars (\$5,000,000), for bodily injury and property damage, naming the EPA as an additional insured under the insurance policy

or policies with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Order. Within the same period, Respondents shall arrange for their contractors and consultants to provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall arrange for their contractors and consultants to submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Respondents shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Settlement Agreement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

101. Respondents shall include in the SRI/FS Work Plan submitted pursuant to the SOW a proposed estimate of the total cost of carrying out the Work. Within 30 days of EPA's approval of the SRI/FS Work Plan, Respondents shall establish and maintain financial security for the benefit of EPA in the amount of the estimated cost of the Work in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:

- a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;
- b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;
- c. a trust fund administered by a trustee acceptable in all respects to EPA;
- d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;
- e. a written guarantee to pay for or perform the Work provided by one or more parent companies of Respondent, or by one or more unrelated companies that have a substantial business relationship with at least one of Respondent, including a demonstration that any such guarantor company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or
- f. a demonstration of sufficient financial resources to pay for the Work made by Respondent, which shall consist of a demonstration that any such Respondents satisfy the requirements of 40 C.F.R. Part 264.143(f).

102. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are

inadequate, Respondents shall, within 30 days after receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 101, above. In addition, if at any time EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within 30 days after such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

103. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Paragraph 101.e or 101.f Respondents shall: (a) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (b) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, or such other date as agreed by EPA, to EPA. For the purposes of this Settlement Agreement, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the dollar amount to be used in the relevant financial test calculations shall be the EPA approved cost estimate for the Work at the Site plus any other RCRA, CERCLA, TSCA, or other federal environmental obligations financially assured by the relevant Respondents or guarantor to EPA by means of passing a financial test.

104. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 101 of this Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). Respondents may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

105. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVII. INTEGRATION/APPENDICES

106. This Settlement Agreement and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Settlement Agreement and become incorporated into and enforceable under this Settlement Agreement constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this

Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

“Appendix A” is the SOW.

XXVIII. ADMINISTRATIVE RECORD

107. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the SRI/FS upon which selection of the response action may be based. Upon request of EPA, 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 of EPA, Respondents shall 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. At EPA’s discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the administrative record.

XXIX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

108. This Settlement Agreement shall be effective five (5) days after the Settlement Agreement is signed by the Director of the Office of Site Remediation and Restoration or his delegate. This Settlement Agreement may be amended by mutual agreement of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. EPA Remedial Project Managers do not have the authority to sign amendments to the Settlement Agreement.

109. No informal advice, guidance, suggestion, or comment by the EPA Remedial Project Manager or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXX. NOTICE OF COMPLETION OF WORK

110. When EPA determines that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including but not limited to, payment of Future Response Costs and record retention, EPA will provide written notice to Respondents. If EPA determines that any Work has not been completed in accordance with this Settlement Agreement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the SRI/FS Work Plan if appropriate in order to correct such deficiencies, in accordance with Paragraph 36 (Modification of the SRI/FS Work Plan). Failure by Respondents to implement the approved modified SRI/FS Work Plan shall be a violation of this Settlement Agreement.

Agreed this 14th day of April, 2015.

For Respondent, Fort James LLC

By: Paul Freudenberger
JMS

Title: SVP Operations, CP6

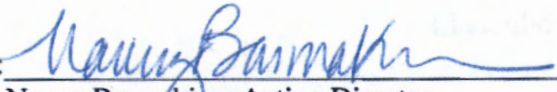
Agreed this 15th day of APRIL, 2015.

For Respondent, Georgia-Pacific Consumer Products LP,

By: Wes Jones
DMD

Title: EVP OPERATIONS

It is so ORDERED AND AGREED this 16th day of April, 2015.

BY: 
Nancy Barmakian, Acting Director
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, Region 1

DATE: 04/16/15

EFFECTIVE DATE: April 21, 2015

APPENDIX A

**STATEMENT OF WORK
SUPPLEMENTAL REMEDIAL INVESTIGATION
AND FEASIBILITY STUDY
CHLOR-ALKALI FACILITY (FORMER) SUPERFUND SITE
BERLIN, NEW HAMPSHIRE**

April 2015

*Prepared by
The United States Environmental Protection Agency
Region 1 – New England
Boston, MA 02114*

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ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements.
AR-3	Reach AR-3, the Androscoggin River between Sawmill and Riverside Dams.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act.
CFR	Code of Federal Regulations.
CHP	Cell House Parcel.
CLP	Contract Laboratory Program.
CLPSOW	Contract Laboratory Program Statements of Work.
CSM	Conceptual Site Model.
EFSA	Eastern Facility Study Area.
EPA	United States Environmental Protection Agency.
FS	Feasibility Study.
FSP	Field Sampling Plan.
HASP	Health and Safety Plan.
NCP	National Contingency Plan.
NHDES	New Hampshire Department of Environmental Services.
OU	Operable Unit.
PCB	Polychlorinated biphenyls.
PCDD	Polychlorinated dibenzodioxin.
PCDF	Polychlorinated dibenzofuran.
POP	Project Operations Plan.
QAPP	Quality Assurance Project Plan.
QA/QC	Quality Assurance/Quality Control.
RAO	Remedial Action Objectives.
RI	Remedial Investigation released by EPA in March 2014.
SAP	Sampling and Analysis Plan.
SFSA	Southern Facility Study Area.
SMP	Site Management Plan.
SOP	Standard Operating Procedures.
SOW	Statement of Work.
SRI	Supplemental Remedial Investigation.
SRI/FS	Supplemental Remedial Investigation and Feasibility Study.
TP-6	Test Pit 6.
U.S.C.	United States Code

**STATEMENT OF WORK
SUPPLEMENTAL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CHLOR-ALKALI FACILITY (FORMER) SUPERFUND SITE
BERLIN, NEW HAMPSHIRE**

April 2015

INTRODUCTION

This Statement of Work (“SOW”) outlines the requirements for a Supplemental Remedial Investigation and Feasibility Study (“SRI” and “FS” or “SRI/FS”) to be performed for the Chlor-Alkali Facility (Former) Superfund Site (“Site”). The SRI/FS activities shall supplement investigations previously conducted by EPA and its contractors. Initial SRI activities will address Test Pit 6 (TP-6) in the Cell House Parcel (CHP), the retaining wall/former foundation wall separating the CHP from the Androscoggin River, and visible, elemental mercury and amalgams present in the Androscoggin River.

The SRI/FS shall be conducted simultaneously as integrated, phased studies to the extent practicable. The SRI/FS shall inform the selection of a remedy, consistent with the National Oil and Hazardous Contingency Plan (“NCP”) (40 CFR Part 300) and relevant guidance, including EPA’s *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (EPA/540/G-89/004, OSWER Directive 9355.3-01 October 1988). The SRI/FS may be divided into two or more separate studies for each of the Operable Units (“OUs”) at the Site, as described Section 1(B) below.

In March 2014, EPA issued a Remedial Investigation (“2014 RI”) Report that characterized the distribution of contaminants and estimated potential risk to human health and the environment at the Site as related to a variety of current and future land use scenarios.¹ Respondents shall collect additional samples and submit a SRI report that further characterizes the nature and extent of Waste Materials, as defined in the Administrative Settlement Agreement and Order on Consent for Supplemental Remedial Investigation/Feasibility Study at the Site, as well as refines the understanding of contaminant migration in groundwater and potential risk to human health and the environment. If, following an evaluation of the SRI, EPA believes that data gaps exist, it may direct additional data collection, analyses, and subsequent SRIs be prepared to address those deficiencies.

During field investigations for the 2014 RI, one of the test pits, Test Pit 6 (“TP-6”), contained material that once exposed to surface conditions, precipitated visible mercury droplets. Other Waste Materials and contaminants present at this location included asbestos, polychlorinated dibenzodioxins (“PCDDs”), polychlorinated dibenzofurans (“PCDFs”), and polychlorinated biphenyls (“PCBs”). Field work during this SRI shall address such materials from the subsurface and dispose or treat them appropriately. Additionally, the SRI shall characterize contaminated soil, debris, and groundwater with respect to the ability to treat, immobilize or

¹ Nobis Engineering, Inc., *Remedial Investigation, Chlor-Alkali Facility (Former) Superfund Site*, Volumes: I, text; II, Human Health Risk Assessment; III; Ecological Risk Assessment. March 2014, 5376 pages.

dispose of those materials. Lastly, Respondents shall compile and submit a FS that develops, evaluates and compares a number of potential remedies to address Waste Materials at the Site.

SECTION 1: OBJECTIVES, REPORTING REQUIREMENTS AND SCHEDULE

A. OBJECTIVES

1. Supplemental Remedial Investigation

The objectives of the SRI, consistent with the NCP and taking into consideration existing information regarding the Site, are:

- Identify the source, nature, distribution, transport, and fate of contaminants to include site-specific geochemistry and physical stability.
- Provide sufficient information to assess the current and future potential risks to human health and to the environment.
- Provide sufficient information to develop a conceptual design of remedial alternatives, evaluate remedial alternatives, select a remedy, and issue a record of decision.

If EPA determines that any of these objectives are not fully met, after reasonable opportunity for review and comment by the New Hampshire Department of Environmental Services (“NHDES”), it may require additional actions. These may require additional work plans, studies, SRIs, or other appropriate activities, and shall be performed until EPA, after reasonable opportunity for review and comment by NHDES, determines that no further actions are necessary to meet the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), as amended, 42 U.S.C. § 9601 *et seq.*

The SRI shall include, but is not limited to, data gathering (which may include monitoring and testing), and developing methodologies, procedures, and assessments for characterizing the physical and chemical conditions of the Site.

The procedures used to address the objectives listed above may include, but are not limited to: evaluating all existing Site information, including data generated and analyses prepared by Respondents, EPA, NHDES, and any of their respective contractors; identifying data gaps; performing field sampling and laboratory analyses; performing investigation activities such as surface geophysics; conducting bench scale or field pilot studies; and reviewing all available federal and state applicable or relevant and appropriate environmental statutes and promulgated regulations.

Additional details regarding the performance of a RI are in section 300.430(d) of the NCP and the *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (EPA 540/G-89/004 OSWER-Dir. 9355.3-01 October 1988).

2. Feasibility Study

The results of the SRI shall provide sufficient information to construct a FS as described in Section 1(B) below, to address Site contamination that poses unacceptable risks to human health and the environment. The FS objectives are:

- Establish Remedial Action Objectives (“RAOs”) and Preliminary Remediation Goals, as described in NCP § 300.430(e)(2)(i).
- Review the applicability of various remedial technologies, including innovative technologies, to assess their potential as effective remedies for the Site.
- Develop remedial alternatives by screening and combining appropriate technologies based upon the three screening criteria listed in the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA 540/G-89/004 OSWER-Dir 9355.3-01 October 1988), and other criteria identified in the NCP or CERCLA, as amended.
- Evaluate each alternative or combination of alternatives that meets the above screening criteria through a detailed and comparative analysis based upon the nine criteria listed in the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA 540/G-89/004 OSWER-Dir. 9355.3-01 October 1988), and other criteria identified in the NCP or CERCLA as amended.
- Compare each alternative retained for detailed analysis to a no-action alternative, which serves as a baseline reference point for comparison.
- Provide direction to the SRI to ensure that sufficient data of the appropriate type are collected to develop and analyze a range of remedial alternatives.

The FS shall include, but is not limited to, conceptualizations, engineering analyses, cost analyses, and an analysis of timeframes for the achievement of RAOs. Additional detail on the FS development process can be found in NCP § 300.430(e) and the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA 540/G-89/004 OSWER-Dir. 9355.3-01 October 1988).

B. OPERABLE UNITS

EPA, at its sole discretion, divides a site that it considers technically complex into discrete OUs, which may be defined by media, geographic location, or nature of the remedy (e.g., source control, management of migration). EPA considers this Site technically complex, and believes that designation of OUs at this Site will facilitate the Site cleanup. The SRI/FS will proceed as a Site-wide process encompassing three OUs. At any time, EPA may decide to change, further subdivide, or combine OUs for the Site. At this time the SRI/FS activities shall proceed under the following OUs, unless otherwise directed by EPA:

1. Operable Unit 1 (“OU-1”), Source Control

OU-1 includes Site-related contaminated materials in the 4.6 acre Cell House Property, a.k.a. Cell House Parcel (“CHP”) depicted on Figure 1 attached hereto. In 1999, Crown Paper Company conducted closure activities in the CHP under the oversight of NHDES. Buildings

remaining at that time in the CHP were demolished and a landfill constructed within the CHP for debris. A slurry wall was constructed in the eastern and southern sides of the landfill and a cap was placed over the debris. The areal limit of OU-1 is the area that encompasses the CHP, comprising Lot No. 262 on Berlin Tax Assessor Map No. 128.² The limits of OU-1 extend from the ground surface to the top of competent bedrock.

2. Operable Unit 2 (“OU-2”), Southern and Eastern Facility Areas

OU-2 includes Site-related Waste Materials within the 17-acre Southern Facility Study Area (“SFSA”) located to the south and east of the CHP, and the 19-acre Eastern Facility Study Area (“EFSA”) located to the east of the SFSA. The SFSA and EFSA comprises a portion of Lot No. 55 on Berlin Tax Assessor Map No. 129.³

3. Operable Unit 3 (“OU-3”), Management of Migration

OU-3 consists of shallow and deep groundwater and the relationship of groundwater to surface water and sediments of the Androscoggin River within Reach AR3 of the River Study Area (“RSA”), between Sawmill and Riverside Dams, as defined in the 2014 RI.

If EPA or the Respondents identify significant data gaps regarding contaminants in groundwater or the RSA, EPA may direct that the Respondents prepare an additional SRI report addressing those deficiencies.

C. REPORTING REQUIREMENTS

Data, methods, and interpretations shall be reported consistent with EPA Region I guidance and policy to include reporting of data collection techniques, data quality objectives, analytical methodologies, and validation procedures. The data shall be:

- Sufficiently rigorous with regard to spatial coverage and background considerations;
- Scientifically and technically sound with relevant assumptions, biases, potential deficiencies, safety factors, and design criteria explicitly stated.
- Discussed with observations and interpretation clearly identified and distinguished.
- Discussed with relevant supporting reference material clearly identified and supported.
- Presented in graphs, charts, maps, plans and/or cross-sections, where possible, so that the text provides a clear discussion of such illustrations.
- Discussed in relationship to the objective(s) for which they were completed and to which they are applicable.
- Sufficient to satisfy the general objectives of the SRI and FS listed above.

² Nobis Engineering, Inc. 2014. Remedial Investigation, Volume I, Chlor-Alkali Facility (Former) Superfund Site, Berlin, New Hampshire. Prepared for the US EPA, Region I.

³ Ibid.

D. SCHEDULES: STEPS AND DELIVERABLES

The SRI/FS schedules shall be based on the Effective Date of the Administrative Settlement Agreement and Order for SRI/FS (“Settlement Agreement”) and as shown in Table 1. EPA may give notice to start a component of the SRI, if appropriate, even if prior steps have not been completed. The schedule in Table 1 shall be included as a component of the SRI/FS Work Plan. Figure 2 outlines a schedule for initial SRI activities. Figure 2 also identifies the field season for Site activities from April to October 2015.

If EPA directs, Respondents shall prepare a schedule for additional SRI or FS activities for approval by EPA within 90 days of notification. Modifications of the schedules must be approved by EPA, after providing reasonable opportunity for review and comment by NHDES, prior to their implementation. The schedules shall be presented as a chart or table, which shall be updated when the schedules change. A copy of the schedules shall be contained in each major deliverable of each SRI/FS and a summary status provided in each quarterly progress report required by the Order.

Plans, deliverables, or reports (“deliverables”) submitted to EPA and NHDES, prior to approval, shall be marked “Draft” on each page and shall include in a prominent location in the document the following disclaimer. “Disclaimer: This document is a DRAFT document prepared by Settling Defendants under a government consent decree. This document has not undergone formal review by EPA and NHDES. The opinions, findings, and conclusions expressed are those of the author and not the U.S. Environmental Protection Agency and the New Hampshire Department of Environmental Services.”

Draft deliverables should have ‘draft – for internal review by EPA and NHDES’ in the title and be uploaded to a location within NHDES OneStop that is accessible only internally at NHDES. Specific instructions for uploading documents to NHDES OneStop will be made available to Respondents through the EPA Project Manager.

Deliverables for each step of the SRI/FS process are shown on Table 1. The actual number of deliverables may vary depending on:

1. the types of deliverables proposed by Respondents and approved by EPA;
2. tasks within SRI/FS steps, particularly the tasks planned for the scoping of the SRI/FS;
3. revisions based on EPA and NHDES review;
4. requests for additional field studies, analyses, and documentation by EPA or Respondents;
5. the quality and completeness of Respondents’ work.

EPA will consult with NHDES in its review of each major deliverable; however, EPA retains the authority to approve, disapprove, or modify all deliverables. In any event, EPA shall provide

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one set of comments to Respondents. There shall be an approval, disapproval, or modification by EPA of each deliverable in accordance with the terms of the Settlement Agreement.

Respondents shall provide EPA with three print copies and one electronic copy, and NHDES with one print copy and one electronic copy, of each deliverable, unless otherwise directed by EPA. Upon request, Respondents shall also provide EPA with text in MS Word and tables in MS Excel, and provide data and drawings in workable and widely accepted electronic formats, or alternatively, provide EPA with access to electronic text, tables, data and drawings through a virtual private network, file transfer protocol, or other acceptable electronic data-sharing link.

Table 1: Schedule for SRI/FS Deliverables		
Task	Deliverable	Due Date (after Effective Date)
Project Scoping	SRI Work Plan, consisting of: <ol style="list-style-type: none"> 1. Site Management Plan. 2. Sampling and Analysis Plan that includes a Quality Assurance Project Plan and a Field Sampling Plan. 3. Health and Safety Plan. 4. TP-6 Implementation Plan. 	As shown in Figure 2
	SRI/FS Work Plan Addenda, consisting of: <ol style="list-style-type: none"> 1. Site Management Plan. 2. Sampling and Analysis Plan that includes a Quality Assurance Project Plan and a Field Sampling Plan. 3. Health and Safety Plan. 	90 days following Notice from EPA
Community Relations Support	Community Relations Support Plan.	90 days
SRI Reports	Interim and draft deliverables described in Sections 3 and 4 below, and any additional deliverables included in Respondents' approved SRI/FS Work Plan.	As designated in the approved Respondents' Work Plan
FS Report	Interim and draft deliverables described in Section 5 below, and any additional deliverables included in Respondents' approved SRI/FS Work Plan.	
A separate schedule shall be submitted by the Respondents within 90 days of notice from EPA that an additional SRI is needed to fill any data gaps.		

For all deliverables, once EPA has issued comments or modifications, Respondents shall respond within 45 days with either a new draft or response to comments.

E. GENERAL REQUIREMENTS FOR DELIVERABLES

Deliverables under this SOW must be in writing unless otherwise specified and must be submitted by the deadlines in Table 1. Respondents shall also provide all deliverables to EPA in editable, electronic form. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5” by 11”, Respondents shall also provide EPA with paper copies of such exhibits.

F. TECHNICAL SPECIFICATIONS FOR DELIVERABLES

Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes. Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as un-projected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (“FGDC”) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.

SECTION 2: SCOPING OF THE SUPPLEMENTAL REMEDIAL INVESTIGATION AND FEASIBILITY STUDIES

A. OBJECTIVES

The U.S. Geological Survey, NHDES and EPA have collected data regarding the Site and produced a number of reports referenced in the 2014 RI. EPA and NHDES have identified, and described in Section 3, a number of required studies that must be included. Respondents must scope and develop a number of deliverables to support additional investigations at the Site. The scoping of the SRI/FS shall ensure that Respondents:

1. understand the objectives of the SRI/FS;
2. develop procedures to meet the SRI/FS objectives, including those for field activities;
3. identify federal and state Applicable or Relevant and Appropriate Requirements (“ARARs”), which shall provide criteria for remedy evaluation at the Site;
4. assemble and evaluates existing data, identifies data gaps, resolves inconsistencies, and fills in data gaps where necessary to accomplish SRI objectives;
5. develop a conceptual understanding of the Site based on the evaluation of existing data and all newly acquired data;
6. identify RAOs and likely response scenarios and potentially applicable technologies for OUs at the Site;

7. develop an estimate of the total cost of carrying out the SRI/FS;
8. undertake data collection efforts or studies where this information will assist in scoping the SRI/FS or accelerate response actions, and begin to identify the need for treatability/pilot studies, as appropriate;
9. identify the type, quality and quantity of the data needed to assess potential remedial technologies, to evaluate technologies that may be combined to form remedial alternatives, and to support decisions regarding remedial response activities;
10. prepare Site-specific health and safety plans that shall specify, at a minimum, employee training and protective equipment, medical surveillance requirements, standard operation procedures, and a contingency plan that conforms with 29 CFR 1910.120(1)(1) & (1)(2);
11. develop a Quality Assurance Project Plan and a Field Sampling Plan that shall provide a process for obtaining data of sufficient quality and quantity to satisfy data needs; and
12. prepare appropriate schedules which show the sequence of studies and the submission of deliverables.

Respondents shall review the above scoping requirements and prepare an SRI/FS Work Plan and addenda that addresses the remaining objectives to be evaluated. The requirements listed in the Project Operations Plan will apply to every work plan that involves field activities. The SRI Report shall include a detailed discussion of the studies completed and how the data requirements of the SRI have been satisfied.

B. SCOPING DELIVERABLES

1. Overview

As part of the SRI/FS Work Plan, Respondents shall deliver to EPA and NHDES the following plans:

- Project Operations Plan which consists of:
 - Site Management Plan.
 - Sampling and Analysis Plan comprised of:
 - Field Sampling Plan.
 - Quality Assurance Project Plan.
 - Health and Safety Plan.
- Community Relations Support Plan.
- Updated Preliminary Identification of Probable ARARs.
- Data Requirements of Potential Remedial Alternatives and Technologies.
- Expanded Schedule for the SRI/FS.

Collectively, these documents are referred to as the SRI/FS Work Plan in Table 1 and elsewhere in this document. The initial SRI/FS Work Plan shall describe necessary studies to complete the SRI/FS. The Project Operation Plans shall be revised as necessary, and revisions submitted prior to each subsequent phase of work as described in Table 1.

To reduce the submittal of repetitive information contained within each of the elements of the Work Plan, Respondents may include appropriate cross-references at key places within each document.

2. Project Operations Plan

Before the initiation of field activities as part of the SRI, several site-specific plans shall be written to establish procedures to be followed by Respondents in performing field, laboratory, and analysis work and community and agency liaison activities. These site-specific plans include:

1. Site Management Plan (“SMP”).
2. Sampling and Analysis Plan (“SAP”), consisting of a Quality Assurance Project Plan (“QAPP”) and a Field Sampling Plan (“FSP”).
3. Health and Safety Plan (“HASP”).

Respondents shall combine these plans into the Project Operations Plan (“POP”). The POP is a dynamic part of the SRI/FS Work Plan that may be updated and revised to accommodate ongoing SRI/FS activities. The POP, and any revisions, must be approved by EPA, after a reasonable opportunity for review and comment by NHDES before the commencement of field work at the Site. The components of the POP are discussed in the following sections.

EPA will provide Respondents with existing Site plans in a format that will allow Respondents to integrate sections of these Site plans into future versions. This includes editable electronic versions of text, maps, figures, tables and diagrams in a format that can be easily edited or modified.

Respondents shall modify the format and scope of each plan as needed to describe the sampling, analyses, and other activities that are determined to be needed as the SRI/FS progresses. These activities include on-site pilot studies and/or laboratory bench scale studies of remedial technologies, and subsequent rounds of field sampling. EPA may modify the scopes of these activities at any time during the SRI/FS at the discretion of EPA in response to the evaluation of SRI/FS results, changes in SRI/FS requirements, and other developments or circumstances.

a. Site Management Plan

The overall objective of the SMP is to provide EPA with a written commitment by Respondents as to how various project aspects such as access, security, contingency procedures, management responsibilities, investigation-derived waste disposal, budgeting, and data handling are to be managed. As part of the SMP, Respondents shall include, at a minimum:

- A map and list of properties, the names of the property owners, and the addresses and telephone numbers of owners to whose property access may be required.

- Provisions reflecting that access will be obtained to allow Respondents to perform required sampling or other activities under this SOW. Respondents will inform EPA and NHDES of any access related problems and issues including necessary procedures and sample letters, for EPA review and approval, to land owners to arrange field activities and to ensure EPA and NHDES are timely informed of access-related problems and issues.
- Communication to EPA, NHDES, and the public of the organization and management of the SRI/FS, including key personnel and their roles and responsibilities.
- Site preparation measures, including a fence, to prevent unauthorized entry to the Site, which might result in exposure of persons to potentially hazardous conditions.
- The location of an office for on-site activities.
- A provision for the security of government and private property at the Site.
- Provision for the monitoring of airborne contaminants released by Site activities that may affect the local populations.
- A list of the categories of potential contractors and subcontractors to be hired by Respondents (and their identities, if known) in the conduct of the SRI/FS and a description of their activities and roles.
- A clear indication of the exclusion zone, contamination reduction zone, and clean area for on-site and off-site activities, where necessary.
- Provision for the proper disposal of materials used and wastes derived during the SRI/FS (e.g., drill cuttings, extracted ground water, protective clothing, disposable equipment), which will be managed in accordance with the *Guide to Management of Investigation-Derived Wastes* (OSWER Directive 9345.3-03FS, January 1992) or alternate procedures approved by EPA. If applicable, these provisions shall be consistent with the off-site disposal aspects of the Superfund Amendments and Reauthorization Act, the Resource Conservation and Recovery Act, and applicable state laws. Respondents, a representative of Respondents, or another party acceptable to EPA and NHDES, shall be identified as the generator of wastes for the purpose of regulatory or policy compliance.
- Plans and procedures for organizing, analyzing, and presenting the data generated during the SRI/FS.

b. Sampling and Analysis Plan

The purpose of the Sampling and Analysis Plan (“SAP”) is to ensure that sampling data collection activities will be consistent with current sampling and analytical methodologies and will be comparable to and compatible with previous EPA and NHDES data collection activities performed at the Site while providing a mechanism for planning and approving field activities. The overall objectives of the SAP are as follows:

- Document specific data quality objectives, procedures, and rationales for field work and sample analytical work.
- Provide a mechanism for planning and approving Site and laboratory activities.
- Ensure that sampling and analysis activities are necessary and sufficient.
- Provide a common point of reference to ensure the comparability and compatibility of sampling and analysis activities to meet the stated project objectives.

The SAP shall be the framework for anticipated field activities (e.g., sampling objectives, evaluation of existing data, standard operating procedures) and contain specific information on the field work (e.g., sampling locations and rationale, sample numbers and rationale, analyses of samples). During the SRI/FS, the SAP shall be revised as necessary to cover each round of field or laboratory activities.

The SAP consists of two parts: (1) a QAPP, and (2) a FSP. The QAPP shall follow the requirements in QA/R-5 and the *Region I, EPA-New England Compendium of Quality Assurance Project Plan Requirements and Guidance*. The FSP will contain the standard operating procedures (“SOPs”) and other documentation to support specific sections of the QAPP. In some cases where there are unique FSP components for special applications, they will be added to the QAPP in the appropriate sections. In addition, the FSP and QAPP should be submitted as a single document (although they may be bound separately to facilitate use of the FSP in the field).

The SAP shall include provisions for notifying EPA and NHDES a minimum of three weeks before initiation of each field sampling or monitoring activity. The SAP shall also provide for split, replicate, or duplicate samples to be taken by EPA, NHDES (or their contractor personnel or other government agencies working with EPA). At the request of EPA or NHDES, Respondents shall provide these samples in appropriate containers to the government representatives. Identical procedures shall be used to collect such samples, unless otherwise specified by EPA or NHDES. In the event that, following good-faith sampling efforts, insufficient sample volume is available to provide the requested samples (e.g., due to poor recovery), priority shall be given to addressing quantity requirements for Respondents’ samples (as opposed to providing reduced volumes to all collectors and compromising analytical detection limits).

Guidance on the topics covered in the QAPP and FSP and their integration into each of these plans and the integration of the QAPP and the FSP into the SAP can be found in the following several references which shall be used to develop the SAP:

EPA Requirements for Quality Assurance Plans, EPA QA/R-5 (EPA/240/B-01/003, March 2001).

Guidance for Quality Assurance Project Plans, QA/G-5 (EPA 600/R-02/009, December 2002).

EPA New England Quality Assurance Project Plan Program Guidance, (EQAQAPP-2005PG2, EPA NE QAPP Program, Revision 2, January 9, 2010).

Region I, EPA-New England Compendium of Quality Assurance Project Plan Requirements and Guidance (U.S. EPA-New England Region I Quality Assurance Unit Staff, Office of Environmental Measurement and Evaluation, October 1999).

Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final (OSWER Directive 9355.3-01, EPA/540/G-89/004, October

1988).

Guidance for the Data Quality Objectives Process, QA/G-4 (EPA/600/R-96/055, August 2000).

Draft Data Quality Objectives Decision Errors Feasibility Trials (DEFT) Software (EPA/600/R-96/056, September 1994).

Guidance for the Data Quality Objectives Process for Hazardous Waste Sites, QA/G-4HW (EPA/600/R-00/007, January 2000).

Guidance for Preparing Standard Operating Procedures (SOPs), EPA QA/G-6 (EPA/240/B-01/004, March 2001).

Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, (Revised December 1996).

Region I, EPA-New England Quality Assurance Project Plan Guidance, Revision 4, April 2005.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA Pub. SW-846, Third Edition, latest update).

Guidance for Data Quality Assessment: Practical Methods for Data Analysis, EPA QA/G-9 (EPA/600/R-96-084, QA 97 Version, January 1998).

i. Quality Assurance Project Plan

The QAPP shall document the Site-specific objectives, policies, organizations, functional activities, sampling and analysis activities and specific quality assurance/quality control activities designed to achieve the data quality objectives of the SRI/FS. The QAPP developed for this project shall also document quality control and quality assurance policies, procedures, routines, and specifications. As with all approved deliverables under this SOW, EPA assumes the QAPP will be a publicly available document and that it will be included in the Administrative Record for any Record of Decision.

Project activities throughout the SRI/FS shall comply with the QAPP. QAPP sampling and analysis objectives and procedures shall be consistent with appropriate EPA handbooks, manuals and guidelines including:

EPA Requirements for Quality Assurance Plans, EPA QA/R-5 (EPA/240/B-01/003, March 2001).

Guidance for Quality Assurance Project Plans, QA/G-5 (EPA 240/R-02/009, December 2002).

Region I, EPA-New England Compendium of Quality Assurance Project Plan Requirements and Guidance (October 1999 Final, the “Compendium”).

Region I, EPA-New England Quality Assurance Project Plan Guidance, Revision 4, April 2005.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA Pub. SW-846, Third Edition, latest update) (CLP Routine Analytical Services, RAS, latest Statement of Work should be used).

Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR, Part 136).

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA-600/4-84-041, April 1984).

Respondents must address the QAPP elements identified in QA/R-5 and the *Compendium*. If a particular element is not relevant to a project and therefore excluded from the QAPP, Respondents must provide specific and detailed reasons for that exclusion.

Information in a plan other than the QAPP may be cross-referenced clearly in the QAPP, provided that the objectives, procedures, and rationales in the documents are consistent, and the reference material fulfills requirements of QA/R-5. Examples of how this cross-reference might be accomplished can be found in the *Guidance for the Data Quality Objectives Process* (EPA/600/R-96/055) and the *Data Quality Objectives Decision Errors Feasibility Trials (DEFT) Software* (EPA/600/R-96/056). EPA-approved references, or equivalent, or alternative methods approved by EPA shall be used, and their corresponding EPA-approved guidelines should be applied when they are available and applicable.

Laboratory QA/QC Procedures:

The Quality Assurance/Quality Control (“QA/QC”) procedures and SOPs for a laboratory (either fixed or mobile) used during the SRI/FS shall be included in Respondents’ QAPP. When this work is performed by a contractor to a private party, each laboratory performing chemical analyses shall meet the following requirements:

- Be approved by the laboratory’s state laboratory evaluation program, if available.
- Have successful performance in one of EPA’s National Proficiency Sample Programs (e.g., Water Supply or Water Pollution Studies or the State’s proficiency sampling program).
- Be familiar with the requirements of 48 C.F.R. Part 1546 contract requirements for quality assurance.
- Have a QAPP for the laboratory analytical methods. This plan shall be referenced as part of the contractor’s QAPP.

Data Validation Procedures:

Respondents are required to certify that a representative portion of the data has been validated by a person independent of the laboratory according to the *Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses*, Revised December 1996 (amended as necessary to account for the differences between the approved analytical methods for the project and the current EPA Contract Laboratory Program Statements of Work). A data validation reporting package as described in the guidelines cited above must be delivered at the request of the EPA Remedial Project Manager. Approved validation methods shall be contained in the QAPP.

The independent validator shall not be the laboratory conducting the analysis and should be a person with a working knowledge of, or prior experience with, EPA data validation procedures. The independent validator shall certify that the data have been validated, discrepancies have been resolved, if possible, and the appropriate qualifiers have been provided.

Data Package Requirements:

Respondents must keep the complete data package and make it available to EPA on request for EPA to conduct an independent validation of the data. The complete data package shall consist of all results, a case narrative, the raw data, and all relevant Quality Assurance/Quality Control (“QA/QC”) information. The forms contained in the data validation functional guidelines must be utilized to report the data when applicable. Raw data include the associated chromatograms and the instrument printouts with area and peak height results. The peaks in all standards and samples must be labeled, or, for each sample and standard, a summary page will be provided that lists, for each retention time peak, the compound identified. The concentration of all standards analyzed with the amount injected must be included. All interior and exterior laboratory tracking information must also be included in the data package. If the EPA CLP program is used to analyze data, then all deliverables required under the current Contract Lab Program Statement of Work, must be delivered. An example CLP-like set of data package deliverables would contain:

- A summary of positive results and detection limits of non-detects with all raw data.
- Tabulated surrogate recoveries and QC limits from methods 3500 and 8000 in SW-846 and all validation and sample raw data.
- Tabulated matrix spike/matrix spike duplicate recoveries, relative percent differences, spike concentrations, and QC limits from methods 3500 and 8000 in SW-846 and all validation and sample raw data.
- Associated blanks (trip, equipment, and method with accompanying raw data for tests).
- Tabulated initial and continuing calibration results (concentrations, calibration factors or relative response factors and mean relative response factors, % differences and % relative standard deviations) with accompanying raw data.
- Tabulated retention time windows for each column.
- A record of the daily analytical scheme (run logbook, instrument logbook) which includes samples and standards order of analysis.
- The chain of custody for the sample shipment groups, Delivery of Analytical Services packing slip and analytical specifications.
- A narrative summary of method and problems encountered during extraction or analysis.

- Tabulated sample weights, volumes, and percent solids used in each sample calculation.
- Example calculation for positive values and detection limits.
- SW-846 method 3500 and 8000 validation data for all tests.

The forms contained in Chapter 1 of SW-846 (Second Edition 1982 as amended by Update I, April 1984, and Update II, April 1985) or the current EPA Contract Lab Program Statement of Work forms must be utilized to report the data when applicable. Raw data includes the associated chromatograms and the instrument printouts with area and height peak results. The peaks in all standards and samples must be labeled. To minimize error and streamline data management, Respondents shall specify the electronic format of analytical results.

ii. Field Sampling Plan

The FSP describes all fieldwork and the standard procedures that will be used to collect samples at the Site. The FSP shall address the SRI/FS objectives and the NCP.

The FSP shall detail the sampling and data gathering methods used on a project. The FSP should be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. Guidance for the selection of field methods, sampling procedures, and custody can be acquired from the *Compendium of Superfund Field Operations Methods* (OSWER Directive 9355.0-12, EPA/540/P-87/001), which is a compilation of demonstrated field techniques that have been used during remedial response activities at hazardous waste sites.

The FSP shall supplement the Site-specific sample collection information in the QAPP and shall include the following information only if the QAPP does not contain the information (this information is provided in Sections 5 through 10 of the *Region I, EPA-New England Compendium of Quality Assurance Project Plan Requirements and Guidance*, October 1999 Final (“*Compendium*”)):

- Site Background. (*Compendium* Sections 5, 6, and 7) The analysis of the existing Site details must be included in the FSP. This analysis shall include a conceptual site model (“CSM”) that describes the Site and surrounding areas, discusses known and suspected contaminant sources, characterizes the state and transport of contaminants, identifies potential exposure pathways and likely receptors (human and ecological), and includes other information regarding the physical and chemical conditions that may affect contamination at the Site. The FSP shall also include descriptions of specific data gaps and ways in which SRI sampling is designed to fill those gaps.
- Sampling Objectives. (*Compendium* Sections 7 and 8) Specific objectives of a sampling effort that describe the intended uses of data must be clearly and succinctly stated.
- Sample Location, Analytes, and Frequency. (*Compendium* Section 8) This section of the FSP identifies each sample matrix to be collected and the constituents to be analyzed. Tables shall be used to clearly identify the number of samples to be collected along with the appropriate number of replicates and blanks. Figures shall be included to show the locations of existing and proposed sample points.
- Sample Designation. (*Compendium* Section 10) A sample numbering system shall be

established. The sample designation should include the sample or well number, the sample round, the sample matrix (e.g. surface/subsurface soil, ground water, surface water, etc.), and the name of the Site.

- Sampling Equipment and Procedures. (*Compendium* Section 9) Sampling procedures must be clearly written. Step-by-step instructions for each type of sampling are necessary to enable the field team to gather data that shall meet the data quality objectives. A list should include the equipment to be used and the material composition (e.g., Teflon, stainless steel) of equipment along with decontamination procedures.
- Sample Handling and Analysis. (*Compendium* Section 10) A table shall be included that identifies sample preservation methods, types of sampling jars, shipping requirements, and holding times. Examples of paperwork such as traffic reports, chain of custody forms, packing slips or analysis request forms, and sample tags filled out for each sample as well as instructions for filling out the paperwork must be included. Field documentation methods including field notebooks and photographs shall be described.

Each part of the FSP submitted as a part of the SRI/FS Work Plan shall be sufficiently detailed to carry out the study, and shall provide data needed to address the objective of the study and to complete the study. Each study shall be designed to achieve a high performance on the first attempt. Each part of the FSP shall be related (by cross-references) to the other requirements in the POP.

c. Health & Safety Plan

The objective of the Site-specific Health and Safety Plan (“HASP”) is to establish the procedures, personnel responsibilities, and training necessary to protect the health or safety of all on-site personnel during the SRI/FS. The plan shall provide for routine but hazardous field activities and for unexpected Site emergencies.

The Site-specific health or safety requirements and procedures in the HASP shall be based on an ongoing assessment of Site conditions, including the most current information on each medium. For each field task during the SRI/FS, the HASP shall identify:

- Possible problems and hazards and their solutions.
- Environmental surveillance measures.
- Specifications for protective clothing.
- The appropriate level of respiratory protection.
- The rationale for selecting that level.
- Criteria, procedures, and mechanisms for upgrading the level of protection and for suspending activity, if necessary.

The HASP shall also include the delineation of exclusion areas on a map and describe provisions for this delineation in the field. The HASP shall indicate the on-site person responsible for implementing the HASP as a representative of Respondents, protective equipment, personnel decontamination procedures, and medical surveillance. The following documents shall be consulted:

EPA's *Standard Operating Safety Guide* (OSWER Directive No. 9285.1-03, PB 92-963414, June 1992).

OSHA e-HASP Software – Version 1.0. September 2003
(www.osha.gov/dep/etools/ehasp/index.html)

Occupational Safety and Health Standards (Department of Labor, Occupational Safety and Health Administration (“OSHA”), 29 C.F.R. Part 1910).

Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities: Appendix B (NIOSH/OSHA/USCG/EPA 1985).

Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final (OSWER Directive 9355.3-01, EPA/540/G-89/004).

OSHA regulations at 40 C.F.R. § 1910 and Chapter 9 of the Interim Standard Operating Safety Guide, which describes the routine emergency provisions of a site-specific health and safety plan, shall be the primary reference used by Respondents in developing and implementing the Health and Safety Plan.

The measures in the HASP shall be developed and implemented to comply with applicable State and Federal occupational health and safety regulations. The HASP shall be consistent with the objectives and contents of all other plans submitted by Respondents. The HASP shall be updated during the course of the SRI/FS, as necessary.

d. Community Relations Support Plan

Respondents shall develop a Community Relations Support Plan, with the objective to ensure and specify adequate support from Respondents for the community relations efforts of EPA. This support shall include, at a minimum:

- Participation in public informational or technical meetings, including the provision of visual aids and equipment.
- Publication, copying, and distribution of fact sheets or updates.
- Assistance in preparing a responsiveness summary after the SRI/FS public comment period.

3. Updated Preliminary Identification of Probable Applicable or Relevant and Appropriate Requirements

Within the SRI/FS Work Plan, Respondents shall include the identification of probable federal and state ARARs that EPA will provide prior to the submission of the SRI/FS Work Plan. The ARARs shall be updated as new information becomes available.

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state

environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a CERCLA site. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

In addition to ARARs, Respondents shall also make preliminary determinations on the extent that other publicly available criteria, advisories, and guidance are pertinent to the Waste Materials, location of the Site, and remedial actions. ARARs and other criteria, advisories, and guidance shall be:

- Considered in terms of their chemical-specific, location-specific, and action-specific attributes.
- Evaluated for each medium (surface water, ground water, sediment, soil, air, biota, and facilities), particularly for chemical-specific ARARs, but including other ARARs as appropriate.
- Distinguished for each technology considered, particularly for action-specific ARARs, but including other ARARs as appropriate.
- Considered at each major step of the SRI/FS where they are indicated.

In general, identification of chemical- and location-specific ARARs is more important in the beginning steps of the SRI/FS, whereas the identification of action-specific ARARs gain importance later, during the more FS-oriented steps. If a requirement is determined to be not applicable, Respondents shall subsequently consider whether it is relevant and appropriate. When new site-specific information becomes available, ARARs should be re-examined.

Chemical-specific ARARs are usually health or risk-based numerical limits on the amount of, or concentration of, a chemical that may be found in, or discharged to the ambient environment. Location-specific ARARs are general restrictions placed upon the concentration of hazardous substances or the conduct of activities solely because they are in special locations. Some examples of special locations include, but are not limited to, floodplains, wetlands, historic places, places with objects of archaeological significance, and sensitive ecosystems or habitats. Action-specific ARARs are usually technology-based or activity-based directions or limitations which control actions taken at CERCLA sites. Action-specific ARARs, as the name implies, govern the remedial actions.

As part of the SRI/FS Work Plan, Respondents shall include a list in the form of a table of preliminary and probable ARARs and publicly available EPA and NHDES criteria, advisories, and guidance, and limitations that should initially be exhaustive of such requirements. The description shall briefly describe the requirements and shall include: if it is a numerical requirement; what it is based upon (e.g., health, technical practicality); and what media it is designed for (e.g., surface water, ambient air, etc.). The list shall indicate whether each requirement is: potentially applicable or relevant and appropriate; chemical-specific, location-

specific, or action-specific; pertinent to surface water, ground water, soil, air, biota, or facilities; and affixed with specific levels or goals to be attained. If specific levels or goals are affixed, they must be enumerated in the chart. It is expected that this preliminary list will be modified during the SRI/FS as more information is gathered.

Data requirements in terms of physical and chemical characteristics needed to evaluate ARARs shall be considered as part of the scoping. Such requirements may include but are not limited to chemical residuals, background levels, or various modeling parameters. Such data requirements shall be satisfied during the SRI to the extent possible, rather than during the later phases of the SRI/FS. The following shall be consulted during the ARAR identification process:

CERCLA Compliance with Other Laws Manual: Draft Guidance (August 1988, EPA/540/G-89/006).

CERCLA Compliance with Other Laws Manual: Part II, Clean Air Act and Other Environmental Statutes and State Requirements (August 1989, EPA/540/G-89/009).

Section 4 of *Guidance on Feasibility Studies Under CERCLA* (EPA/540/G-85/003).

Appendix E of the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA/540/G-89/004, OSWER Directive 9355.3-01, October 1988), which present a partial list of potential ARARs.

An identification of the water quality standards and the potential points of compliance will also help guide the field programs. Justifications for incorporating or dropping a requirement shall be provided where such decisions are made. EPA is the final authority in deciding which ARARs are retained or added for consideration, and the extent to which they must be considered in remedy selection.

4. Data Requirements For Potential Remedial Alternatives And Technologies

The SRI/FS Work Plan must also identify a range of potential remedial alternatives that may be useful in remediating affected media. In discussing potential remedial alternatives, an alternative is a group of technologies, including innovative ones that will achieve certain remedial action goals. The SRI/FS Work Plan shall describe the data to be collected during the SRI field investigation that are needed to evaluate the technologies for preparation of the FS.

5. Expanded Schedule For Supplemental Remedial Investigation And Feasibility Study

The major predetermined deliverables are identified in Table 1. The established schedule along with a more detailed, expanded schedule for subtasks and interim reports shall be included as a component of the SRI/FS Work Plan. Figure 2 outlines an expanded schedule for initial SRI activities. Modifications of the schedule must be approved by EPA, after providing reasonable opportunity for review and comment by NHDES, prior to their implementation. The schedule shall be presented as a chart or table, which shall be updated when the schedule changes. A copy

of the schedule shall be contained in each major deliverable of the SRI/FS and a summary status provided in each quarterly progress report required by the Settlement Agreement.

SECTION 3: SUPPLEMENTAL REMEDIAL INVESTIGATION

A. OBJECTIVES

Respondents shall collect and review existing field data and reports, and collect additional field data necessary to complete the SRI and FS, and that will be sufficient to inform evaluation and selection of a remedy and meet the requirements of CERCLA and the NCP. Respondents shall prepare the SRI to:

- Describe the features of each OU.
- Identify the nature and extent of Waste Materials encountered during SRI activities.
- Identify the lateral and vertical extent, concentration, toxicity, environmental fate, transport mechanisms, significant geochemical processes (e.g., bioaccumulation, persistence, mobility), phases (e.g., solid, liquid), and other significant characteristics of Waste Materials identified at the Site sufficient to prepare the CSM.
- Supplement, and highlight any changes from, conditions described in the 2014 RI or other reports.
- Support the identification and evaluation of potentially feasible remedial technologies.
- Support the identification of probable ARARs.

B. WORK PLAN REQUIREMENTS

The SRI shall specifically consist of the activities and deliverables described in this section. Respondents shall, consistent with the scoping requirements set forth above in Section 2, in the SRI Work Plan describe the following:⁴

1. An approach for the sampling program, and identification of proposed sampling locations and depths for sampling media on the Site base map.
2. The locations of suspected contaminated areas.
3. The anticipated number and schedule of samples.
4. The QA/QC procedures, including blanks, duplicates, alternative analysis conditions, and standards.
5. The methods for deciding how the field program can be adjusted according to the initial sampling and analytical testing results.
6. The analytical methodology to be used for each medium including instrumentation and detection limits.
7. An evaluation of how each objective of the SRI in Section 3.A., above, has been addressed by the 2014 RI or other existing information. Provide details on further efforts necessary to fill identified data gaps.

⁴ Respondents may omit plans to sample areas or media to the extent Respondents believe (and have not been otherwise directed by EPA) that sufficient data has already been obtained and presented in the 2014 RI; such omissions shall be plainly indicated, with a cross-reference to the location in the 2014 RI.

C. SCHEDULE AND DELIVERABLES

Respondents shall begin the field work for the SRI upon receipt of EPA's notification to proceed, according to the schedule in the EPA approved SRI Work Plan. During the planning and implementation of the work for the SRI, Respondents shall provide, for EPA's review and approval, all proposed deviations from the schedule or procedures in the Work Plan before making such changes. The SRI Work Plan shall consist of a description of the means and methods to collect the data described in Section 3.D., below.

Once the SRI Work Plan has been approved and field work has begun, a number of interim reports are required as detailed in Section 3.D.1-6, below. These interim reports will each consist of a narrative supported by maps and figures.

For each product described in Section 3.D., below, as well as the SRI, the Respondents shall submit draft and final products or reports according to the schedule in the approved SRI Work Plan unless EPA agrees to an alternative date. These reports will include all data collected during the field investigations as well as narratives interpreting the data. These reports shall also include data in the form of summary tables organized by media and a detailed description, using figures if appropriate, of all sampling locations and depths. EPA will review and approve or modify the submitted draft and the Respondents shall produce the final reports and SRI.

Following EPA's review of the SRI it may direct additional studies, treatability/pilot studies, or SRI(s). In such instances, EPA will identify the steps required to address the data gap. Following notification, Respondents shall submit a schedule within 90 days for the steps required. EPA will review and approve or modify such schedule prior to implementation by Respondents.

D. COMPONENTS OF SRI CHARACTERIZATION

Consistent with the objectives identified above, Respondents shall describe the planning and implementation of the following studies in the SRI/FS Work Plan. The result of each study will be an interim report and combined, they will serve as the basis of the SRI/FS Report:

1. Field Mobilization and Site Preparation

Field mobilization and Site preparation activities include the following:

- a. Site roadway and bridge improvements: Following the granting of access, this task will involve assessment, permit equivalencies as needed, and repair to the access roadway and bridge across the penstock pipeline to allow safe and efficient access to the Site for implementation of the SRI/FS.
- b. Fence installation: A fence shall secure access to protect equipment and personnel as well as prevent unauthorized entry to work areas of the Site.

The Respondents shall provide a sketch plan of where the fence will be located.

- c. Groundwater monitoring well assessment and security: The condition of monitoring wells and associated infrastructure will be assessed and documented to identify well condition and potential use in subsequent SRI activities that consider groundwater. Locks will be installed on monitoring wells to prevent illicit access and ensure their security from vandalism. Respondents shall also determine the elevations, location and other details of all wells and piezometers at the Site as part of a Site survey. This assessment shall result in a report that provides the location, elevation, well logs, geophysical logs, and other details of all wells and piezometers as well as a narrative assessment of its condition and any suggested modifications.

- d. Survey and benchmark installation: This effort will generate at least one base map, supplied in draft form for approval, and then in the SRI Report. Maps shall be at a sufficient scale to depict the location of Site features and structures such as, but not limited to: property boundaries and rights-of-way, flood zones, wetlands, surface waters with any relevant use designations, the penstock and penstock pipe, the foundation/retaining wall, the limit of the CHP cap, monitoring locations, and installed benchmarks. During the field work, survey points shall be established to monitor the stability of the foundation/retaining wall. The SRI narrative shall describe these features to assist in decisions regarding long-term monitoring and remedial efforts.

If necessary, Respondents shall prepare similar maps of appropriate scale that show any sampling locations beyond OU-1. The basis of one of these maps shall be the U.S. Geological Survey 7.5 minute quadrangle which includes the Site.

It may be necessary to modify the Site base maps periodically, based on the ongoing results of the SRI. Maps shall encompass an area large enough to identify pathways of potential surface water run-off from OU-1 based on topography shown at 1-foot intervals.

2. Foundation/Retaining Wall Stability and Suitability Assessment

This study will result in an interim report. The fieldwork for this interim report may include geophysical and geotechnical testing methods to evaluate the structural integrity of the foundation/retaining wall. This also includes survey measurements during SRI activities to evaluate wall stability. The findings of the approved interim report should include a narrative describing potential migration routes of Waste Materials from the CHP to the Androscoggin River through the wall. If the integrity of the foundation/retaining wall is considered acceptable by a licensed, professional engineer, this interim report should also discuss the suitability and estimated duration that it will continue to contain landfilled material in the CHP.

3. Groundwater Investigation

This study will produce two reports: the first, Groundwater Recommendations, shall recommend modifications to the existing wells in addition to proposed new monitoring well locations if necessary, and the second shall discuss the findings of monitoring and other tests conducted in the modified wells. The recommendations report shall recommend new wells and wells that should be abandoned or retrofitted to provide data over more discreet intervals. Initial field work should evaluate existing wells (supported by data provided in the 2014 RI) describing the integrity, modifications needed for access and investigatory utility, and the potential use of each well during the SRI field work.

Once EPA has approved the Groundwater Recommendations report, Respondents shall begin the second half of the field program for this study by evaluating the presence of mercury and other Waste Materials in wells through sampling, additional borehole logging, and tests as set forth in the approved recommendations report. The second, interim report, Groundwater Assessment, shall describe the character of contamination in bedrock and overburden wells with respect to phase, specie, flux, and direction of migration.

4. Subsurface Investigations

Included within this task are two subtasks:

- a. Soil and Debris Characterization: This subtask shall produce an interim report supported by maps and figures that show the extent of Site-related contaminated soil and debris in the CHP, SFSA, and EFSA to include concentrations and quantities relative to the findings of the risk assessment and RAOs, areas that will be addressed by the FS, and a preliminary assessment of Site-specific background soil contaminant levels.

EPA and NHDES anticipate that the Site contains contaminated media that will require further characterization for evaluation in the FS. This study shall assess parameters for treatment (e.g., soil chemistry, soil types, porosity, saturation), containment, and removal (e.g., Toxicity Characteristic Leaching Procedure, land disposal regulations). The field work for this study shall be performed for soils and debris in the CHP as well as in the SFSA and EFSA. The interim report should describe the general characteristics of the Waste Materials including quantities, types, and concentration.

The objective of the soil and debris characterization is to obtain the information necessary to evaluate the effectiveness of potential remedial treatment technologies for soils and debris of varying composition, saturation and contaminant presence in the CHP, SFSA and EFSA. Respondents may evaluate treatment or stabilization options that include biological treatments, physical separation, chemical conditioning, and *in-situ* methods. Once complete, an interim report describing the results of the study shall be submitted to EPA for review and approval or modification.

- b. TP-6 Study: The Respondents shall excavate soil, debris and other materials in a 20 by 20-foot trench around TP-6 as will be described in an Implementation Plan to be submitted to EPA for review and approval. The excavated material will be temporarily stored and managed on-site in appropriate containers, while the material is analyzed to characterize reasonable and appropriate waste management and disposal options. The excavation trench will proceed to competent bedrock or refusal at foundations. Respondents shall treat on-site, or dispose off-site, material excavated from this area. Respondents shall provide notice to City of Berlin officials prior to any off-site shipments of the excavated material requiring notice to the EPA, and shall cooperate with said officials to minimize impacts on the health, safety and well-being of residents of the city related to such shipments.

The implementation of the excavation activities will be coordinated to occur during periods of low water in Reach AR-3 to the extent possible. The SRI Report shall summarize actions taken during this study and describe the volume, composition, and fate of excavated materials, as well as the management of groundwater in the excavation in the TP-6 Report. Respondents shall describe in the Implementation Plan how the excavation will be restored to a final grade.

5. Contaminant Migration Investigation

This study will consist of three subtasks and will result in a Contaminant Migration Interim Report. Due to the complexity of some of the tasks below, and rather than produce individual interim reports, Respondents shall prepare technical memoranda as listed below to convey the progress of the investigation.

These three subtasks and the technical memoranda shall be used by Respondents to produce a Contaminant Migration Interim Report. The narrative in the interim report shall be supported by figures and maps that describe the geochemistry and physical states of mercury, PCDDs, PCDFs, and PCBs in OU-1. This shall include a description of the constituents present in the mercury amalgam in various locations to evaluate the relationship to mercury transport from the CHP to the Androscoggin River. The subtasks in this study shall include:

- a. Physical Groundwater Study: Determine the range of groundwater conditions with respect to water table elevation and groundwater geochemistry across OU-1. Identify the likely range of variation of hydraulic head in the river and its effect on the water table within OU-1. This will require identifying the range of water levels due to manipulation of water levels at Sawmill and Riverside Dams. Assess the effects of flow variation on the integrity of the foundation/retaining wall. This portion of the study will result in a technical memorandum describing the findings with suggestions of how the data will be used in constructing the Contaminant Migration Interim Report.

- b. Chemical Groundwater Study: This study shall assess the effect of the variation of the water table on the geochemistry of both solid and groundwater matrices, within OU-1 and produce a technical memorandum describing the geochemistry within OU-1, weathered bedrock and bedrock fractures as they approach surface water in the Androscoggin River. Discrete sampling of contaminants and water quality parameters, including non-traditional methods to preserve the speciation and other methods to sample and describe colloidal concentrations, may be used to define these conditions. The technical memorandum shall describe the chemical and physical properties of hazardous substances within the saturated and unsaturated portions of OU-1. Limited geochemical modelling, coupled with the information from the sub-studies in Section 3.D.5.a. and 5.c., may be used to assist in further defining conditions within OU-1.
- c. Groundwater & Contaminant Migration Study: This study shall describe the presence and migration characteristics of contaminants from OU-1, through bedrock fractures and the foundation/retaining wall, and into Reach AR-3 in the Androscoggin River. This study will use *in situ* sampling and other techniques to identify the mechanisms for contaminant migration and, using the results of the physical and chemical groundwater studies, identify the phase, state or speciation of contaminants as well as their flux from OU-1 and weathered bedrock, into competent bedrock, the atmosphere, and the Androscoggin River, including its banks, in AR-3 adjacent to the CHP. Respondents shall produce a technical memorandum that describes the migration of contaminants from OU-1 to the Androscoggin River and the mechanism for the formation of mercury amalgams in the riverbed.

6. AR-3 River Investigation

This study will evaluate and describe the fate and transport of mercury amalgams and other mobile contaminants discussed in Section 3.D.5.c. as they enter AR-3 of the RSA. This study may consist of a summary of existing investigations coupled with new, limited investigations described by Respondents in the Work Plan. AR-3 investigation activities include:

- **Mercury Droplet Collection**: This activity will mirror prior efforts that NHDES and EPA undertook to collect and evaluate visible mercury droplets identified in bedrock fractures and depressions on the banks and in the riverbed of AR-3, as safe access allows. Collected material will be analyzed for composition and properly disposed off-site.
- **Mercury Presence in Fractures**: Following collection of visible mercury droplets, copper wool or other similar material that absorbs mercury will be placed in locations where the mercury is believed to originate at the surface to provide information regarding mercury presence, migration, and possible origin to inform the CSM.

Following the performance of the investigations, Respondents shall produce a draft SRI as set forth in the Work Plan. The SRI shall contain a CSM that displays the varying physical and

chemical conditions and their effects on contaminants and their fluxes. If EPA or Respondents believe that data are insufficient to perform a SRI, EPA or Respondents may direct or recommend, respectively, that a Work Plan be prepared by Respondents to address data gaps or other information needs. SRI addenda may result in the need for additional FSs.

SECTION 4: RISK ASSESSMENT

The 2014 RI includes a Human Health Risk Assessment and Ecological Risk Assessments for the terrestrial component of the Site, a Screening Level Ecological Risk Assessment and a Base Line Ecological Risk Assessment for the Androscoggin River. If, based on the data developed during the SRI, Respondents believe it appropriate to update any of these risk assessments they shall notify EPA, with a copy to NHDES, supplying work plans outlining the methods and deliverables. If EPA approves of such work plan(s), Respondents shall use those reports in the SRI after EPA reviews and approves or modifies such documents.

SECTION 5: FEASIBILITY STUDY

A. OBJECTIVES

Respondents shall develop a range of alternatives to address hazardous materials at the Site. These alternatives shall be developed, screened, and evaluated within the FS, as described below.

B. THE DEVELOPMENT AND INITIAL SCREENING OF ALTERNATIVES

Respondents shall develop an appropriate range of remedial alternatives in a manner consistent with the NCP (40 CFR Part 300), the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (OSWER Directive 9355.3-01), and other format or guidance provided by Region I EPA. Alternatives for remediation shall be developed by assembling combinations of technologies (including innovative ones that are developed fully but lack sufficient cost or performance data for routine use at Superfund sites), and the media to which they would be applied, into alternatives that address contamination for the specified operable unit.

1. Development of Alternatives
 - a. Objectives

Respondents shall develop Alternatives that:

- Protect human health and the environment by eliminating, reducing, and/or controlling risks to human health and the environment posed through each pathway at the Site.
- Consider the long-term effectiveness.
- Meet the goals, objectives, and requirements of the ARARs that pertain to the OU.

- Consider the toxicity, mobility, and volume of hazardous substances and their constituents.
- Consider the short- and long-term potential for human exposure.
- Consider the potential threat to human health and the environment if the remedial alternative proposed was to fail.
- Consider the threat to human health and the environment associated with the excavation, transportation, and re-disposal or containment of contaminated substances and/or media.
- Consider potential impacts to wetlands, waterways and aquatic biota.

b. Performance

In addition, Respondents shall perform the following activities:

- Develop RAOs, specifying the contaminants and media of concern, potential exposure pathways and receptors, and preliminary remediation goals that are based on chemical-specific ARARs, risk assessment results, and OU-specific characterization data.
- Develop response actions for each medium of interest consisting of engineering and institutional controls, treatment, removal or other actions, separately and in combinations that will satisfy the RAOs.
- Identify volumes and areas of media to which response actions shall apply.
- Identify and screen technologies, including innovative ones that are developed fully but lack sufficient cost or performance data for routine use at Superfund sites, which would be applicable to each response action.
- Assemble the selected technologies into alternatives representing a range of treatment and containment options.
- Identify and evaluate appropriate handling, treatment, and final disposal of treatment residuals (e.g., ash, decontaminated soil, sludge, decontamination fluids).

2. Initial Screening of Alternatives

a. Criteria

In screening the alternatives, Respondents shall consider, but not be limited to, the short- and long-term aspects of the following three criteria:

- Effectiveness. This criterion focuses on the degree to which an alternative reduces toxicity, mobility, or volume through treatment; minimizes residual risks and affords long-term protection; complies with ARARs, and minimizes short-term impacts. It also focuses on how quickly the alternative achieves protection with a minimum of short-term impacts in comparison to how quickly the protection shall be achieved.
- Implementability. This criterion focuses on the technical feasibility and availability of the technologies that each alternative would employ and the administrative feasibility of implementing the alternative.
- Cost. The relative costs of construction and long-term costs to operate and maintain the alternatives shall be considered.

b. Range of Alternatives

Respondents shall develop a series of alternatives for each OU. These alternatives shall include the following:

- i. An alternative that, for each OU, reduces the contaminant concentrations to meet or exceed all ARARs and a 10^{-4} to 10^{-6} excess lifetime cancer risk. It shall achieve this objective as rapidly as possible and must be completed in less than ten years, if possible, and shall require no or minimal long-term maintenance.
- ii. A no-action alternative that would rely solely upon natural attenuation to meet clean-up standards. This may be "no further action," if some removal or remedial action has already occurred or is undertaken during the SRI/FS at the Site.
- iii. For source control actions, as appropriate: A range of alternatives in which treatment that reduces the toxicity, mobility, or volume of the hazardous substances, pollutants, or contaminants is a principal element. As appropriate, this range shall include an alternative that removes or destroys hazardous substances, pollutants, or contaminants to the maximum extent feasible, eliminating or minimizing, to the degree possible, the need for long-term management.
- iv. Respondents shall also develop, as appropriate, other alternatives which, at a minimum, treat the principal threats posed by the specific OU but vary in the degree of treatment employed and the quantities and characteristics of the treatment residuals and untreated waste that must be managed.
- v. One or more alternatives that involve little or no treatment, but provide protection of human health and the environment primarily by preventing or controlling exposure to hazardous substances, pollutants, or contaminants through engineering controls, for example, containment and, as necessary, institutional controls to protect human health and the environment and to assure continued effectiveness of the response action.
- vi. Respondents shall give consideration to innovative technologies that are developed fully but lack sufficient cost or performance data for routine use at Superfund sites. If any innovative technologies pertinent to the specific operable unit can be identified, then one or more such technologies shall be evaluated beyond the initial screening.

C. FEASIBILITY STUDY DELIVERABLES

1. Development and Initial Screening of Alternatives Report

Within 90 days of submission of the Draft SRI, Respondents shall submit an initial Development and Initial Screening of Alternatives Report to EPA and NHDES for review. If an alternative is to be eliminated, it must be screened out for clearly stated reasons contained in the NCP and other EPA guidance. The report shall contain a chart of all alternatives and the analysis of the basic factors. The report shall justify deleting, refining, or adding alternatives. It shall also identify the data needed to select a remedy and the work plans for studies designed to obtain the data. The report shall contain charts, graphs, and other graphics to display the anticipated effectiveness of the alternatives including, for example:

- Maps showing the extent of contamination and debris across the OU.
- Maps showing concentration lines for various potential soil clean-up levels and correlated to the 10^{-4} through 10^{-6} cancer risks.
- Graphs of soil volume to be treated or removed plotted against concentration (if necessary).
- Graphs and figures showing the predicted effect of groundwater dewatering and control for the OU.

This report shall also describe the methods by which Respondents shall evaluate potential remedial alternatives to be submitted to EPA and NHDES for review.

2. Feasibility Study Report

A draft Feasibility Study Report, prepared in a manner consistent with the NCP and Feasibility Study guidance, shall be submitted 90 days after EPA approves or modifies the Development and Initial Screening of Alternatives Report. After EPA approves or modifies the draft FS, a final FS shall be submitted by Respondents within 90 days.

STATEMENT OF WORK, CHLOR-ALKALI FACILITY (FORMER) SUPERFUND SITE

FIGURE 1: Location of Cell House Property (or Parcel), Eastern and Southern Facility Study Areas (FSA), and general features surrounding the Chlor-Alkali Facility (Former) Superfund Site, City of Berlin, Coos County, New Hampshire (N 44° 28' 43", W 71° 10' 01").



Locus

USGS TOPOGRAPHIC MAP
BERLIN, NEW HAMPSHIRE
1970; (Photorevised 1989)
0 500 1,000 2,000
Feet



