UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 2

IN THE MATTER OF:

Lower Passaic River Study Area portion of the Diamond Alkali Superfund Site

In and About Essex, Hudson, Bergen and Passaic Counties, New Jersey

Alliance Chemical, Inc. on behalf of itself and Pfister Chemical, Inc.; Arkema Inc. Ashland Inc.; Atlantic Richfield Company; BASF Corporation, on its own behalf and on behalf of BASF Catalysts LLC; Belleville Industrial Center; Benjamin Moore & Co.; Bristol-Myers Squibb Company; CBS Corporation, a Delaware corporation, f/k/a Viacom Inc., successor by merger to CBS Corporation, a Pennsylvania corporation, f/k/a Westinghouse Electric Corporation; Celanese Ltd.; Chemtura Corporation and Raclaur, LLC as current and former owner of the property f/k/a Atlantic Industries; Chevron Environmental Management Company, for itself and on behalf of Texaco, Inc.; Coltec Industries; Conopco, Inc. d/b/a Unilever (as successor to CPC/Bestfoods, former parent of the Penick Corporation (facility located at 540 New York Avenue, Lyndhurst, NJ)); Covanta Essex Company; Croda Inc.; DiLorenzo Properties Company on behalf of itself and the Goldman /Goldman/DiLorenzo Properties Partnerships; E. I. du Pont de Nemours and Company; Eden Wood Corporation; Elan Chemical Company; EPEC Polymers, Inc. on behalf of itself and EPEC Oil Company Liquidating Trust; Essex Chemical Corporation; Flexon Industries Corp.; Franklin-Burlington Plastics, Inc.; Garfield Molding Co., Inc.; General Electric Company; General Motors Corporation;

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

U.S. EPA Region 2
CERCLA Docket No. 02-2007-2009

Proceeding Under Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9607 and 9622.

Givaudan Fragrances Corporation (Fragrances North America); Goodrich Corporation on behalf of itself and Kalama Specialty Chemicals, Inc.; Hercules Chemical Company, Inc.; Hess Corporation, on its own behalf and on behalf of Atlantic Richfield Company; Hexcel Corporation; Hoffmann-La Roche Inc. on its own behalf, and on behalf of its affiliate Roche Diagnostics; Honeywell International Inc.; ISP Chemicals LLC; ITT Corporation; Kao Brands Company; Leemilt's Petroleum, Inc. (successor to Power Test of New Jersey, Inc.), on its behalf and on behalf of Power Test Realty Company Limited Partnership and Getty Properties Corp., the General Partner of Power Test Realty Company Limited Partnership
Lucent Technologies Inc.; Mallinckrodt Inc.; Millennium Chemicals, Inc. affiliated entities MHC, Inc. (on behalf of itself and Walter Kidde & Company, Inc.), Millennium Petrochemicals, Inc. (f/k/a Quantum Chemical Corporation) and Equistar Chemicals LP; National-Standard LLC
Newell Rubbermaid Inc., on behalf of itself and its wholly-owned subsidiaries Goody Products, Inc. and Berol Corporation (as successor by merger to Faber-Castell Corporation); News Publishing Australia Ltd. (successor to Chris-Craft Industries); Novelis Corporation (f/k/a Alcan Aluminum Corporation); NPEC Inc.; Occidental Chemical Corporation (as successor to Diamond Shamrock Chemicals Company); Otis Elevator Company; Pfizer, Inc.; Pharmacia Corporation (f/k/a Monsanto Company); PPG Industries, Inc.; Public Service Electric and Gas Company; Purdue Pharma Technologies, Inc.; Quality Carriers, Inc. as successor to Chemical Leaman Tank Lines, Inc., its affiliates and parents; Reichhold, Inc.; Revere Smelting and Refining Corporation; Safety-Kleen Envirosystems Company by McKesson, and McKesson Corporation for itself; Sequa Corporation; Sun Chemical Corporation; Tate & Lyle Ingredients Americas, Inc. (f/k/a A.E. Staley Manufacturing Company, including its former division Staley Chemical Company); Teva Pharmaceuticals USA, Inc. (f/k/a Biocraft Laboratories, Inc.); Teval Corporation; Textron Inc.; The BOC Group, Inc.; The Hartz Consumer Group, Inc., on behalf of The Hartz Mountain Corporation; The Newark Group; The Sherwin-Williams Company; The Stanley Works; Three County Volkswagen; Tiffany and Company; Vertellus Specialties Inc. f/k/a Reilly Industries, Inc.; Vulcan Materials Company; Wyeth, on behalf of Shulton, Inc.

Settling Parties.

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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 by the United States Environmental Protection Agency ("EPA") and the respondents whose names are set forth in Appendix A ("Settling Parties"). This Settlement Agreement concerns the completion of a remedial investigation and feasibility study ("RI/FS") for the Lower Passaic River Study Area portion of the Diamond Alkali Superfund Site ("Site") initiated by EPA and the reimbursement for future response costs incurred by EPA in connection with the RI/FS, as provided herein. This Settlement Agreement does not concern the Diamond Alkali plant known as Operable Unit 1 of the Diamond Alkali Superfund Site, nor, except as specifically provided herein, does it concern the Newark Bay Study Area which is the subject of a separate Administrative Order on Consent between EPA and Occidental Chemical Corporation, and its amendments (Index No. CERCLA 02-2004-2010) ("Newark Bay AOC"), nor does this Settlement Agreement obligate the Settling Parties to perform or participate in any manner in any interim remedial measures or interim or early final actions that may be taken by EPA in the Lower Passaic River Study Area.

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, as amended ("CERCLA"), 42 U.S.C. §§ 9604, 9607 and 9622. 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 and 14-14-D. This authority was redelegated by the Regional Administrator of EPA Region II to the Director of the Emergency and Remedial Response Division by EPA Regional Delegations 14-14-C and 14-14-D dated November 23, 2004.

3. To the extent practicable, EPA and the Settling Parties intend that the RI/FS shall be part of an integrated study known as the Lower Passaic River Restoration Project, which will also include a feasibility study being conducted pursuant to the Water Resources Development Act by the U.S. Army Corps of Engineers ("USACE"), with the N.J. Department of Transportation ("NJDOT") as local sponsor ("WRDA Study"). This does not alter the Settling Parties' obligation to perform the Work under this Settlement Agreement.

4. EPA notified the U.S. Fish and Wildlife Service ("USFWS"), the National Oceanic and Atmospheric Administration ("NOAA"), and the New Jersey Department of Environmental Protection ("NJDEP") of the negotiations resulting in this Settlement Agreement. These agencies are trustees of natural resources ("Trustees") related to the Lower Passaic River Study Area.

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5. Although EPA is currently evaluating early response actions for the LPRSA, this Settlement Agreement does not require the Settling Parties to fund, perform or participate in the evaluation or implementation of any interim remedial measures or interim or early final actions, or to perform any remedial action selected for the LPRSA. This Settlement Agreement, and the obligations undertaken by the Settling Parties pursuant to this Settlement Agreement, are limited to completion of the LPRSA RI/FS and the payment of Future Response Costs incurred by EPA, as provided herein. Any interim actions, early actions, or remedial action(s) selected for the LPRSA may be the subject of separate settlement agreements between EPA and the Settling Parties. EPA and the Settling Parties retain any rights that they may have with respect to such actions, including, on the part of Settling Parties, the opportunity to comment on any response actions formally proposed by EPA and to submit written comments for the record during the comment period, including comments regarding data relied upon by EPA for the RI/FS that were not collected, gathered and verified according to the quality assurance/quality control procedures required by the Settlement Agreement or any EPA approved Project Plans.

6. EPA and the Settling Parties recognize that this Settlement Agreement has been negotiated in good faith and that the actions to be undertaken by Settling Parties in accordance with this Settlement Agreement do not constitute an admission of any liability. Settling Parties 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, conclusions of law and determinations in Sections V and VI of this Settlement Agreement. Settling Parties 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.

7. It is EPA's present intent to identify, and consistent with standard practice and in its unreviewable discretion, take measures to obtain the participation of Non-Settling Parties or newly identified parties as the RI/FS proceeds. Such measures may include taking enforcement actions pursuant to Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. § 9606(a) and § 9607(a). This does not alter the Settling Parties' obligations to perform the Work under this Settlement Agreement. EPA and the Settling Parties agree to cooperate in the identification of newly identified parties and in obtaining their participation in this Settlement Agreement. EPA and the Settling Parties acknowledge that this Settlement Agreement may be amended, upon mutually acceptable terms and conditions, to include additional parties who elect to become Settling Parties after this Settlement Agreement becomes effective.

II. PARTIES BOUND

8. This Settlement Agreement applies to and is binding upon EPA and upon each of the Settling Parties and their heirs, successors and assigns. Any change in ownership or corporate status of a Settling Party including, but not limited to, any transfer of assets or real or personal property shall not alter such Settling Party's responsibilities under this Settlement Agreement.

9. The Settling Work Parties that are set forth in Appendix A-1 are jointly and severally liable for carrying out all activities required by this Settlement Agreement. In the event of the

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insolvency or other failure of any one or more Settling Work Parties to implement the requirements of this Settlement Agreement, the remaining Settling Work Parties shall complete all such requirements. Except as otherwise specifically provided herein, the obligations of the Settling Funding Parties set forth in Appendix A-2 shall be limited to any required payments of money to the Settling Work Parties in the amounts and on the terms provided in the settlements between the Settling Work Parties and the Settling Funding Parties. The Settling Funding Parties shall be liable to the Settling Work Parties for the unpaid balance of any required settlement payments. The Settling Funding Parties, all of whom have already paid or are legally obligated to pay any required settlement amounts to the Settling Work Parties, shall be liable to EPA for the obligations of this Settlement Agreement if the Settling Work Parties fail to carry out the Work required by this Settlement Agreement.

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

11. Each undersigned representative of EPA and the Settling Parties 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 EPA or Settling Parties, as the case may be, to this Settlement Agreement.

III. STATEMENT OF PURPOSE

12. In entering into this Settlement Agreement, the objectives of EPA and Settling Parties 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 Lower Passaic River Study Area, by completing a Remedial Investigation as more specifically set forth herein and in the Statement of Work ("SOW") attached as Appendix B 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 Lower Passaic River Study Area, by conducting a Feasibility Study as more specifically set forth in the SOW; (c) to recover Future Response Costs incurred by EPA with respect to this Settlement Agreement; and (d) to resolve the liability of Settling Parties to the United States for the Work and Future Response Costs as provided in this Settlement Agreement.

13. The Work conducted under this Settlement Agreement is subject to approval by EPA and shall provide all appropriate and necessary information to assess Lower Passaic River Study Area 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"). Settling Parties shall conduct all Work under this Settlement Agreement in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

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IV. DEFINITIONS

14. Unless otherwise expressly provided herein, 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 in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Administrative Record" shall mean the administrative record established by EPA pursuant to Section 113(k) of CERCLA, 42 U.S.C. § 9613(k) for the Lower Passaic River Study Area.

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

c. "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.

d. "Dredging Pilot Report" shall mean the document or documents issued, or to be issued, by NJDOT reporting the results of the Environmental Dredging and Sediment Decontamination Technologies Pilots conducted by the Partner Agencies as part of the Lower Passaic River Restoration Project.

e. "Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXIX.

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "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.

h. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the EPA incurs in connection with the RI/FS from the Effective Date in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 57 (costs and attorneys fees and any

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monies paid to secure access, including the amount of just compensation), Paragraph 43 (emergency response) and Paragraph 85 (Work takeover), conducting Community Relations/Outreach, Peer Review activities, and Coordination with the Partner Agencies. Future Response Costs shall not include costs incurred by EPA in considering or implementing any interim remedial measures, interim or early final actions or other remedial actions at or in connection with the LPRSA.

i. "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 easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.

j. "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, 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.

k. "Lower Passaic River Restoration Project" shall mean the integrated study which the Partner Agencies are conducting in order to determine an appropriate remediation and restoration plan for the entire Lower Passaic River Study Area. The Lower Passaic River Restoration Project includes the RI/FS that is the subject of this Settlement Agreement.

l. "Lower Passaic River Study Area" or "LPRSA" shall mean the 17-mile stretch of the Lower Passaic River and its tributaries from Dundee Dam to Newark Bay.

m. "Modeling" shall mean the portion of the Work described in the Modeling Work Plan.

n. "Modeling Work Plan" shall mean the Lower Passaic River Restoration Project Modeling Work Plan and the Newark Bay Study Modeling Work Plan Addendum, as approved by EPA.

o. "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.

p. "Newark Bay Study Area" shall mean Newark Bay and portions of the Hackensack River, Arthur Kill and Kill Van Kull, as more fully described in the Newark Bay AOC.

q. "Newark Bay AOC" shall mean the Administrative Order on Consent captioned "In the Matter of the Diamond Alkali Superfund Site (Newark Bay Study Area),

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Occidental Chemical Corporation, Respondent," Index No. CERCLA-02-2004-2010, under which Tierra Solutions, Inc. is performing a remedial investigation and feasibility study of the Newark Bay Study Area.

r. "NJDEP" shall mean the New Jersey Department of Environmental Protection and any successor departments or agencies of the State.

s. "Non-Settling Parties" shall mean those responsible parties issued EPA General Notice Letters for the Lower Passaic River Study Area that are not parties to this Settlement Agreement, as the same may be amended from time to time.

t. "Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

u. "Parties" shall mean EPA and Settling Parties.

v. "Partner Agencies" shall mean the governmental agencies working on the Lower Passaic River Restoration Project including, EPA, USACE, NJDOT, NJDEP and the Trustees.

w. "Project Plans" shall mean the documents listed in Paragraph 39.a(1) of this Settlement Agreement, as approved by EPA.

x. "Project Schedule" shall mean the schedule for completing the Work, to be developed by Settling Parties and approved by EPA.

y. "RCRA" shall mean the Resource Conservation and Recovery Act, also known as the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.*

z. "RPM" shall mean the EPA Remedial Project Manager, designated pursuant to this Settlement Agreement.

aa. "Settling Funding Parties" shall mean those Settling Parties identified in Appendix A-2.

bb. "Settling Parties" shall mean those Parties identified in Appendix A, as amended from time to time, including the Settling Work Parties and the Settling Funding Parties and their heirs, successors and assigns.

cc. "Settling Work Parties" shall mean those Settling Parties identified in Appendix A-1.

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dd. "Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

ee. "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.

ff. "Site" for purposes of this Settlement Agreement shall mean the Diamond Alkali Superfund Site, including the Diamond Alkali plant located at 80 and 120 Lister Avenue in Newark, New Jersey, and the Lower Passaic River Study Area, and the areal extent of contamination.

gg. "State"shall mean the State of New Jersey.

hh. "Statement of Work" or "SOW" shall mean the Statement of Work for development of a RI/FS for the Lower Passaic River Study Area, as set forth in Appendix B 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.

ii. "Trustees" shall mean the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and NJDEP.

jj. "Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

kk. "WRDA" shall mean the Water Resources Development Act, 33 U.S.C. § 2201 et seq.

ll. "WRDA Study" shall mean the ecosystem restoration study of the Lower Passaic River Study Area being conducted under WRDA by USACE, with NJDOT as local sponsor.

mm. "Work" shall mean all activities Settling Parties are required to perform under this Settlement Agreement, except those required by Section XIV (Retention of Records).

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V. FINDINGS OF FACT

EPA makes the following Findings of Fact:

15. In 1983, hazardous substances were detected at various locations in Newark, New Jersey including the Diamond Alkali plant located at 80 Lister Avenue.

16. EPA, pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, placed the Diamond Alkali Superfund Site on the National Priorities List, which is set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 21, 1984, 49 Fed. Reg. 37070.

17. Pursuant to Administrative Orders on Consent with NJDEP, Diamond Shamrock Chemicals Company conducted investigations and response work for the 80 and 120 Lister Avenue portion of the Diamond Alkali Superfund Site. The investigation included the sampling and assessment of sediment contamination within the Passaic River. EPA issued a Record of Decision (ROD) that set forth an interim remedy for the 80 and 120 Lister Avenue portion of the Diamond Alkali Superfund Site on September 30, 1987. Pursuant to a judicial Consent Decree with EPA, Occidental Chemical Corporation and Chemical Land Holdings, Inc. (now known as Tierra Solutions, Inc.), agreed to implement the 1987 ROD. Remedial action is currently underway.

18. Sampling and assessment of sediments in the Passaic River during the investigation of 80 and 120 Lister Avenue revealed many hazardous substances including, but not limited to, dioxins/furans, polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), pesticides and metals.

19. Occidental Chemical Corporation, as successor to Diamond Shamrock Chemicals Company, executed an Administrative Order on Consent, Index No. II-CERCLA-0117 with EPA to investigate a six-mile stretch of the Passaic River whose southern boundary was the abandoned Conrail Railroad bridge located at the USACE station designation of 40+00 to a transect six miles upriver located at the USACE station designation of 356+80. The primary objectives of the investigation were to determine: (1) the spatial distribution and concentration of hazardous substances, both horizontally and vertically in the sediments; (2) the primary human and ecological receptors of contaminated sediments; and (3) the transport of contaminated sediment.

20. The sampling results from the investigation in the six-mile area and other environmental studies demonstrated that evaluation of a larger area was necessary. Sediments contaminated with hazardous substances and other potential sources of hazardous substances are present along at least the entire 17-mile stretch of the Lower Passaic River and its tributaries from Dundee Dam to Newark Bay. Furthermore, the tidal nature of the Lower Passaic River has resulted in greater dispersion of hazardous substances than originally expected, thus promoting the distribution of hazardous substances into and out of the six-mile stretch of the Passaic River.

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As a result, the investigation has been expanded to include the entire Lower Passaic River Study Area.

21. USACE has received Congressional appropriations to conduct an ecosystem restoration study pursuant to WRDA for the Lower Passaic River Study Area. USACE and its local sponsor, NJDOT, are performing the WRDA Study. Since the RI/FS and WRDA Study have many overlapping information needs, EPA, USACE and NJDOT have formed a partnership to identify and address water quality improvement, remediation, and restoration opportunities in the Lower Passaic River Study Area. The Lower Passaic River Restoration Project is named as a pilot project under the Urban Rivers Restoration Initiative, as implemented in the national Memorandum of Understanding ("MOU") executed on July 2, 2002 between EPA and USACE. The MOU calls for the two agencies to cooperate, where appropriate, on environmental remediation and restoration of degraded urban rivers and related resources. The partnership among EPA, USACE and NJDOT has expanded to include the Trustees.

22. The Partner Agencies are conducting an integrated study known as the Lower Passaic River Restoration Project that includes the RI/FS and the WRDA Study. The RI/FS portion of the Lower Passaic River Restoration Project was funded in the amount of $10,000,000.00 pursuant to Administrative Agreement, CERCLA Docket No. 02-2004-2011. Pursuant to amendment(s) to that Administrative Agreement, certain of the Settling Parties provided a contingent funding commitment of up to an additional $750,000.00 to date. Pursuant to Section IX (Reservation of Rights), Paragraph 24.g., of that Agreement, EPA has determined that there is less than $1,000,000.00 in the Diamond Alkali Superfund Site/Lower Passaic River Study Area Special Account and that the amount remaining is insufficient to fund the remainder of the RI/FS.

23. Settling Parties have agreed to perform the Work and finance Future Response Costs as set forth in this Settlement Agreement and the attached SOW.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, EPA has determined that:

24. The Lower Passaic River Study Area is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

25. The contamination found at the Lower Passaic River Study Area, 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).

26. The conditions described in the Findings of Fact 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).

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27. Each Settling Party is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

28. EPA has determined that Settling Parties are responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622.

29. 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).

30. EPA has determined that Settling Parties are qualified to complete the RI/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 Settling Parties comply with the terms of this Settlement Agreement.

VII. SETTLEMENT AGREEMENT AND ORDER

31. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Settling Parties 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

32. Selection of Contractors, Personnel. All Work performed under this Settlement Agreement shall be under the direction and supervision of qualified personnel. Within 15 days of the Effective Date of this Settlement Agreement, and before the Work outlined below begins, Settling Parties shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. With respect to any proposed contractor, Settling Parties shall demonstrate that the proposed contractor has a Quality System that complies with the Uniform Federal Policy for Implementing Quality Systems (UFP-QS), (EPA/505/F-03/001, March 2005), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The qualifications of the persons undertaking the Work for Settling Parties 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 Settling Parties' demonstration to EPA's satisfaction that Settling Parties 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, Settling Parties shall notify EPA of the identity and qualifications of the replacements within 7 days of the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Settlement Agreement and to conduct a

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complete RI/FS, and to seek reimbursement for costs and penalties from Settling Parties. During the course of the RI/FS, Settling Parties shall notify EPA 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.

33. Within 7 days after the Effective Date, Settling Parties shall designate a Project Coordinator who shall be responsible for administration of all actions by Settling Parties required by this Settlement Agreement and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent practicable, the Project Coordinator shall be present on site or readily available by telephone during the Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Settling Parties shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within 7 days following EPA's disapproval. Settling Parties shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Settling Parties shall notify EPA 7 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 Settling Parties' Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Settling Parties.

34. EPA has designated Alice Yeh, of the Emergency and Remedial Response Division, as its Remedial Project Manager ("RPM"). EPA will notify Settling Parties in writing which may be in electronic form (e-mail) of a change of its designated RPM. Except as otherwise provided in this Settlement Agreement, Settling Parties shall direct all submissions required by this Settlement Agreement by certified mail, return receipt requested, or by UPS or Federal Express, to the RPM at:

ATTN: Lower Passaic River Remedial Project Manager
Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway - 19th Floor
New York, New York 10007

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

36. EPA shall arrange for a qualified person to assist in its oversight and review of the

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conduct of the RI/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 RI/FS Work Plan or any of the other Project Plans, as they apply to the Work.

IX. WORK TO BE PERFORMED

37. Activities and Deliverables. Settling Parties shall conduct activities and submit plans, reports or other deliverables as provided by this Settlement Agreement and the attached SOW, which is incorporated by reference, for the completion of the RI/FS. All such Work shall be conducted 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" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance on Data Usability in Risk Assessment (Part A) Final" (Publication 9285.7-09A, April 1992 or subsequently issued guidance), EPA policies, guidelines, and OSWER directives related to the conduct of risk assessments including but not limited to EPA's homepage at http://www.epa.gov/oswer/riskassessment/superfund_hhplanning.htm and guidance referenced therein, the "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites" (OSWER Directive 9355.0-85, December 2005 or subsequently issued guidance), and guidances referenced in the SOW, as may be amended or modified by EPA. The general activities that Settling Parties are required to perform are identified below, followed by a list of plans, reports and other deliverables. The tasks that Settling Parties must perform are described more fully in the SOW and guidances. The activities, plans, reports and other deliverables identified below shall be developed as provided in the Project Plans, and shall be submitted to EPA as specified. All Work performed under this Settlement Agreement shall be in accordance with the Project Schedule, and in full accordance with the standards, specifications, and other requirements of the Project Plans, as initially approved or modified by EPA, and as may be amended or modified by EPA from time to time. In accordance with the Project Schedule, Settling Parties shall submit copies of all plans, reports and other deliverables required under this Settlement Agreement, the SOW and the Project Plans to EPA and the Partner Agencies listed in Appendix C. All plans, reports and other deliverables will be reviewed and approved by EPA pursuant to Section X (EPA Approval of Plans and Other Submissions). Upon EPA's request, Settling Parties shall also provide copies of plans, reports or other deliverables to Community Advisory Groups, Peer Review Groups, Technical Assistance Grant recipients or any other entities as directed by EPA. Upon EPA's request, Settling Parties shall submit to EPA in electronic form all portions of any plan, report or other deliverable Settling Parties are required to submit pursuant to provisions of this Settlement Agreement and upload copies of such deliverables to EPA's PREmis web site.

Within 30 days of the Effective Date of this Settlement Agreement, the Settling Parties shall submit a detailed Project Schedule to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions). The Project Schedule shall provide for the LPRSA RI/FS to be completed as soon as practicable. Attached to this Settlement Agreement as Appendix E is a list of data and other information that EPA will provide to the Settling Parties in order to effectuate

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the transfer of the Work. If the transmission of such data and other information is delayed, EPA will consider modifications to the Project Schedule.

Outside the scope of this Settlement Agreement, EPA is currently evaluating interim remedial measures or interim or final early action alternatives for the LPRSA. EPA acknowledges that implementation of any such action may result in the need to resequence certain RI/FS field investigation activities. EPA may require Settling Parties to revise Project Plans and/or amend the Project Schedule to reflect the resequencing of RI/FS activities if impacted by the implementation of any interim action. At a minimum, water quality and biota data sampling activities are required irrespective of the implementation of an interim action in order to establish baseline conditions.

a. Scope of Project. The Lower Passaic River Restoration Project is a joint CERCLA-WRDA project that is being conducted by the Partner Agencies. The RI/FS required under this Settlement Agreement represents the CERCLA portion of the project, which is EPA's responsibility to implement, in coordination with the Partner Agencies. To the extent practicable, EPA will integrate the results of the CERCLA RI/FS with the results of the WRDA Study to produce a comprehensive plan for remediating and restoring the Lower Passaic River Study Area.

(1) Settling Parties shall conduct the LPRSA CERCLA RI/FS activities required by the Settlement Agreement, the attached SOW, guidance referenced herein and in the SOW, and the CERCLA portions of the following Project Plans as approved by EPA, and as may be modified by EPA from time to time in accordance with Paragraph 39 of this Settlement Agreement:

(i) Lower Passaic River Restoration Project Work Plan, August 2005;
(ii) Quality Assurance Project Plan, Lower Passaic River Restoration Project, August 2005;
(iii) Lower Passaic River Restoration Project Field Sampling Plan Volume 1, January 2006 (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in 37.f.ii);
(iv) Lower Passaic River Restoration Project Health and Safety Plan, January 2005, as amended through July 2005;
(v) Lower Passaic River Restoration Project Pathways Analysis Report, July 2005;
(vi) Lower Passaic River Restoration Project Modeling Work Plan, August 2006;
(vii) Newark Bay Study Modeling Work Plan Addendum, August 2006;

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(viii) Lower Passaic River Restoration Project Field Sampling Plan Volume 2 (draft dated August 2005 to be approved by EPA in coordination with the Partner Agencies) (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in Paragraph 37.f.ii.);

(ix) Lower Passaic River Restoration Project Field Sampling Plan Volume 3 (draft dated July 2005 to be approved by EPA in coordination with the Partner Agencies) (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in Paragraph 37.f.ii.); and

(x) CSO Study Work Plan, currently under development, which is to be the subject of a separate administrative consent order between EPA and the respondents named therein.

Settling Parties shall be responsible under this Settlement Agreement only for the performance and financing of those tasks described in these Project Plans which are necessary to complete the CERCLA RI/FS and not for the performance and financing of those tasks which are exclusively WRDA or NRDA activities. The Settling Parties with the exception of Occidental Chemical Corporation and its assigns including Tierra Solutions, Inc., and any other parties that have received notices of potential liability with regard to Newark Bay, shall not be responsible under this Settlement Agreement for the performance of the sampling or gathering of data required by the Newark Bay AOC, nor for the tasks described in the CSO Study Work Plan.

b. Given unknown site conditions, field investigation activities are often iterative. In order to satisfy the objectives of the RI/FS, it may be necessary to modify the Work specified in the Project Plans described in Paragraph 37.a.1. Any modifications to the Project Plans shall be made in accordance with Paragraph 39 and shall be subject to EPA approval.

c. Modeling. Settling Parties shall perform the Modeling in accordance with the Settlement Agreement, the SOW, and the Lower Passaic River Restoration Project Modeling Work Plan and the Newark Bay Study Modeling Work Plan Addendum (collectively, "the Modeling Work Plan"), as the same may be modified pursuant to Paragraph 39 below. In performing the Modeling, the Settling Parties shall closely coordinate with Tierra Solutions, Inc. as the Settling Party responsible under the Newark Bay AOC for obtaining the data in the Newark Bay Study Area necessary to conduct the Modeling. The Settling Parties shall ensure that one model is developed that includes the Lower Passaic River and Newark Bay Study Areas.

i. Settling Parties shall obtain EPA approval for all changes to the Modeling framework and Modeling Work Plan input data, model codes and refinements pursuant to Section X (EPA Approval of Plans and Other Submissions). EPA in its sole discretion may

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direct the Settling Parties to consider other appropriate models, if necessary. The Parties agree that the Modeling portion of the Work will not be subject to challenge by the Settling Parties pursuant to the dispute resolution provisions of this Settling Agreement or in any other forum and that EPA may take over the Modeling portion of the Work if it concludes in its sole and unreviewable discretion that Settling Parties are not conducting the Modeling in accordance with the Settlement Agreement.

d. Baseline Human Health Risk Assessment and Baseline Ecological Risk Assessment. Settling Parties shall conduct the baseline human health risk assessment and ecological risk assessment ("Risk Assessments"), in accordance with the Lower Passaic River Restoration Project Pathways Analysis Report (July 2005), as the same may be modified in accordance with Paragraph 39 below, the Lower Passaic River Restoration Project Work Plan (August 2005) and any other relevant Project Plans, applicable EPA guidance (including, without limitation, EPA Risk Assessment guidance referenced in this Settlement Agreement), guidelines, policies, and directives which may be found at (http://www.epa.gov/oswer/riskassessment/risk_superfund.htm), including but not limited to: "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Parts A to E and Volume II)," (RAGS, EPA-540-1-89-002, OSWER Directive 9285.7-01A, December 1989); "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)," (RAGS, EPA 540-R-97-033, OSWER Directive 9285.7-01D, January 1998); "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (ERAGS, EPA-540-R-97-006, OSWER Directive 9285.7-25, June 1997) or subsequently issued guidance. The plans, reports and other deliverables described herein and in further detail in Section B.7. of the SOW shall be provided to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions).

e. Community Involvement. EPA will conduct community involvement activities in accordance with the Lower Passaic River Restoration Project and Newark Bay Study Final Community Involvement Plan (June 2006). Although implementation of the Community Involvement Plan ("CIP") is the responsibility of EPA, Settling Parties shall assist by providing information for dissemination to the public and participating in public meetings. The extent of Settling Parties' involvement in community involvement activities is left to the discretion of EPA. All Settling Parties-conducted community involvement activities pursuant to the CIP will be subject to oversight by EPA.

f. Peer Review. Consistent with the Peer Review Handbook (EPA/100/B-06/002), EPA will determine on a case-by-case basis which Lower Passaic River Restoration Project Work products should be peer reviewed, in accordance with the principle that all influential scientific and technical work products used in decision making will be peer reviewed. At a minimum, the Model Calibration/ Validation, Baseline Human Health Risk Assessment and Baseline Ecological Risk Assessment reports shall be peer reviewed. Peer involvement shall consist of the LPRSA Technical Advisory Committee ("Peer Input") and/or an external Peer Review Group ("External

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Peer Review"). The members of the External Peer Review will be selected by EPA based on the guidance provided in the Peer Review Handbook, Section 3.4. While the Settling Parties may propose charge questions, EPA will make the final determination on what elements to include in the charge to ensure that it meets EPA's needs for the peer review. EPA will be responsible for developing a peer review record that includes a response to peer review comments. Settling Parties shall incorporate comments from both the Peer Input and External Peer Review and revise reports as directed by EPA. All peer review shall be conducted in accordance with the Peer Review Handbook.

g. Draft Remedial Investigation Report. In accordance with the EPA- approved Project Schedule, Settling Parties shall submit to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions), a Draft Remedial Investigation (RI) Report consistent with the SOW and Project Plans listed in Paragraph 37.a. The Final RI Report shall incorporate the Modeling results and the Risk Assessments.

h. Feasibility Study Work Plan. Settling Parties shall submit a draft Feasibility Study Work Plan as described further in Section E. of the SOW to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. The CERCLA Feasibility Study activities shall be coordinated with the WRDA Study to the extent practicable.

i. Development of Remedial Action Objectives and Preliminary Risk- Based Remediation Goals. The Settling Parties shall conduct an analysis of applicable or relevant and appropriate requirements and identify risk-based concentrations for each media for the Contaminants of Potential Concern in the baseline Human Health Risk Assessment and the baseline Ecological Risk Assessment consistent with appropriate EPA guidance, including but not limited to, "Risk Assessment Guidance for Superfund, Volume 1 - Human Health Evaluation Manual (Part B, Development of Risk- Based Preliminary Remediation Goals)," (RAGS, EPA-540/R-92/003, OSWER Directive 9285.7-01B, December 1991) or subsequently issued guidance or updates, and consistent with exposure assumptions used in the Human Health Risk Assessment. The calculations for the individual chemicals in the various media shall be submitted to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) before the FS proceeds in accordance with the EPA- approved schedule. The Remedial Action Objectives and Preliminary Remedial Goals shall be submitted to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) before the start of the selection of alternatives in the FS.

j. Treatability Studies. The major components of any treatability studies are described in Section F.5. of the SOW. In accordance with the Project Schedule established pursuant to this Settlement Agreement and the SOW, Settling Parties shall provide EPA with the plans, reports, and other deliverables identified in the SOW for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions).

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k. Development and Screening of Alternatives. Settling Parties shall develop an appropriate range of remedial options that will be evaluated through the development and screening of alternatives, as provided in the SOW and Lower Passaic River Restoration Project Work Plan. In accordance with the Project Schedule established in this Settlement Agreement and the SOW, Settling Parties shall provide EPA with a Remedial Alternatives Screening Technical Memorandum for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions). The Settling Parties shall use the models to evaluate the relative risk reduction and years to reach Remedial Action Objectives by combining the risk assessment techniques with the remedy using the models for the Contaminants of Potential Concern.

l. Detailed Analysis of Alternatives. Settling Parties shall conduct a detailed analysis of remedial alternatives, as described in the SOW and Lower Passaic River Restoration Project Work Plan. In accordance with the deadlines or schedules established in this Settlement Agreement and the SOW, Settling Parties shall provide EPA with a Remedial Alternatives Evaluation Technical Memorandum for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions).

m. Draft Feasibility Study Report. In conformance with the SOW, Settling Parties shall submit to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) a Draft Feasibility Study (FS) Report which reflects the findings in the Risk Assessments and any treatability studies.

38. The final RI/FS report as approved by EPA, and the Administrative Record, shall provide the basis for the proposed plan(s) that will be issued by EPA under CERCLA Sections 113(k) and 117(a), 42 U.S.C. §§ 9613(k), 9617(a). If the Settling Parties provide comments on EPA's proposed plan(s) during the public comment period, these comments will be included in the administrative record file. If the Settling Parties submit significant comments prior to the proposed plan(s) public comment period, EPA may include such comments as part of the administrative record file to the extent that the comments form the basis of EPA's selection of a response action.

39. Modification of the SOW, Project Schedule, and Project Plans

a. Consistent with the Guiding Principles listed in Appendix F to this Settlement Agreement, Settling Parties may propose modifications to the SOW, Project Schedule, or the Project Plans for consideration by EPA. If the Settling Parties propose any modifications, they shall submit them to EPA for review and approval in accordance with Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. EPA shall retain the final authority to approve or disapprove modifications to the SOW, Project Schedule or Project Plans proposed by Settling Parties. The RPM may authorize minor field modifications to the Project Plans, or the studies, designs, techniques or procedures undertaken or utilized in performing the Work required under this Settlement Agreement, provided that any such modifications are consistent with the SOW and provided further that any such modifications must be approved in

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writing which may be in electronic form (e-mail). Minor field modifications within the scope of the SOW do not require the submission of work plans.

b. If at any time during the RI/FS, the Settling Parties identify a need to include new information or revise existing information in the QAPP, an updated QAPP shall be prepared. The updated QAPP shall be prepared in accordance with the Uniform Federal Policy for Implementing Quality Systems (UFP-QS), EPA-505-F-03-001, March 2005 or newer, Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005 or newer, and other guidance documents referenced in the aforementioned guidance documents. The UFP documents may be found at: http://www.epa.gov/fedfac/documents/qualityassurance.htm. In addition, the guidance and procedures located in the EPA Region 2 DESA/HWSB web site: http://www.epa.gov/region02/qa/documents.htm, as well as other OSWER directives and EPA Region 2 policies should be followed, as directed by EPA. Initially, Settling Parties shall employ the cross-walk worksheets contained in the UFP-QAPP guidance to refer to sections of the Quality Assurance Project Plan, Lower Passaic River Restoration Project, August 2005, which do not require modification. According to EPA guidance, a QAPP should be reviewed annually and revised as necessary or at a minimum revised every 5 years. Therefore, in August 2010 or at such earlier time as significant modifications are deemed to be necessary to the QAPP, Settling Parties shall prepare a new QAPP in accordance with the above-referenced guidance documents.

c. If at any time during the RI/FS process, Settling Parties identify a need for additional data, Settling Parties shall submit a memorandum documenting their determination of the need for additional data to the RPM within 10 days of identification. EPA in its discretion will determine whether the additional data is needed and whether it will be incorporated into plans, reports and other deliverables.

d. In the event of unanticipated or changed circumstances at the Lower Passaic River Study Area, Settling Parties shall notify the RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the SOW, Project Schedule, and/or Project Plans identified in Paragraph 37.a., EPA shall modify or amend the SOW, Project Schedule, and/or Project Plans in writing accordingly. Settling Parties shall perform the RI/FS in accordance with the modified or amended SOW, Project Schedule and/or Project Plans.

e. EPA may determine that in addition to tasks defined in the initially approved Project Plans identified in Paragraph 37.a., other additional Work may be necessary to complete the RI/FS in accordance with CERCLA and the NCP. Subject to the Dispute Resolution provisions in Section XV of this Settlement Agreement, Settling Parties agree to perform these response actions in addition to those required by the initially approved Project Plans, including any approved modifications, if EPA determines that such actions are necessary for a complete RI/FS.

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f. Settling Parties shall confirm their willingness to perform the additional Work in writing to EPA within 7 days of receipt of the EPA request. If Settling Parties object to any modification determined by EPA to be necessary pursuant to this Paragraph, Settling Parties may seek dispute resolution pursuant to Section XV (Dispute Resolution). The SOW, Project Schedule and/or Project Plans shall be modified in accordance with the final resolution of the dispute.

g. Settling Parties shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the SOW, Project Schedule and/or Project Plans or written Project Plan supplement. With respect to additional Work related to the Modeling, EPA reserves the right to conduct the Work itself at any point if EPA concludes in its sole and unreviewable discretion that the Settling Parties are not conducting the Modeling in accordance with the Settlement Agreement, and to seek reimbursement from Settling Parties, and/or to seek any other appropriate relief.

h. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Lower Passaic River Study Area in separate enforcement actions, except for an action to enforce the provisions of this Settlement Agreement.

40. Off-Site Shipment of Waste Material. Settling Parties shall, prior to any off-site shipment of Waste Material from the Lower Passaic River Study Area to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. However, this notification requirement shall not apply to any off-site shipments when the total volume of any such shipments will not exceed 10 cubic yards.

a. Settling Parties shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped: (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Settling Parties shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by Settling Parties following the award of the contract for the remedial investigation and feasibility study. Settling Parties shall provide the information required by Paragraph 40.a and 40.c as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

c. Before shipping any hazardous substances, pollutants, or contaminants from the Lower Passaic River Study Area to an off-site location, Settling Parties shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Settling Parties

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shall only send hazardous substances, pollutants, or contaminants from the Lower Passaic River Study Area to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

41. Meetings. EPA and the Settling Parties agree to implement a fully collaborative, collegial and cooperative approach to management of the RI/FS process. The Parties agree to form Management Groups to oversee the RI/FS process. These Management Groups are to meet regularly to review progress, and anticipate and minimize disagreements among the Parties with respect to the RI/FS. The first Management Group shall be the Project Management Group, consisting of EPA's RPM and the Project Manager for Settling Work Parties' Contractor. The Project Management Group will resolve day-to-day RI/FS management issues. The second Management Group shall be the Senior Management Group, consisting of EPA's Strategic Integration Manager of the Emergency and Remedial Response Division, EPA Region II and Settling Work Parties' Project Coordinator. The Senior Management Group will consult and confer to resolve issues that cannot be resolved at the Project Management Group level. Issues that cannot be resolved by the Senior Management Group shall be subject to Dispute Resolution, as provided in Section XV of this Settlement Agreement. With advance notice, the Parties may agree that their technical consultants or contractors, and their counsel, may attend meetings of the Management Groups. Each of the Management Groups, may also include, as EPA deems appropriate, representatives of USACE, NJDOT, and the Trustees. The Settling Parties may request meetings on substantive issues with the Division Director of the Emergency and Remedial Response Division during the conduct of the RI/FS. The Settling Parties shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

42. Progress Reports. In addition to the plans, reports and other deliverables set forth in this Settlement Agreement, Settling Parties shall provide to EPA monthly progress reports by the 15th day of the following month. Monthly progress reports may be provided in electronic form (email). At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Settlement Agreement during that month, (2) include all results of sampling and tests and all other data received by Settling Parties, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

43. Emergency Response and Notification of Releases.

a. Emergency Response and Notification of Releases. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Lower Passaic River Study Area that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Parties shall immediately take all appropriate action. Settling Parties shall take these actions in accordance

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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. Settling Parties shall also immediately notify the RPM and the Emergency Spill Reporting Hotline at (732) 548-8730 of the incident. In the event that Settling Parties fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Settling Parties shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Response Costs).

b. In addition, in the event of any release of a hazardous substance from the Lower Passaic River Study Area as a result of the Work, Settling Parties shall immediately notify the RPM and the National Response Center at (800) 424-8802. Settling Parties shall submit a written report to EPA within 7 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 recurrence 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

44. After review of any plan, report or other item including any developed prior to the Effective Date of this Settlement Agreement that is required to be submitted for approval pursuant to this Settlement Agreement, EPA shall, in a written notice which may be in electronic form (e-mail) to Settling Parties: (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 Settling Parties modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Parties at least one notice of deficiency and an opportunity to cure within 15 days except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.

45. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 44(a), (b), (c) or (e), Settling Parties 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, Settling Parties shall not thereafter alter or amend such submission or portion thereof unless directed or otherwise authorized by EPA in writing which may be in electronic form (e-mail). In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 44(c) and the submission had a material defect that Settling Parties did not correct after EPA gave them one written notice of deficiency for the same, EPA retains the right to seek stipulated penalties, as provided in Section XVI (Stipulated Penalties).

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46. Resubmission.

a. Upon receipt of a notice of disapproval, Settling Parties shall, within 15 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 15-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 Paragraphs 47 and 48.

b. Notwithstanding the receipt of a notice of disapproval, Settling Parties shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed or authorized by EPA in writing which may be in electronic form (e-mail). Implementation of any non-deficient portion of a submission shall not relieve Settling Parties of any liability for stipulated penalties under Section XVI (Stipulated Penalties).

c. Settling Parties shall not proceed further with any subsequent activities or tasks until receiving EPA approval, approval on condition or modification of the following deliverables: any modifications to the SOW, the Project Plans identified in Paragraph 37.a., draft Baseline Human Health Risk Assessment, draft Baseline Ecological Risk Assessment, draft Sediment Transport Model Calibration Report, draft Chemical Fate and Transport Model Calibration Report, draft Bioaccumulation and Toxicity Model Calibration Report, draft Model Calibration Report, draft Remedial Investigation Report, Feasibility Study Work Plan, Treatability Testing Work Plan and Sampling and Analysis Plan, and draft Feasibility Study Report. While awaiting EPA approval, approval on condition or modification of these deliverables, Settling Parties shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the EPA- approved Project Schedule.

d. For all remaining deliverables not listed above in Paragraph 46.c., Settling Parties shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Settling Parties from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

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

48. If upon resubmission, a plan, report, or other deliverable is disapproved or modified by EPA due to a material defect, Settling Parties shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless Settling Parties invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution) and EPA's action is

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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 and EPA may assume performance of a portion or all of the Work pursuant to Section XX (Reservation of Rights by EPA), Paragraph 85. The Modeling portion of the Work is not subject to Dispute Resolution.

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

50. 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.

51. Neither failure of EPA to expressly approve or disapprove of Settling Parties' 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 Settling Parties' deliverables, Settling Parties are responsible for preparing deliverables acceptable to EPA.

XI. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION

52. Quality Assurance. Settling Parties shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the SOW, the QAPP and guidances identified therein. Settling Parties will assure that field personnel used by Settling Parties are properly trained in the use of field equipment and in chain of custody procedures. Settling Parties shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) and the "Uniform Federal Policy for Implementing Quality Systems (UFP-QS)" (EPA-505-F-03-001, March 2005).

53. Sampling.

a. All results of sampling, tests, Modeling or other data (including raw data) generated by Settling Parties, or on Settling Parties' behalf, during the period that this Settlement Agreement is effective, shall be submitted to EPA in the next monthly progress report as described in Paragraph 42 of this Settlement Agreement. EPA will make available to Settling

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Parties validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Settling Parties shall electronically (via e-mail) notify EPA and NJDEP at least 7 business days prior to conducting significant field events as described in the SOW and Project Plans identified in Paragraph 37.a. At EPA's verbal or written request, or the request of EPA's oversight assistant, Settling Parties shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) and NJDEP of any samples collected in implementing this Settlement Agreement. All split samples of Settling Parties shall be analyzed in accordance with the methods identified in the QAPP.

54. Access to Information.

a. Settling Parties shall provide to EPA, upon request, copies of all non-privileged documents and information within their possession or control or that of their contractors or agents relating to the RI/FS or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, databases, sample traffic routing, correspondence, or other documents prepared in performance of the Work. Settling Parties shall also make available to EPA, at reasonable times and places, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

b. Settling Parties may assert business confidentiality claims covering part or all of the documents or information submitted to EPA 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). Documents or information 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 documents or information when it is submitted to EPA, or if EPA has notified Settling Parties that the documents or information 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 documents or information without further notice to Settling Parties. Settling Parties shall segregate and clearly identify all documents or information submitted under this Settlement Agreement for which Settling Parties assert business confidentiality claims.

c. Settling Parties may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Parties assert such a privilege in lieu of providing documents, they shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Settling Parties. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

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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 documents or information evidencing conditions at or around the Lower Passaic River Study Area.

e. No claim of confidentiality shall be made with respect to any documents, databases, or information in the possession of the Settling Parties related to the Modeling including, but not limited to, the input data, model grid geometry, model source code, and refinements.

55. In entering into this Settlement Agreement, Settling Parties waive any objections to any data gathered, generated, or evaluated by EPA, the State or Settling Parties in the performance or oversight of the Work that has been collected, analyzed, and verified according to the quality assurance/quality control ("QA/QC") procedures required by the Settlement Agreement or any EPA-approved Project Plans and, except as provided in Paragraph 5, any data previously gathered, generated, evaluated or relied upon by EPA for the RI/FS. This waiver includes waiving any right to seek dispute resolution pursuant to the provisions of Section XV concerning the use of any such data in the performance of the Work. If Settling Parties object to any other data relating to the RI/FS, Settling Parties shall submit to EPA a report that specifically identifies and explains their objections, describes the acceptable uses of the data, if any, and identifies any limitations on the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data.

XII. ACCESS AND INSTITUTIONAL CONTROLS

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

57. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Settling Parties, Settling Parties 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 RPM. Settling Parties shall immediately notify EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Settling Parties shall describe in writing their efforts to obtain access. If Settling Parties cannot obtain access agreements, EPA may either (i) obtain access for Settling Parties or assist Settling Parties in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate or (ii) perform those tasks or activities with EPA contractors for which access was not available to the Settling Parties. Settling Parties 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 Response Costs). If EPA performs those tasks or activities with EPA contractors for which access was not available to the

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Settling Parties, Settling Parties 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 in accordance with Section XVIII (Payment of Response Costs). Settling Parties shall integrate the results of any such tasks or activities undertaken by EPA into its plans, reports and other deliverables.

58. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIII. COMPLIANCE WITH OTHER LAWS

59. Settling Parties shall comply with all applicable local, state and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on the Site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Actions conducted pursuant to the EPA- approved Project Plans shall be considered to be on the Site for purposes of Section 121(e) of CERCLA. Where any portion of the Work is to be conducted off the Site and requires a federal or state permit or approval, Settling Parties 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

60. During the pendency of this Settlement Agreement and for a minimum of 6 years after commencement of construction of the final remedial action for the entire Lower Passaic River, each Settling Party shall preserve and retain at least one copy of all non-identical copies of documents, records, and other information (including documents, records, or other information in electronic form) now in its possession or control or which 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 Lower Passaic River Study Area, regardless of any corporate retention policy to the contrary. Until 6 years after commencement of construction of the final remedial action for the entire Lower Passaic River, Settling Parties shall also instruct their contractors and agents to preserve at least one copy of all such non-identical copies, documents, records, and other information of whatever kind, nature or description relating to performance of the Work.

61. At the conclusion of this document retention period, Settling Parties shall notify EPA at least 90 days prior to the destruction of any such documents, records or other information, and, upon request by EPA, Settling Parties shall deliver any such documents, records, or other information to EPA. Settling Parties may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Parties assert such a privilege, they shall provide EPA with the following:

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1) the title of the document, record, or other information; 2) the date of the document, record, or other information; 3) the name and title of the author of the document, record, or other information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or other information; and 6) the privilege asserted by Settling Parties. However, no documents, records or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

62. Each Settling Party hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, and except for the documents listed on Appendix D to this Settlement Agreement, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Lower Passaic River Study Area since notification of potential liability by EPA or the filing of suit against it regarding the Lower Passaic River Study Area and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e).

XV. DISPUTE RESOLUTION

63. 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 that otherwise cannot be resolved expeditiously and informally. The Parties have established Management Groups to implement a fully collaborative, collegial and cooperative approach to managing the RI/FS. Working through the Program Management Group and the Senior Management Group, as appropriate, the Parties shall use reasonable best efforts to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

64. If Settling Parties object to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, and are unable to resolve those disputes expeditiously and informally, they shall notify EPA in writing of their objection(s) within 14 days of such action, unless the objection(s) has/have been resolved informally. EPA and Settling Parties shall have 31 days from EPA's receipt of Settling Parties' 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.

65. 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, the Strategic Integration Manager of the Emergency and Remedial Response Division, EPA Region II will issue a written decision. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Settling Parties' obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution

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under this Section. Following resolution of the dispute, as provided by this Section, Settling Parties 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 Settling Parties agree with the decision.

XVI. STIPULATED PENALTIES

66. Settling Parties shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 67 and 68 for failure to comply with any of the requirements of this Settlement Agreement specified below unless excused under Section XVII (Force Majeure). "Compliance" by Settling Parties shall include completion of the Work pursuant to all applicable requirements of law, this Settlement Agreement, the SOW, and the Project Plans as approved by EPA in accordance with the Project Schedule.

67. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per day for any noncompliance identified in Paragraph 67(b):

Penalty Per Violation Per Day	Period of Noncompliance
$ 1,500.00	1st through 14th day
$ 2,500.00	15th through 30th day
$ 5,000.00	31st day and beyond

b. Stipulated penalties as specified in Paragraph 67.a. shall accrue per violation per day if Settling Parties fail to conduct the Work required under this Settlement Agreement including, but not limited to, the RI/FS activities required in the Project Plans identified in Paragraph 37.a. or fail to submit timely and/or adequate versions of the updated Pathway Analysis Reports, the final Pathways Analyses Report, draft Baseline Human Health Risk Assessment, final Baseline Human Health Risk Assessment, draft Ecological Risk Assessment, final Ecological Risk Assessment, draft Sediment Transport Model Calibration Report, final Sediment Transport Model Calibration/Validation Report, draft Chemical Fate and Transport Model Calibration Report, final Chemical Fate and Transport Model Calibration/Validation Report, draft Bioaccumulation and Toxicity Model Calibration Report, final Bioaccumulation and Toxicity Model Calibration/Validation Report, draft Model Calibration Report, final Model Calibration/Validation Report, draft RI Report, final RI Report, draft FS Report, and final FS Report.

68. Stipulated Penalty Amounts - Reports and Payment of Response Costs

a. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other written documents pursuant to Paragraph 68.b. and

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failure to pay Future Response Costs in accordance with Section XVIII (Payment of Response Costs) and Work otherwise not included in Paragraph 67.b.:

Penalty Per Violation Per Day	Period of Noncompliance
$ 500.00	1st through 14th day
$ 1,500.00	15th through 30th day
$ 2,500.00	31st day and beyond

b. Stipulated penalties as specified in Paragraph 68.a. shall accrue per violation per day if Settling Parties fail to submit the following documents or any revisions of such documents: the Project Schedule, the Identification of Candidate Technologies Memorandum, the Treatability Testing Work Plan (if required by EPA), the Treatability Study Sampling and Analysis Plan and/or Health and Safety Plan (if required by EPA), the Treatability Study Evaluation Report, the Remedial Alternatives Screening Technical Memorandum, the Remedial Alternatives Evaluation Technical Memorandum, and monthly progress reports.

69. In the event that EPA assumes performance of all or a substantial portion of the Work pursuant to Paragraph 85 of Section XX (Reservation of Rights by EPA), Settling Parties shall be liable for a stipulated penalty in the amount of 5 million dollars. EPA agrees that any penalty assessed against Settling Parties under this Paragraph shall be reduced, if appropriate, by the percentage of Work completed by the Settling Parties. This paragraph shall not apply to circumstances described in Paragraph 57 in which EPA performs Work because Settling Parties are unable to obtain access.

70. All penalties shall begin to accrue on the day after the complete performance is due, in accordance with this Settlement Agreement including the Project Schedule, 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: (1) with respect to a deficient submission under Section X (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 16th day after EPA's receipt of such submission until the date that EPA notifies Settling Parties of any deficiency; and (2) with respect to a decision by the Strategic Integration Manager of the Emergency and Remedial Response Division, EPA Region II, during the period, if any, beginning on the 31st day after the Negotiation Period begins until the date that the Strategic Integration Manager issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

71. Following EPA's determination that Settling Parties have failed to comply with a requirement of this Settlement Agreement, EPA may give Settling Parties written notification of the same and describe the noncompliance. EPA may send Settling Parties 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 Settling Parties of a violation.

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72. All penalties accruing under this Section shall be due and payable to EPA within 30 days of Settling Parties' receipt from EPA of a demand for payment of the penalties, unless Settling Parties invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution).

a. Payment shall be made to EPA by EFT to the Federal Reserve Bank of New York, accompanied by a statement providing the following information:

(i) Amount of payment
(ii) Title of Federal Reserve Bank Account to receive the payment: **EPA**
(iii) Account Code for Federal Reserve Bank Account receiving the payment: **68010727**
(iv) Federal Reserve Bank ABA Routing Number: **021030004**
(v) Name and address of Settling Party
(vi) Docket Number **CERCLA-02-2007-2009**
(viii) Site/Spill Identifier: **02-96**
(ix) Field Tag 4200 of the Fedwire message: D 68010727 Environmental Protection Agency
(x) SWIFT address: FRNYUS33
33 Liberty Street
New York, NY 10045

b. To ensure that a payment is properly recorded, a letter should be sent by Settling Parties to EPA, within one week of the EFT, documenting the EFT in accordance with Paragraph 80.a.ii.

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

74. Penalties shall continue to accrue as provided in Paragraph 70 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.

75. If Settling Parties fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Settling Parties shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 72.

76. 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 Settling Parties' 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.

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§ 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 herein, 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 85. 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

77. Settling Parties agree to perform all requirements of this Settlement Agreement in accordance with the Project Schedule, unless the performance is prevented or 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 Settling Parties or of any entity controlled by Settling Parties, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Settling Parties' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

78. 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, Settling Parties shall notify EPA orally within 48 hours of when Settling Parties first knew that the event would prevent performance or cause a delay in performance. Within 5 days thereafter, Settling Parties 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; Settling Parties' rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Settling Parties, 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 Settling Parties 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.

79. 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 Settling Parties in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Settling Parties in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

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XVIII. PAYMENT OF RESPONSE COSTS

80. a. Payments of Future Response Costs.

i. Settling Parties shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Settling Parties a bill requiring payment that includes a Superfund Cost Recovery Package Imaging and On-line System ("SCORPIOS") Report which includes direct and indirect costs incurred by EPA and its contractors. Settling Parties shall make all payments within 30 days of receipt of each bill requiring payment. Payment shall be made to EPA by EFT to the Federal Reserve Bank of New York, accompanied by a statement providing the following information:

(i) Amount of payment
(ii) Title of Federal Reserve Bank Account to receive the payment: **EPA**
(iii) Account Code for Federal Reserve Bank Account receiving the payment: **68010727**
(iv) Federal Reserve Bank ABA Routing Number: **021030004**
(v) Name and address of Settling Party
(vi) Docket Number **CERCLA-02-2007-2009**
(viii) Site/Spill Identifier: **02-96**
(ix) Field Tag 4200 of the Fedwire message: D 68010727 Environmental Protection Agency
(x) SWIFT address: FRNYUS33
33 Liberty Street
New York, NY 10045

ii. To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, documenting the EFT, to the RPM as specified in Paragraph 34, and also to:

U.S. Environmental Protection Agency
26 W Martin Luther King Drive
Cincinnati Finance Center, MS: NWD
Cincinnati, Ohio 45268
AcctsReceivable.CINWD@epa.gov

and

Diamond Alkali Superfund Site/Lower Passaic River Study Area Attorney
U.S. Environmental Protection Agency, Region II
Office of Regional Counsel, New Jersey Superfund Branch
290 Broadway, 17th Floor
New York, New York 10007

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iii. The total amount to be paid by Settling Parties pursuant to Paragraph 80.a. shall be deposited in the Diamond Alkali Superfund Site/Lower Passaic River Study Area Cooperating Parties Group RI/FS Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Lower Passaic River Study Area, or transferred by EPA to the EPA Hazardous Substance Superfund, or returned to Settling Parties if required pursuant to Paragraph 80.a.vi.

iv. Within 30 days of the Effective Date of this Settlement Agreement Settling Parties shall make a payment to EPA of $700,000.00. Settling Parties shall make this payment in accordance with Paragraph 80.a.ii. EPA shall apply this payment towards Future Response Costs.

v. Settling Parties may contest payment of any Future Response Costs made pursuant to Paragraph 80.a.i if they determine that EPA has made a mathematical error or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP or outside the definition of Future Response Costs. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the RPM. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Settling Parties shall within the 30 day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 80. Simultaneously, Settling Parties shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of New Jersey and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Settling Parties shall send to the RPM 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, Settling Parties shall initiate the Dispute Resolution procedures in Section XV (Dispute Resolution). If EPA prevails in the dispute, within 5 days of the resolution of the dispute, Settling Parties shall pay the sums due (with accrued Interest) to EPA in the manner described in Paragraph 80. If Settling Parties prevail concerning any aspect of the contested costs, Settling Parties shall pay that portion of the costs (plus associated accrued Interest) for which they did not prevail to EPA in the manner described in Paragraph 80. Settling Parties 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 Settling Parties' obligation to reimburse EPA for its Future Response Costs.

vi. After EPA has performed a final accounting of all direct and indirect costs relating to Future Response Costs, EPA shall give Settling Parties notice of the final total amount of Future Response Costs accompanied by a SCORPIOS Report supporting those costs. Settling Parties may contest payment of the final bill if they determine that EPA has made a mathematical error or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP or outside the definition of Future Response Costs for payments made

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pursuant to Paragraph 80.iv. and vi. Such dispute, if any, shall be raised and resolved in the manner described under Section XV (Dispute Resolution). After any disputes concerning those costs are resolved, EPA will offset the final bill by any unused amount of funds in the Lower Passaic River Study Area Special Account, and if the unused amount exceeds the amount of the bill, any excess in funds shall be returned to Settling Parties.

81. If Settling Parties do not pay Future Response Costs within 30 days of Settling Parties' receipt of a bill, Settling Parties shall pay Interest on the unpaid balance of the bill(s). Interest 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 Settling Parties' failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVI. Settling Parties shall make all payments required by this Paragraph in the manner described in Paragraph 80.

XIX. COVENANT NOT TO SUE BY EPA

82. In consideration of the actions that will be performed and the payments that will be made by Settling Parties 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 Settling Parties 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 the Effective Date and is conditioned upon the complete and satisfactory performance by Settling Parties of all obligations under this Settlement Agreement, including, but not limited to, payments of Future Response Costs pursuant to Section XVIII. This covenant not to sue extends only to Settling Parties and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

83. Except as specifically provided in this Settlement Agreement, nothing herein 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 Lower Passaic River Study Area. Further, nothing herein 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 Settling Parties in the future to perform additional activities pursuant to CERCLA or any other applicable law.

84. 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 Settling Parties with respect to all other matters, including, but not limited to:

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a. claims based on a failure by Settling Parties 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 Lower Passaic River Study Area; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Lower Passaic River Study Area.

85. Work Takeover.

a. In the event EPA determines that Settling Parties have (i) ceased implementation of any portion of the Work, or (ii) are seriously or repeatedly deficient or late in their performance of the Work, or (iii) are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may issue a written notice ("Work Takeover Notice") to the Settling Parties. Any Work Takeover Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Settling Parties a period of 10 days within which to remedy the circumstances giving rise to EPA's issuance of such notice.

b. If, after expiration of the 10-day notice period specified in Paragraph 82(a), Settling Parties have not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portions of the Work as EPA deems necessary ("Work Takeover"). EPA shall notify Settling Parties in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 85(b).

c. Settling Parties may invoke the procedures set forth in Section XV (Dispute Resolution), to dispute EPA's implementation of a Work Takeover under Paragraph 85(b), with the exception of the Modeling portion of the Work which is not subject to Dispute Resolution. The Parties agree that the Modeling portion of the Work will not be subject to Dispute Resolution and that EPA may take over the Modeling portion of the Work if it concludes in its sole and unreviewable discretion that the Settling Parties are not conducting the Modeling in accordance with the Settlement Agreement. However, notwithstanding Settling Parties' invocation of such dispute resolution procedures for non-Modeling Work, and during the pendency of any such

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dispute, EPA may in its sole discretion commence and continue a Work Takeover under Paragraph 85(b) until the earlier of (i) the date that Settling Parties remedy, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice or (ii) the date that a final decision is rendered in accordance with Section XV (Dispute Resolution), requiring EPA to terminate such Work Takeover.

d. After commencement and for the duration of any Work Takeover, EPA shall have prompt access to and benefit of any performance guarantee(s) in an amount sufficient to fund the estimated cost of the remaining Work pursuant to Section XXVI of this Settlement Agreement, in accordance with the provisions of Paragraph 101 of that Section. If and to the extent that EPA is unable to secure the resources guaranteed under any such performance guarantee(s) and the Settling Parties fail to remit a cash amount up to but not exceeding the amount needed to fund the estimated cost of the remaining Work including the Modeling, all in accordance with the provisions of Paragraph 101, any unreimbursed costs incurred by EPA in performing Work under the Work Takeover shall be considered Future Response Costs that Settling Parties shall pay pursuant to Section XVIII (Payment of Response Costs).

XXI. COVENANT NOT TO SUE BY SETTLING PARTIES

86. Except as specifically set forth in Paragraph 86.d. below, Settling Parties covenant not to sue and agree 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 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 NJ Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Future Response Costs.

d. This Covenant Not to Sue by Settling Parties shall not extend to, and Settling Parties specifically reserve, (1) any claims or causes of action in contribution pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, against the United States as a "covered person" (within the meaning of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a)) with respect to this Settlement Agreement, based solely on actions by the United States other than the exercise of the government's authority under CERCLA or WRDA; and (2) any claims or causes of action

pursuant to the Tucker Act, 28 U.S.C. § 1491, against the United States with respect to this Settlement Agreement based solely on contracts that do not address or relate to the exercise of the government's authority under CERCLA or WRDA.

87. 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 Paragraphs 84 (b), (c), (e), (f), and (g), but only to the extent that Settling Parties' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

88. 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).

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 Settling Parties.

90. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Settling Parties 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. CONTRIBUTION

92. a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Settling Parties 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), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work and Future Response Costs.

b. The Parties 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 Settling Parties have, as of the Effective Date, resolved their liability to the United States for the Work and Future Response Costs.

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c. Nothing in this Settlement Agreement precludes the United States or Settling Parties from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein 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).

XXIV. INDEMNIFICATION

93. Settling Parties 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 Settling Parties, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Settling Parties agree 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 Settling Parties, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Settling Parties in carrying out activities pursuant to this Settlement Agreement. Neither Settling Parties nor any such contractor shall be considered an agent of the United States.

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

95. Settling Parties 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 Settling Parties and any person for performance of Work on or relating to the Lower Passaic River Study Area. In addition, Settling Parties 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 Settling Parties and any person for performance of Work on or relating to the Lower Passaic River Study Area.

XXV. INSURANCE

96. At least 7 days prior to commencing any On-Site field work under this Settlement Agreement, Settling Parties shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of 5 million dollars, combined single limit, naming the EPA as an additional insured. Within the

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same period, Settling Parties shall provide EPA with certificates of such insurance and a copy of each insurance policy, if requested by EPA. Settling Parties shall submit such certificates each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Settling Parties shall satisfy, or shall ensure that their 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 Settling Parties in furtherance of this Settlement Agreement. If Settling Parties 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 Settling Parties need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. PERFORMANCE GUARANTEE

97. In order to ensure the full and final completion of the Work, Settling Parties shall establish and maintain a Performance Guarantee for the benefit of EPA in the amount of 37 million dollars (hereinafter "Estimated Cost of the Work") in one or more of the following forms, which must be satisfactory in form and substance to EPA:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work that is issued by a surety company among those listed as acceptable sureties on Federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by one or more financial institution(s) (i) that has the authority to issue letters of credit and (ii) whose letter-of-credit operations are regulated and examined by a U.S. Federal or State agency;

c. a trust fund established for the benefit of EPA that is administered by a trustee (i) that has the authority to act as a trustee and (ii) whose trust operations are regulated and examined by a U.S. Federal or State agency;

d. a policy of insurance that (i) provides EPA with acceptable rights as a beneficiary thereof; and (ii) is issued by an insurance carrier (a) that has the authority to issue insurance policies in the State of New Jersey and (b) whose insurance operations are regulated and examined by the New Jersey Department of Banking and Insurance;

e. a written guarantee to fund or perform the Work executed in favor of EPA by one or more of the following: (i) a direct or indirect parent company of a Settling Party, or (ii) a company that has a "substantial business relationship" (as defined in 40 C.F.R. § 264.141(h)) with at least one Settling Party; provided, however, that any company providing such a guarantee must demonstrate to the satisfaction of EPA that it satisfies the financial test requirements of 40 C.F.R. § 264.143(f) with respect to the Estimated Cost of the Work that it proposes to guarantee hereunder; or

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f. a demonstration by one or more Settling Parties that each such Settling Party meets the financial test criteria of 40 C.F.R. § 264.143(f) with respect to the Estimated Cost of the Work, provided that all other requirements of 40 C.F.R. § 264.143(f) are satisfied.

98. Settling Parties have selected, and EPA has approved, as an initial Performance Guarantee, a trust fund pursuant to a Trust Agreement attached hereto as Appendix G. Within ten days of the Effective Date of this Settlement Agreement, Settling Parties shall execute or otherwise finalize all instruments or other documents required in order to make the selected Performance Guarantee(s) legally binding in a form substantially identical to the documents attached hereto as Appendix E, and such Performance Guarantee(s) shall thereupon be fully effective. Within sixty days of the Effective Date of this Settlement Agreement, Settling Parties shall submit all executed and/or otherwise finalized instruments or other documents required in order to make the selected Performance Guarantee(s) legally binding to the EPA RPM as designated in Paragraph 34 with a copy to the Diamond Alkali Superfund Site/Lower Passaic River Study Area Attorney.

99. If at any time during the effective period of this Settlement Agreement, the Settling Parties provide a Performance Guarantee for completion of the Work by means of a demonstration or guarantee pursuant to Paragraph 97.e or Paragraph 97.f above, such Settling Party shall also comply with the other relevant requirements of 40 C.F.R. § 264.143(f), 40 C.F.R. § 264.151(f), and 40 C.F.R. § 151(h)(1) relating to these methods unless otherwise provided in this Settlement Agreement, including but not limited to (i) the initial submission of required financial reports and statements from the relevant entity's chief financial officer and independent certified public accountant; (ii) the annual re-submission of such reports and statements within ninety days after the close of each such entity's fiscal year; and (iii) the notification of EPA within ninety days after the close of any fiscal year in which such entity no longer satisfies the financial test requirements set forth at 40 C.F.R. § 264.143(f)(1). For purposes of the Performance Guarantee methods specified in this Section XXVI, references in 40 C.F.R. Part 264, Subpart H, to "closure," "post-closure," and "plugging and abandonment" shall be deemed to refer to the Work required under this Settlement Agreement, and the terms "current closure cost estimate" "current post-closure cost estimate," and "current plugging and abandonment cost estimate" shall be deemed to refer to the Estimated Cost of the Work.

100. In the event that EPA determines at any time that a Performance Guarantee provided by any Settling Party pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section, whether due to an increase in the estimated cost of completing the Work or for any other reason, or in the event that any Settling Party becomes aware of information indicating that a Performance Guarantee provided pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section, whether due to an increase in the estimated cost of completing the Work or for any other reason, Settling Parties, within thirty days of receipt of notice of EPA's determination or, as the case may be, within thirty days of any Settling Party becoming aware of such information, shall obtain and present to EPA for approval a proposal for a revised or alternative form of Performance Guarantee listed in Paragraph 97 of this Settlement Agreement that satisfies all requirements set forth in this

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Section XXVI. In seeking approval for a revised or alternative form of Performance Guarantee, Settling Parties shall follow the procedures set forth in Paragraph 102(b)(ii) of this Settlement Agreement. Settling Parties' inability to post a Performance Guarantee for completion of the Work shall in no way excuse performance of any other requirements of this Settlement Agreement, including, without limitation, the obligation of Settling Parties to complete the Work in strict accordance with the terms hereof.

101. The commencement of any Work Takeover pursuant to Paragraph 85 of this Settlement Agreement shall trigger EPA's right to receive the benefit of any Performance Guarantee(s) provided pursuant to Paragraph 97(a), (b), (c), (d), or (e), in accordance with Paragraph 85 and at such time EPA shall have immediate access to resources guaranteed under any such Performance Guarantee(s), whether in cash or in kind, as needed to continue and complete the Work assumed by EPA under the Work Takeover. If for any reason EPA is unable to promptly secure the resources guaranteed under any such Performance Guarantee(s), whether in cash or in kind, necessary to continue and complete the Work assumed by EPA under the Work Takeover, or in the event that the Performance Guarantee involves a demonstration of satisfaction of the financial test criteria pursuant to Paragraph 97.f, the Settling Parties identified in Appendix A, as may be amended from time to time, shall immediately upon written demand from EPA deposit into an account specified by EPA, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount up to but not exceeding the estimated cost of the remaining Work to be performed as of such date, as determined by EPA.

102. Modification of Amount and/or Form of Performance Guarantee.

a. Reduction of Amount of Performance Guarantee. If Settling Parties believe that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 97 above, Settling Parties may, on any anniversary date of the Effective Date of this Settlement Agreement, or at any other time agreed to by the Parties, petition EPA in writing to request a reduction in the amount of the Performance Guarantee provided pursuant to this Section so that the amount of the Performance Guarantee is equal to the estimated cost of the remaining Work to be performed. Settling Parties shall submit a written proposal for such reduction to EPA that shall specify, at a minimum, the cost of the remaining Work to be performed and the basis upon which such cost was calculated. In seeking approval for a revised or alternative form of Performance Guarantee, Settling Parties shall follow the procedures set forth in Paragraph 102(b)(ii) of this Settlement Agreement. If EPA decides to accept such a proposal, EPA shall notify the petitioning Settling Parties of such decision in writing. After receiving EPA's written acceptance, Settling Parties may reduce the amount of the Performance Guarantee in accordance with and to the extent permitted by such written acceptance. In the event of a dispute, Settling Parties may reduce the amount of the Performance Guarantee required hereunder only in accordance with a final administrative or judicial decision resolving such dispute. No change to the form or terms of any Performance Guarantee provided under this Section, other than a reduction in amount, is authorized except as provided in Paragraphs 100 or 102(b) of this Settlement Agreement.

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b. Change of Form of Performance Guarantee.

(i) If, after the Effective Date of this Settlement Agreement, Settling Parties desire to change the form or terms of any Performance Guarantee(s) provided pursuant to this Section, Settling Parties may, on any anniversary date of the Effective Date of this Settlement Agreement, or at any other time agreed to by the Parties, petition EPA in writing to request a change in the form of the Performance Guarantee provided hereunder. The submission of such proposed revised or alternative form of Performance Guarantee shall be as provided in Paragraph 102(b)(ii) of this Settlement Agreement. Any decision made by EPA on a petition submitted under this subparagraph (b)(i) shall be made in EPA's sole and unreviewable discretion, and such decision shall not be subject to challenge by Settling Parties pursuant to the dispute resolution provisions of this Settlement Agreement or in any other forum.

(ii) Settling Parties shall submit a written proposal for a revised or alternative form of Performance Guarantee to EPA which shall specify, at a minimum, the estimated cost of the remaining Work to be performed, the basis upon which such cost was calculated, and the proposed revised form of Performance Guarantee, including all proposed instruments or other documents required in order to make the proposed Performance Guarantee legally binding. The proposed revised or alternative form of Performance Guarantee must satisfy all requirements set forth or incorporated by reference in this Section. Settling Parties shall submit such proposed revised or alternative form of Performance Guarantee to the EPA RPM as designated in Paragraph 34 with a copy to the Diamond Alkali Superfund Site/Lower Passaic River Study Area Attorney. EPA shall notify Settling Parties in writing of its decision to accept or reject a revised or alternative Performance Guarantee submitted pursuant to this subparagraph. Within ten days after receiving a written decision approving the proposed revised or alternative Performance Guarantee, Settling Parties shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected Performance Guarantee(s) legally binding in a form substantially identical to the documents submitted to EPA as part of the proposal, and such Performance Guarantee(s) shall thereupon be fully effective. Settling Parties shall submit all executed and/or otherwise finalized instruments or other documents required in order to make the selected Performance Guarantee(s) legally binding to the EPA RPM within thirty days of receiving a written decision approving the proposed revised or alternative Performance Guarantee in accordance with Paragraph 34 of this Settlement Agreement, with a copy to the Diamond Alkali Superfund Site/Lower Passaic River Study Area Attorney.

c. Release of Performance Guarantee. If Settling Parties receive written notice from EPA in accordance with Section XXX. hereof that the Work has been fully and finally completed in accordance with the terms of this Settlement Agreement, or if EPA otherwise so notifies Settling Parties in writing, Settling Parties may thereafter release, cancel, or discontinue the Performance Guarantee(s) provided pursuant to this Section. Settling Parties shall not release, cancel, or discontinue any Performance Guarantee provided pursuant to this Section except as provided in this subparagraph. In the event of a dispute, Settling Parties may release, cancel, or discontinue the Performance Guarantee(s) required hereunder only in accordance with a final administrative or judicial decision resolving such dispute.

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XXVII. INTEGRATION/APPENDICES

103. 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 list of Settling Parties.

"Appendix A-1" is the list of Settling Work Parties.

"Appendix A-2" is the list of Settling Funding Parties.

"Appendix B" is the SOW.

"Appendix C" is the list of Partner Agencies.

"Appendix D" is the List of Documents.

"Appendix E" is the list of Data and Documents relating to the RI/FS transfer, including those related to the Modeling.

"Appendix F" are the Guiding Principles for Modifying Project Plans.

"Appendix G" is the Performance Guarantee(s).

XXVIII. ADMINISTRATIVE RECORD

104. Pursuant to CERCLA and the NCP, EPA will determine the contents of the administrative record file upon which the selection of the remedial action will be based. Settling Parties shall submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Upon request of EPA, Settling Parties 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, Settling Parties 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 Settling Parties and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Settling Parties shall establish a community information repository at or near the Lower Passaic River Study Area, to house one copy of the Administrative Record.

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XXIX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

105. This Settlement Agreement shall be effective on the day that it is signed by the Director of the Emergency and Remedial Response Division of EPA, Region II or his delegatee.

106. This Settlement Agreement may be amended by mutual agreement of EPA and Settling Parties. Amendments shall be in writing and shall be effective when signed by EPA. EPA RPMs do not have the authority to sign amendments to the Settlement Agreement. EPA and the Settling Parties acknowledge that this Settlement Agreement may be amended, upon mutually acceptable terms and conditions, to include additional parties who elect to become Settling Parties after this Settlement Agreement becomes effective.

107. No informal advice, guidance, suggestion, or comment by the EPA RPM or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Settling Parties shall relieve Settling Parties 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

108. 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 with respect to record retention, EPA will provide written notice to Settling Parties. If EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, EPA will notify Settling Parties, provide a list of the deficiencies, and require that Settling Parties modify the relevant Project Plan(s) if appropriate in order to correct such deficiencies, in accordance with Paragraph 39 (Modification of the SOW, Project Schedule, and Project Plans). Failure by Settling Parties to implement the approved modified Project Plan(s) shall be a violation of this Settlement Agreement.

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It is so ORDERED AND AGREED this 8th day of May, 2007.

BY: _____ DATE: 5/8/07
George Pavlou, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region II

EFFECTIVE DATE: 5/8/07

Appendix A
Settling Parties

1. Alliance Chemical, Inc. on behalf of itself and Pfister Chemical, Inc.
2. Arkema Inc.
3. Ashland Inc.
4. Atlantic Richfield Company
5. BASF Corporation, on its own behalf and on behalf of BASF Catalysts LLC
6. Belleville Industrial Center
7. Benjamin Moore & Co.
8. Bristol-Myers Squibb Company
9. CBS Corporation, a Delaware corporation, f/k/a Viacom Inc., successor by merger to CBS Corporation, a Pennsylvania corporation, f/k/a Westinghouse Electric Corporation
10. Celanese Ltd.
11. Chemtura Corporation and Raclaur, LLC as current and former owner of the property f/k/a Atlantic Industries
12. Chevron Environmental Management Company, for itself and on behalf of Texaco, Inc.
13. Coltec Industries
14. Conopco, Inc. d/b/a Unilever (as successor to CPC/Bestfoods, former parent of the Penick Corporation (facility located at 540 New York Avenue, Lyndhurst, NJ))
15. Covanta Essex Company
16. Croda Inc.
17. DiLorenzo Properties Company on behalf of itself and the Goldman /Goldman/DiLorenzo Properties Partnerships
18. E. I. du Pont de Nemours and Company
19. Eden Wood Corporation
20. Elan Chemical Company
21. EPEC Polymers, Inc. on behalf of itself and EPEC Oil Company Liquidating Trust
22. Essex Chemical Corporation
23. Flexon Industries Corp.
24. Franklin-Burlington Plastics, Inc.
25. Garfield Molding Co., Inc.
26. General Electric Company
27. General Motors Corporation
28. Givaudan Fragrances Corporation (Fragrances North America)
29. Goodrich Corporation on behalf of itself and Kalama Specialty Chemicals, Inc.
30. Hercules Chemical Company, Inc.
31. Hess Corporation, on its own behalf and on behalf of Atlantic Richfield Company
32. Hexcel Corporation
33. Hoffmann-La Roche Inc. on its own behalf, and on behalf of its affiliate Roche Diagnostics
34. Honeywell International Inc.
35. ISP Chemicals LLC
36. ITT Corporation
37. Kao Brands Company

38. Leemilt's Petroleum, Inc. (successor to Power Test of New Jersey, Inc.), on its behalf and on behalf of Power Test Realty Company Limited Partnership and Getty Properties Corp., the General Partner of Power Test Realty Company Limited Partnership
39. Lucent Technologies Inc.
40. Mallinckrodt Inc.
41. Millennium Chemicals, Inc. affiliated entities MHC, Inc. (on behalf of itself and Walter Kidde & Company, Inc.), Millennium Petrochemicals, Inc. (f/k/a Quantum Chemical Corporation) and Equistar Chemicals LP
42. National-Standard LLC
43. Newell Rubbermaid Inc., on behalf of itself and its wholly-owned subsidiaries Goody Products, Inc. and Berol Corporation (as successor by merger to Faber-Castell Corporation)
44. News Publishing Australia Ltd. (successor to Chris-Craft Industries)
45. Novelis Corporation (f/k/a Alcan Aluminum Corporation)
46. NPEC Inc.
47. Occidental Chemical Corporation (as successor to Diamond Shamrock Chemicals Company)
48. Otis Elevator Company
49. Pfizer, Inc.
50. Pharmacia Corporation (f/k/a Monsanto Company)
51. PPG Industries, Inc.
52. Public Service Electric and Gas Company
53. Purdue Pharma Technologies, Inc.
54. Quality Carriers, Inc. as successor to Chemical Leaman Tank Lines, Inc., its affiliates and parents
55. Reichhold, Inc.
56. Revere Smelting and Refining Corporation
57. Safety-Kleen Envirosystems Company by McKesson, and McKesson Corporation for itself
58. Sequa Corporation
59. Sun Chemical Corporation
60. Tate & Lyle Ingredients Americas, Inc. (f/k/a A.E. Staley Manufacturing Company, including its former division Staley Chemical Company)
61. Teva Pharmaceuticals USA, Inc. (f/k/a Biocraft Laboratories, Inc.)
62. Teval Corporation
63. Textron Inc.
64. The BOC Group, Inc.
65. The Hartz Consumer Group, Inc., on behalf of The Hartz Mountain Corporation
66. The Newark Group
67. The Sherwin-Williams Company
68. The Stanley Works
69. Three County Volkswagen
70. Tiffany and Company
71. Vertellus Specialties Inc. f/k/a Reilly Industries, Inc.
72. Vulcan Materials Company
73. Wyeth, on behalf of Shulton, Inc.

Appendix A-1

Settling Work Parties

1. Ashland Inc.
2. BASF Corporation, on its own behalf and on behalf of BASF Catalysts LLC
3. Benjamin Moore & Co.
4. CBS Corporation, a Delaware corporation, f/k/a Viacom Inc., successor by merger to CBS Corporation, a Pennsylvania corporation, f/k/a Westinghouse Electric Corporation
5. Celanese Ltd.
6. Chemtura Corporation and Raclaur, LLC as current and former owner of the property f/k/a Atlantic Industries
7. Chevron Environmental Management Company, for itself and on behalf of Texaco, Inc.
8. Coltec Industries
9. Conopco, Inc. d/b/a Unilever (as successor to CPC/Bestfoods, former parent of the Penick Corporation (facility located at 540 New York Avenue, Lyndhurst, NJ))
10. Croda Inc.
11. E. I. du Pont de Nemours and Company
12. EPEC Polymers, Inc. on behalf of itself and EPEC Oil Company Liquidating Trust
13. Eden Wood Corporation
14. Essex Chemical Corporation
15. Franklin-Burlington Plastics, Inc.
16. Garfield Molding Co., Inc.
17. General Electric Company
18. General Motors Corporation
19. Givaudan Fragrances Corporation (Fragrances North America)
20. Goodrich Corporation on behalf of itself and Kalama Specialty Chemicals, Inc.
21. Hess Corporation, on its own behalf and on behalf of Atlantic Richfield Company
22. Hexcel Corporation
23. Hoffmann-La Roche Inc. on its own behalf, and on behalf of its affiliate Roche Diagnostics
24. Honeywell International Inc.
25. Kao Brands Company
26. Leemilt's Petroleum, Inc. (successor to Power Test of New Jersey, Inc.), on its behalf and on behalf of Power Test Realty Company Limited Partnership and Getty Properties Corp., the General Partner of Power Test Realty Company Limited Partnership
27. Lucent Technologies Inc.
28. Mallinckrodt Inc.
29. Millennium Chemicals, Inc. affiliated entities MHC, Inc. (on behalf of itself and Walter Kidde & Company, Inc.), Millennium Petrochemicals, Inc. (f/k/a Quantum Chemical Corporation) and Equistar Chemicals LP
30. National-Standard LLC
31. Newell Rubbermaid Inc., on behalf of itself and its wholly-owned subsidiaries Goody Products, Inc. and Berol Corporation (as successor by merger to Faber-Castell Corporation)

32. News Publishing Australia Ltd. (successor to Chris-Craft Industries)
33. Novelis Corporation (f/k/a Alcan Aluminum Corporation)
34. NPEC Inc.
35. Occidental Chemical Corporation (as successor to Diamond Shamrock Chemicals Company)
36. Otis Elevator Company
37. Pharmacia Corporation (f/k/a Monsanto Company)
38. PPG Industries, Inc.
39. Public Service Electric and Gas Company
40. Purdue Pharma Technologies, Inc.
41. Quality Carriers, Inc. as successor to Chemical Leaman Tank Lines, Inc., its affiliates and parents
42. Reichhold, Inc.
43. Sequa Corporation
44. Sun Chemical Corporation
45. Tate & Lyle Ingredients Americas, Inc. (f/k/a A.E. Staley Manufacturing Company, including its former division Staley Chemical Company)
46. Teval Corporation
47. Textron Inc.
48. The BOC Group, Inc.
49. The Hartz Consumer Group, Inc., on behalf of The Hartz Mountain Corporation
50. The Newark Group
51. The Sherwin-Williams Company
52. The Stanley Works
53. Tiffany and Company
54. Vertellus Specialties Inc. f/k/a Reilly Industries, Inc.
55. Vulcan Materials Company
56. Wyeth, on behalf of Shulton, Inc.

Appendix A-2

Settling Funding Parties

1. Alliance Chemical, Inc. on behalf of itself and Pfister Chemical, Inc.
2. Arkema Inc.
3. Atlantic Richfield Company
4. Belleville Industrial Center
5. Bristol-Myers Squibb Company
6. Covanta Essex Company
7. DiLorenzo Properties Company on behalf of itself and the Goldman /Goldman/DiLorenzo Properties Partnerships
8. Elan Chemical Company
9. Flexon Industries Corp.
10. Hercules Chemical Company, Inc.
11. ISP Chemicals LLC
12. ITT Corporation
13. Pfizer, Inc.
14. Revere Smelting and Refining Corporation
15. Safety-Kleen Envirosystems Company by McKesson, and McKesson Corporation for itself
16. Teva Pharmaceuticals USA, Inc. (f/k/a Biocraft Laboratories, Inc.)
17. Three County Volkswagen

Appendix B

Statement of Work

Statement of Work for
Remedial Investigation and Feasibility Study Portion of
Lower Passaic River Restoration Project

Introduction

This Statement of Work ("SOW") provides an overview of the Work that will be carried out by the Settling Parties as they complete the Remedial Investigation and Feasibility Study (RI/FS) begun by EPA for the Lower Passaic River Study Area (LPRSA) portion of the Diamond Alkali Superfund Site. This RI/FS SOW is attached to the Settlement Agreement for the LPRSA, and is a supporting document for the Settlement Agreement. Technical work described in the SOW is intended to provide more information to Settling Parties for purposes of implementing the Settlement Agreement and is not intended to change the meaning of any Settlement Agreement language. Terms used in this SOW shall have the same meaning assigned to them in the Settlement Agreement. The SOW is also consistent with both CERCLA and the NCP. Any discrepancies between the Settlement Agreement and this SOW are unintended and whenever necessary, the Settlement Agreement will control in any interpretive disputes.

The RI/FS is expected to be an iterative process. Moreover, Settling Parties are assuming responsibility for completing the RI/FS at a time when certain of the Project Plans referred to in the Settlement Agreement, are not in final form. Accordingly, EPA and the Settling Parties expect and the Settlement Agreement recognizes that this SOW and the Project Plans may be modified as provided in the Settlement Agreement, subject to EPA approval. This SOW outlines a process that will be used to focus programs to gather information that is needed for the RI/FS. As specified in Section 104(a)(1) of CERCLA, EPA will provide oversight of Settling Parties' performance under the Settlement Agreement. Although EPA is currently evaluating interim actions, this Settlement Agreement does not require the Settling Parties to implement early actions or interim remedial measures (IRMs), or to perform any remedial action selected for the LPRSA. Any early actions, IRMs, or remedial action(s) selected for the LPRSA will be the subject of separate settlement agreements.

EPA will document remedial action decisions in one or more records of decision. The remedial action(s) selected by EPA will not be inconsistent with the requirements of Section 121 of CERCLA and the NCP and will be coordinated with WRDA to the extent practicable. The final RI/FS report, as approved by EPA will, along with the Administrative Record developed by EPA, form the basis for remedy selection for the LPRSA and will provide the information necessary to support development of one or more records of decision.

Scope of the Project

The Lower Passaic River Restoration Project is a joint CERCLA and WRDA project that is being conducted by a partnership of agencies, including EPA, U.S. Army Corps of Engineers (USACE), New Jersey Department of Transportation, (NJDOT), National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS) and New Jersey Department of Environmental Protection (NJDEP) ["the Partner Agencies"]. The Work required under the Settlement Agreement and this SOW represents the CERCLA portion of the RI/FS,

which is EPA's responsibility to implement, in coordination with the Partner Agencies. The goal of the project is to integrate the results of the CERCLA RI/FS with the results of the WRDA Study to produce a comprehensive plan for remediating and restoring the Lower Passaic River. To the extent practicable, EPA will integrate the results of the CERCLA RI/FS with the results of the WRDA Study to produce a comprehensive plan for remediating and restoring the LPRSA

Purpose of the RI/FS

The purpose of this RI/FS is to determine the nature and extent of contamination within the Lower Passaic River Study Area of the Diamond Alkali Superfund Site, and to develop and evaluate remedial alternatives. For the purposes of this effort, the Lower Passaic River Study Area is defined as the 17-mile tidal stretch of the Passaic River and its tributaries from Dundee Dam to the River's mouth at Newark Bay. Contaminants of Potential Concern (COPCs) referred to in this SOW include, but are not limited to, dioxins/furans, polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), pesticides and metals. The RI and FS are interconnected and are conducted concurrently so that the data collected in the RI are used in the development of remedial alternatives in the FS, which in turn affect the data needs and scope of treatability studies, if necessary.

An RI/FS for the Newark Bay Study Area of the Diamond Alkali Superfund Site is being conducted under the Newark Bay AOC. Under the Newark Bay AOC, the Newark Bay Study Area is defined as Newark Bay and portions of the Hackensack River, Arthur Kill and Kill van Kull. Since the LPRSA and the Newark Bay Study Area are hydrodynamically linked waterbodies, the RI/FS for the Lower Passaic River Restoration Project must be conducted consistently and in coordination with the RI/FS for Newark Bay.

EPA will select a remedy for the LPRSA that will be documented in one or more CERCLA Records of Decision (ROD). The remedy selected by EPA will meet the cleanup standards specified in CERCLA Section 121 and the NCP. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with or include a waiver of applicable or relevant and appropriate requirements (ARARs) of other laws, will be cost-effective, will use permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI/FS Report, as adopted by EPA, along with the Administrative Record and comments from the public will form the basis for the selection of the LPRSA's remedial actions.

As specified in CERCLA Section 104(a)(1), EPA will provide oversight of Settling Parties' activities throughout the RI/FS. Settling Parties shall support EPA's initiation and conduct of activities related to the implementation of oversight activities.

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Remedial Investigation

A. Goals and Objectives of the RI

1. Identify and quantify the hazardous contaminants present in sediment, water and biota;

2. Understand the vertical and horizontal distribution of hazardous contaminants in the LPRSA;

3. To the extent practicable, identify sources of historical hazardous contamination;

4. Quantify any significant continuing sources of hazardous contaminants;

5. Understand the geomorphological setting and processes (e.g., resuspension, transport, deposition, weathering) affecting the stability of sediment;

6. Understand the key chemical and biological processes affecting the fate, transport and bioavailability of hazardous contaminants;

7. Identify the complete or potentially complete human and ecological exposure pathways for the hazardous contaminants;

8. Identify current and potential future human and ecological risks posed by the hazardous contaminants;

9. Collect data necessary to evaluate the potential effectiveness of natural recovery, in-situ capping, sediment removal, and promising innovative technologies; and

10. Provide a baseline of data that can be used to monitor remedy effectiveness in all appropriate media (generally sediment, water, and biota).

B. Remedial Investigation Activities

1. The LPRSA CERCLA RI activities shall be conducted in accordance with the Settlement Agreement, this SOW, guidance referenced therein and the CERCLA portions of the following Project Plans as approved by EPA, as the same may be modified in accordance with the procedures set forth in the Settlement Agreement:

a. Lower Passaic River Restoration Project Work Plan, August 2005;

b. Quality Assurance Project Plan, Lower Passaic River Restoration Project, August 2005;

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c. Lower Passaic River Restoration Project Field Sampling Plan Volume 1, January 2006 (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in Section A.7.b. of the SOW);

d. Lower Passaic River Restoration Project Health and Safety Plan, January 2005, as amended through July 2005;

e. Lower Passaic River Restoration Project Pathways Analysis Report, July 2005;

f. Lower Passaic River Restoration Project Modeling Work Plan, August 2006;

g. Newark Bay Study Modeling Work Plan Addendum, August 2006 (in close coordination with the Newark Bay AOC Settling Party, to ensure that one model is developed that includes the Lower Passaic River and Newark Bay watershed);

h. Lower Passaic River Restoration Project Field Sampling Plan Volume 2 (draft dated August 2005 to be approved by EPA in coordination with the Partner Agencies) (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in Section A.7.b. of the SOW);

I. Lower Passaic River Restoration Project Field Sampling Plan Volume 3 (draft dated July 2005 to be approved by EPA in coordination with the Partner Agencies) (to be refined based upon the results of Step 3 of the Baseline Ecological Risk Assessment as defined in Section A.7.b. of the SOW); and

j. The CSO Study Work Plan, currently under development, which is to be the subject of a separate administrative consent order between EPA and the respondents named therein.

Settling Parties shall be responsible only for the performance and financing of those tasks described in the Project Plans which are necessary to complete the CERCLA RI/FS and not for the performance and financing of those tasks which are exclusively WRDA or NRDA activities. The Settling Parties with the exception of Occidental Chemical Corporation and its assigns including Tierra Solutions, Inc., and any other parties that have received notices of potential liability with regard to Newark Bay, shall not be responsible for the performance of the sampling or gathering of data required by the Newark Bay AOC, nor for the tasks described in the CSO Study Work Plan.

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2. Settling Parties shall perform the Work (i.e. the CERCLA RI/FS activities) as approved by EPA, detailed in the Project Plans listed above, except to the extent that the Work has been or will be completed by EPA and/or the Partner Agencies. Settling Parties shall perform the Work in accordance with the Quality Assurance Project Plan (August 2005) and the Lower Passaic River Restoration Project Health and Safety Plan, January 2005, as amended through July 2005.

3. Given unknown site conditions, field investigation activities are often iterative. In order to satisfy the objectives of the RI/FS, it may be necessary for Settling Parties or EPA to modify the Work specified in the Project Plans described in Section B.1 of the SOW. If the Settling Parties propose any modifications, they shall submit them to EPA for review and approval in accordance with Paragraph 39 and Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

4. Within 30 days of the Effective Date of the Settlement Agreement, Settling Parties shall submit a detailed schedule ("Project Schedule") for EPA review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. The Project Schedule shall include dates by which action or submission by entities other than the Settling Parties or their contractors or subcontractors must be accomplished in order to achieve the completion date.

5. For all field investigation tasks, Settling Parties shall address the following logistical, documentation and reporting activities:

a. Settling Parties shall give EPA at least 7 business days notice prior to the start of any field activities (with the exception of conducting sampling related to significant storm events, which are addressed in Paragraph 5.b. below), so that EPA may adequately schedule oversight tasks.

b. For sampling related to significant storm events, Settling Parties shall give EPA at least 1 business day notice prior to the proposed start of any field activities, with the understanding that such proposed start may need to be modified in accordance to the storm event, which may be unpredictable. In the event of such modification, verbal notice shall be given in as timely a manner as possible.

c. Information gathered during field investigations shall be consistently documented and adequately recorded by Settling Parties in well-maintained field logs and laboratory reports. Settling Parties shall use the Passaic River Estuary Management Information System (PREmis) developed by EPA and its contractor to report field information electronically, and upload and validate laboratory data. The PREmis field application documents observations, measurements and significant events that have occurred during field activities. PREmis laboratory reports document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies. Use of PREmis will ensure compatibility with the data

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already collected by the Partner Agencies under the Lower Passaic River Restoration Project. EPA, or its contractor, shall be responsible for managing and maintaining PREmis.

d. After completing each field investigation task, Settling Parties shall prepare a concise characterization summary. This summary shall review the investigative activities that have taken place, and describe and display the data collected.

6. Modeling. Settling Parties shall perform the Modeling in accordance with the Lower Passaic River Restoration Project Modeling Work Plan and the Newark Bay Study Modeling Work Plan Addendum (collectively, "the Modeling Work Plan"), as may be modified pursuant to Paragraph 6.c. below. In performing the Modeling, Settling Parties shall closely coordinate with the Settling Party responsible under the Newark Bay AOC for obtaining the data in the Newark Bay Study Area necessary to conduct the Modeling. Settling Parties shall ensure that one model is developed that includes the Lower Passaic River and Newark Bay Study Areas. Settling Parties shall use the LPRSA Hydrodynamic Model and the LPRSA Hydrodynamic Model Calibration Report (draft dated April 2006 to be approved by EPA in coordination with the Partner Agencies), as the same may be modified in accordance with the procedures set forth in the Settlement Agreement and shall also provide the following:

a. Source code with entered input data, in a format that will allow EPA to have the models peer reviewed and recreate the results of the model and in sufficient detail to allow an in-depth analysis of the model results, for model calibrations for each of the following:

(1) Sediment Transport: Calibrated and validated sediment transport and organic carbon cycling model (ST-SWEM model code) which includes the SEDZLJ erosion formulations with the following inputs for each variable modeled:

- Boundary Conditions
- Initial Conditions
- Sediment Loads
- Sediment Composition
- Organic Carbon Loads
- Nutrient Loads
- Data Used for Calibration and Validation
- Geometry of Model Grid
- Results of Hydrodynamic Model

(2) Chemical Fate and Transport: Calibrated and validated chemical fate and transport model (RCATOX model code) with the following inputs for each variable modeled:

- Boundary Conditions
- Initial Conditions

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- Chemical Loads
- Data Used for Calibration and Validation
- Results of Hydrodynamic and Sediment Transport Model

(3) Bioaccumulation and Toxicity: Calibrated and validated bioaccumulation and toxicity model with the following inputs for each variable modeled:

- Exposure Concentrations from Fate and Transport model
- Data Used for Calibration and Validation

b. Modeling Deliverables. The calibration reports will include sections on model validation, sensitivity analyses for all models, and formal uncertainty analyses for the bioaccumulation and toxicity models. Settling Parties shall submit to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement each of the following in accordance with the Project Schedule:

(1) (A) Sediment Transport Model
(B) Draft Sediment Transport Model Calibration Report

(C) Final Sediment Transport Model Calibration/Validation Report

(2) (A) Chemical Fate and Transport Model
(B) Draft Chemical Fate and Transport Model Calibration Report
(C) Final Chemical Fate and Transport Model Calibration/Validation Report

(3) (A) Bioaccumulation and Toxicity Model including exposure concentration data in a format to include in the Baseline Human Health Risk Assessment and the Baseline Ecological Risk Assessment
(B) Draft Bioaccumulation and Toxicity Model Calibration Report
(C) Final Bioaccumulation and Toxicity Model Calibration/Validation Report

(4) (A) Draft Model Calibration Report for the entire Modeling effort
(B) Final Model Calibration/Validation Report for the entire Modeling effort

c. Settling Parties shall obtain EPA approval for all changes to the Modeling framework and Modeling Work Plan input data, model codes and refinements pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

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d. The Settling Parties shall conduct sensitivity analyses for each component of the Modeling and a formal uncertainty analysis for the bioaccumulation and toxicity models in the Model Calibration/Validation Report, which will be peer reviewed. If necessary, modifications to the Project Schedule may be recommended by the Settling Parties for approval by EPA as provided in Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

7. Risk Assessments. Settling Parties shall conduct the baseline human health risk assessment and ecological risk assessment ("Risk Assessments"), in accordance with the Lower Passaic River Restoration Project Pathways Analysis Report (July 2005), as the same may be modified in accordance with Paragraph 39 of the Settlement Agreement, the Lower Passaic River Restoration Project Work Plan (August 2005) and any other relevant Project Plans, applicable EPA guidance (including, without limitation, EPA Risk Assessment guidance referenced in the Settlement Agreement), guidelines, policies, and directives which may be found at (http://www.epa.gov.oswer/riskassessment/risk/superfund.htm), including but not limited to: "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Parts A to E and Volume II)," (RAGS, EPA-540-1-89-002, OSWER Directive 9285.7-01A, December 1989); "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)," (RAGS, EPA 540-R-97-033, OSWER Directive 9285.7-01D, January 1998); "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (ERAGS, EPA-540-R-97-006, OSWER Directive 9285.7-25, June 1997) or subsequently issued guidance. The plans, reports and other deliverables described herein and in the Settlement Agreement shall be provided to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. The Risk Assessments shall include the following:

a. Baseline Human Health Risk Assessment. Settling Parties shall review and revise the Lower Passaic River Restoration Project Pathways Analysis Report (July 2005) following discussions with EPA to reflect changes in toxicity values, new sampling data, and revisions to guidance. Settling Parties shall update the Pathways Analysis Report upon receipt of new data or new information on toxicity values and exposure variables, as necessary throughout the RI/FS process. After receipt of the last set of validated data from the final sampling event and completion of the Modeling, Settling Parties shall submit the final Pathways Analysis Report to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement in accordance with the Project Schedule.

Settling Parties shall submit a draft Human Health Risk Assessment to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. Based on the results of the Human Health Risk Assessment (point estimate or deterministic risk),

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EPA will determine whether a probabilistic risk assessment is appropriate and if so, Settling Parties shall conduct a probabilistic risk assessment consistent with the Risk Assessment Guidance for Superfund Volume III Part A: Process for Conducting Probabilistic Risk Assessment (RAGS Part 3A, December 2001, OSWER 9285.7-45, and subsequent updates), and the Guiding Principles of Risk Assessment (available at: http://www.epa.gov/oswer/riskassessment/superfund_hh_characterization.htm) and other related guidance. EPA will determine the level and extent of the probabilistic risk assessment in accordance with Risk Assessment Guidance for Superfund Volume III (Part A) and other appropriate EPA guidance and policy.

b. Baseline Ecological Risk Assessment. Settling Parties shall perform a full Baseline Ecological Risk Assessment in accordance with the Settlement Agreement, this SOW and EPA guidance. Settling Parties shall submit a draft Baseline Ecological Risk Assessment, which shall include both the Screening Level Ecological Risk Assessment and the Baseline Ecological Risk Assessment (i.e., containing steps 1 through 8 identified in "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (ERAGS, EPA-540-R-97-006, OSWER Directive 9285.7-25, June 1997) to EPA for approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement in accordance with the Project Schedule.

8. Peer Review. Consistent with the Peer Review Handbook (EPA/100/B-06/002), EPA will determine on a case-by-case basis which Lower Passaic River Restoration Project work products should be peer reviewed, in accordance with the principle that all influential scientific and technical work products used in decision making will be peer reviewed. At a minimum, the Model Calibration/Validation, Baseline Human Health Risk Assessment and Baseline Ecological Risk Assessment reports shall be peer reviewed. Peer involvement shall consist of the LPRSA Technical Advisory Committee ("Peer Input") and/or an external Peer Review Group ("External Peer Review"). The members of the External Peer Review Group will be selected by EPA based on the guidance provided in the Peer Review Handbook, Section 3.4. While the Settling Parties may propose charge questions, EPA will make the final determination on what elements to include in the charge to ensure that it meets EPA's needs for the peer review. EPA will be responsible for developing a peer review record that includes a response to peer review comments. Settling Parties shall incorporate comments from both the Peer Input and External Peer Review and revise reports as directed by EPA. All peer review shall be conducted in accordance with the Peer Review Handbook.

a. Settling Parties shall provide information for dissemination to the Peer Input and/or Peer Review and participate in meetings to provide supporting materials, background on the approach, assumptions, results of analysis and conclusions. The extent of Settling Parties' involvement in

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the Peer Input and/or Peer Review will be at the discretion of EPA. All Settling Party-conducted activities regarding the Peer Input and/or Peer Review activities will be subject to oversight by EPA.

C. Community Involvement

EPA will conduct community involvement in accordance with the Lower Passaic River Restoration Project and Newark Bay Study Final Community Involvement Plan (June 2006). Although implementation of the Community Involvement Plan (CIP) is the responsibility of EPA, Settling Parties shall assist by providing information for dissemination to the public and participating in public meetings. The extent of Settling Parties' involvement in community involvement activities is left to the discretion of EPA. All Settling Party-conducted community involvement activities pursuant to the CIP will be subject to oversight by EPA.

D. RI Report

1. In accordance with the Project Schedule approved by EPA, Settling Parties shall submit to EPA and the Partner Agencies, the draft RI Report presenting the results of the RI activities implemented, including the Modeling results and the human health and ecological Risk Assessments. Settling Parties shall submit the draft RI Report to EPA for review and comment in accordance with Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. Settling Parties shall revise the draft RI Report per EPA's comments. The RI Report may require further revision depending upon public comment. EPA will approve the final RI Report.

2. The RI Report shall consist of the following sections, consistent with the suggested format described in Table 3-13 of EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA", October 1988, EPA/540/G-89/004:

a. Introduction, including Purpose and Site Background
b. Study Area Investigation including a presentation of historical data, data collected by the Partner Agencies, as well as data collected pursuant to the Settlement Agreement and this SOW
c. Study Area Physical Characteristics
d. Nature and Extent of Contamination in water column, sediment and biota
e. Modeling Results
f. Baseline Human Health Risk Assessment
g. Baseline Ecological Risk Assessment
h. Data Validation and Interpretation Report
I. Summary and Conclusions
j. Appendices, including technical memoranda on field activities, analytical data and quality assurance and quality control (QA/QC) evaluation results.

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Feasibility Study

The LPRSA CERCLA Feasibility Study (FS) activities will be developed to evaluate remedial alternatives for the LPRSA and shall be conducted in accordance with the Settlement Agreement, this SOW, and the guidance referenced therein.

E. Feasibility Study Work Plan

1. Settling Parties shall prepare a draft Feasibility Study (FS) Work Plan that includes a detailed description of the work to be performed and the schedule for implementation of the work. The FS Work Plan shall be submitted to EPA in conjunction with the Project Schedule for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. Settling Parties shall revise the draft FS Work Plan per EPA's comments. The FS Report may require further revision depending upon public comment. EPA will approve the final FS Report.

2. The FS Work Plan shall consist of the following tasks, as described in Section F of the SOW:

a. Description of Remedial Action Objectives and Preliminary Risk-Based Remediation Goals
b. Description of Current Situation and Proposed Response
c. Development of Alternatives
d. Screening of Alternatives
e. Treatability Studies
f. Analysis of Alternatives
g. Reports

F. Description of Feasibility Study Tasks

1. Development of Remedial Action Objectives and Preliminary Risk-Based Remediation Goals. Settling Parties shall conduct an analysis of ARARs and identify risk-based concentrations for each media for the Contaminants of Potential Concern in the baseline Human Health Risk Assessment and the baseline Ecological Risk Assessment consistent with appropriate EPA guidance, including but not limited to, "Risk Assessment Guidance for Superfund, Volume 1 - Human Health Evaluation Manual (Part B, Development of Risk- Based Preliminary Remediation Goals)," (RAGS, EPA-540/R-92/003, OSWER Directive 9285.7-01B, December 1991) or subsequently issued guidance or updates, and consistent with exposure assumptions used in the Human Health Risk Assessment. The calculations for the individual chemicals in the various media shall be submitted to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement before the FS proceeds in accordance with the Project Schedule. The Remedial Action Objectives and Preliminary Risk-Based Remedial Goals shall be submitted to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement before the start of the selection of alternatives in the FS.

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2. Description of Current Situation and Proposed Response. Information on the Site background, nature and extent of the problem, and previous response activities presented in the RI should be summarized briefly, then incorporated by reference. Following this summary of the current situation, a site-specific statement of the purpose for the response, based on the results of the RI should be presented. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by remedial alternatives.

3. Development of Alternatives. Based on the results of the RI, Settling Parties shall develop a limited number of alternatives for source control of contaminated sediments and surface water, and/or off-site remedial actions based on objectives established for the response and applicable EPA policy. Implementation activities associated with this task are described below.

a. Establishment of Remedial Action Objectives. LPRSA-specific objectives for the response action shall be proposed by Settling Parties and approved by EPA and incorporated by Settling Parties into this task. These objectives will be based on protecting public health and the environment through the development of Preliminary Remediation Goals, information gathered during the RI, Section 300.430 of the NCP and the requirements of any other applicable Federal and/or State environmental standards, guidance and advisories as defined under Section 121 of CERCLA. The remedial action objectives will specify the COPCs, water and sediment quality exposure pathways, and remediation goals that permit a range of alternatives to be developed including each of the three major approaches (MNR, capping and removal) and promising innovative technologies, such as in-situ treatment. The objectives shall consider state and local objectives for the LPRSA.

b. Identification of Areas or Volumes of Media. Settling Parties shall identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives and the biological, chemical and physical characteristics of each specific area in the LPRSA.

c. Alternative Remedial Actions. Combinations of identified technologies that will meet remedial response objectives will be assembled into alternative remedial actions. To the extent that it is feasible and appropriate, alternatives and other considerations should be developed into a comprehensive site- specific approach. Additional detail concerning the equipment, methods and locations to be evaluated for each alternative, including the three major approaches (e.g., potential natural recovery processes, potential cap materials and placement methods, number and types of dredges or excavators, transport methods, treatment methods, types of disposal units, general disposal location, need for monitoring and/or institutional controls) shall be developed. To the extent

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possible with information available at this stage of the FS, the time frame(s) in which the alternatives are expected to achieve cleanup levels and RAOs should be identified. Alternatives should be assembled representing a range of options, including MNR, in-situ capping, and removal options or combinations of options, as appropriate, and shall include, but not be limited to, the following:

(I) Treatment alternatives for source control of contaminated LPRSA sediments and waters that would eliminate or reduce the need for long-term management (including monitoring);
(ii) Alternatives involving treatment as a principal element to reduce the toxicity, mobility or volume of waste;
(iii) An alternative that involves containment of waste with little or no treatment, but provides protection of human health and the environment primarily by preventing potential exposure or reducing the mobility of the waste; and
(iv) A no action alternative.

4. Screening of Alternatives.

a. Alternatives. The alternatives developed in Task F.3. shall be screened to eliminate alternatives that are clearly ineffective or unimplementable, or that are clearly inferior to other alternatives being considered in terms of protecting human health and the environment, effectiveness, implementability or cost prior to undertaking detailed evaluations of the remaining alternatives. The list of alternatives shall be screened based on the NCP, CERCLA and the rules promulgated under CERCLA.

b. Remedial Alternatives Screening Document. Settling Parties shall prepare a Remedial Alternatives Screening (RAS) Technical Memorandum summarizing the work performed and the results of each task above, including an alternatives array summary. Settling Parties shall describe the alternatives screening in accordance with EPA rules and guidance. The RAS Technical Memorandum should also summarize the reasoning employed in screening, arraying alternatives that remain after screening, and identifying ARARs for the alternatives that remain after screening. These will be modified by Settling Parties if required by EPA's comments to assure identification of a complete and appropriate range of viable alternatives to be considered in the detailed analysis. This deliverable will document the methods, rationale, and results of the alternatives screening process and demonstrate that the proposed alternatives meet the goals of protection of human health and the environment and meet ARARs. Settling Parties shall submit the RAS Technical Memorandum to EPA for review and approval pursuant to Section X (EPA Approval of Plans and

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Other Submissions) of the Settlement Agreement. As appropriate, EPA will update the ARARs throughout the FS process.

5. Treatability Studies. The Partner Agencies, led by NJDOT, are implementing an Environmental Dredging and Sediment Decontamination Technologies Pilot. EPA and Settling Parties will evaluate the need for additional treatability studies, if any, as follows.

a. Identification of Candidate Technologies. Settling Parties shall identify, in a technical memorandum, candidate technologies for a treatability studies program. The listing of candidate technologies will cover the range of technologies required for alternatives analysis. Settling Parties will conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance requirements and implementability of candidate technologies. Settling Parties shall submit the Identification of Candidate Technologies Memorandum to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

b. Implementation and Evaluation of Treatability Studies. Settling Parties shall conduct any necessary laboratory and bench scale treatability studies required to evaluate the effectiveness of remedial technologies and establish engineering criteria, except where Settling Parties demonstrate to EPA's satisfaction that they are not needed. The major components of the treatability studies shall include a determination of the need for and scope of studies, the design of the studies and the completion of the studies. Where treatability studies are needed, initial treatability testing activities (such as research and study design) will be planned to occur concurrently with site characterization activities. Submittals shall be made in the time frame required to maintain steady progress of the overall FS. Additional studies may also be conducted during the design phase if needed, to refine treatability results or develop detailed design criteria. Settling Parties may perform pilot scale treatability studies consistent with the Settlement Agreement. Because of the time required to design, fabricate, and install pilot scale equipment, as well as perform testing for various operating conditions, the decision to perform pilot testing should be made as early in the process as possible to minimize potential delays of the FS.

c. Treatability Study Deliverables. Settling Parties shall provide EPA with the following deliverables for any necessary treatability studies:

(I) Treatability Testing Work Plan. Settling Parties shall prepare a treatability testing work plan or amendment to the Project Work Plan for EPA review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement, describing the site

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background, remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety procedures, and residual waste management. The data quality objectives for treatability testing should be documented as well. If pilot scale treatability testing is to be performed, the pilot-scale work plan shall describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a detailed health and safety plan. If testing is to be performed off-site, permitting requirements will be addressed.

(ii) Treatability Study Sampling and Analysis Plan and/or Health and Safety Plan. If the FSP, the Project QAPP and/or the Project HASP is/are not adequate for defining the activities to be performed during the treatability tests, separate treatability study plans or amendments to the original plans shall be prepared by Settling Parties for EPA review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. The study plans should also address protection of the community members during the treatability study through specific considerations of potential hazards to the community and means of preventing or limiting these exposures.

(iii) Treatability Study Evaluation Report. Following completion of treatability testing, Settling Parties shall analyze and interpret the testing results in a technical report to EPA. Depending on the sequence of activities, this report may be a part of the FS Report or a separate deliverable. The report shall evaluate each technology's effectiveness, implementability, cost and actual results as compared with predicted results. The report shall also evaluate full scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation. Settling Parties shall submit the treatability study evaluation report to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

6. Analysis of Alternatives.

a. Analysis of Alternatives. In accordance with CERCLA and the NCP, Settling Parties shall conduct a detailed analysis of alternatives that will consist of an analysis of each option against a set of nine evaluation criteria and a comparative analysis of all options using the same evaluation criteria as a basis for comparison. Alternatives shall be analyzed in sufficient detail so that the remedies can be selected from a set of defined and discrete hazardous waste management approaches

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b. Application of Nine Criteria. Settling Parties shall apply the nine evaluation criteria set forth in the NCP to the assembled remedial alternatives, including institutional controls, to ensure that the selected remedial alternative will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element. The evaluation criteria include: (1) overall protection of human health and the environment through evaluation of risk based concentrations developed at appropriate risk levels for both human health and the environment and discussion where changes are made in the risk based concentrations from the point of departure; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. Criteria 8 and 9 are considered after the RI/FS report has been released to the general public. For each alternative, Settling Parties shall provide: (1) a description of the alternative that outlines the waste management strategy involved and identifies the key ARARs associated which each alternative, and (2) a discussion of the individual criterion assessment. If Settling Parties do not have direct input on criteria (8) state (or support agency) acceptance and (9) community acceptance, these will be addressed by EPA.

c. Comparison of Alternatives. Settling Parties shall compare the alternatives to each other using the full array of evaluation factors. Component measures, as described below, should be tailored appropriately for the LPRSA. Where the measures are likely to be important in evaluating among alternatives, more emphasis and detail may be appropriate to assist in the selection of a remedy. Settling Parties shall prepare a Remedial Alternatives Evaluation Technical Memorandum summarizing the results of the comparative analysis, to be submitted to and approved by EPA pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement.

(i) Component measures of effectiveness include the degree to which the alternative is protective of human health and the environment. Where health-based levels are established as ARARs, they can be used to establish the minimum level of protection needed. Where these levels do not exist, Risk Assessments performed by Settling Parties can be used to help establish levels appropriate for the LPRSA. The reliability of the remedy, including the potential need for a cost of replacement, is another important element of effectiveness. Specific measures may also include other health risks borne by the affected population, population

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sensitivities, and impacts on environmental receptors. Another important measure of effectiveness is the degree that the mobility, toxicity, or volume of hazardous substances, pollutants, or contaminants are reduced.

(ii) Component measures of implementability include the technical feasibility of the alternative, and the availability of any needed equipment, specialists or off-site capacity.

(iii) Component measures of cost include short-term capital and operation costs and any long-term operation or maintenance costs. Present worth analysis will be used to compare all alternatives.

G. Feasibility Study Report

1. In accordance with the FS Work Plan and Project Schedule approved by EPA, Settling Parties shall submit to EPA and the Partner Agencies a draft Feasibility Study (FS) Report presenting the results of the FS Tasks. Settling Parties shall submit the draft FS Report to EPA for review and approval pursuant to Section X (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. Settling Parties shall revise the draft FS Report per EPA's comments. The FS Report may require further revision depending upon State and public comment. EPA will approve the final FS Report.

2. The FS Report shall consist of the following sections, in accordance with the suggested format described in Table 6-5 of EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA", October 1988, EPA/540/G-89/004:

a. Introduction, including Purpose and Background Information (summarized from the RI Report)
b. Identification and Screening of Technologies
c. Development and Screening of Alternatives
d. Detailed Analysis of Alternatives
e. Summary and Conclusions

3. The FS Report shall include consideration of the results of the Environmental Dredging and Sediment Decontamination Technologies Pilot implemented by the Partner Agencies.

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Appendix C

Partner Agencies and Contacts

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Appendix D

List of Documents

1. Documents, e-mails, records, reports or information altered, mutilated, discarded, destroyed or otherwise disposed of prior to the time the Settling Party received its first notice of liability with respect to the Lower Passaic River Study Area;

2. Prior drafts of documents for which a last draft (document never made final) or final copy still exists;

3. Duplicates of documents maintained in other files;

4. Original documents, copies of which are now maintained only on microfilm, microfiche, CD-ROM disc, or by other similar information archiving methods; or

5. Original documents previously stored on archiving methods identified in Paragraph 4 above, for which the microfilm, microfiche, etc., no longer exists, but from which hard copies printed from the microfilm, microfiche, etc. do exist.

Appendix E

Critical Data Needs

1. Provide by March 2, 2007: Current LPRSA Conceptual Site Model and supporting documents; specifically any updates or changes since the preliminary CSM was provided in Attachment A of the LPRRP Work Plan (dated August 2005).

2. Provide by February 2, 2007: All validated data collected as part of LPRRP Work Plan (Section 5.0) and FSP 1 Tasks 1-6 collected in calendar years 2005 and 2006, as listed in the attached table.

3. Data Management/Document Transfer:
   a. Provide by February 2, 2007: A Microsoft Access database (.mdb file) containing historic environmental data and validated/approved data from the USEPA 2005-2006 field investigations in the Lower Passaic River. This MS Access file will encompass data contained in PREmis and will be accompanied by an entity relationship diagram (ERD).
   b. Provide by February 2, 2007: A data validation status table summarizing the 2005-2006 datasets and their validation status.
   c. Provide by February 28, 2007: The documents contained in the public website's (www.ourPassaic.org) digital library and available metadata.
   d. On-going: Responses to technical questions regarding database structure, ERD, and 2005-2006 sample analytical methods, validation methods, and field collection details.

Modeling Data Needs

Data/Files/Documentation necessary to develop and apply the LPR/NB model:

1. Provide by April 30, 2007: Model code, executables and available documentation for the LPR/NB Hydrodynamic and Sediment Transport model components.
   a. SEDZLJ code incorporated into ECOMSED and peer review testing results.
   b. Model enhancement testing results (wind wave, wetting and drying, SEDZLJ and bed consolidation routine).
   c. Hydrodynamic model output file.

2. Provide by April 30, 2007: Model code, executables and available documentation for RCA-EUTRO (SWEM), RCA-TOX and Farley Bioaccumulation model.

3. Provide by April 30, 2007: LPR/NB model input files:
   a. Boundary conditions:
      i. Freshwater inputs
      ii. Open ocean tidal forcing, temperature and salinity
      iii. Atmospheric files (wind and temperature)
      iv. CSO flows
      v. WWTP flows
      vi. Watershed runoff flows
   b. Initial conditions
      i. Initial water column conditions (salinity and temperature)Bathymetry (historical and present)
   c. Model grid

4. Provide by April 30, 2007: Water column data used to calibrate the LPR/NB Hydrodynamic model component.

5. Provide by May 15, 2007: Meeting among CPG, EPA, Malcolm Pirnie and HydroQual to discuss technical assistance needs in support of the LPR/NB model.

Appendix F

GUIDING PRINCIPLES FOR MODIFYING PROJECT PLANS

In considering whether or not the Project Plans should be modified, EPA and the Settling Parties will be guided by the following principles:

- The Project Plans should be consistent, to the greatest extent practicable, with the eleven management principles contained in the EPA guidance document issued by OSWER on February 12, 2002, entitled "Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites," OSWER Directive 9285.6-08 and the "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites," OSWER Directive 9355.0-85.

- The Project Plans with respect to the Modeling should be flexible enough to account for the possibilities (a) that the Settling Parties may not be able to contract with HydroQual to perform the modeling, (b) that CARP data/files/information needed to implement the LPR/NB model may not be available to the Settling Parties in a timely fashion, (c) that the Modeling will have to be coordinated with the modeling to be conducted in connection with EPA's consideration of remedial alternatives in the ongoing FFS, (d) that the Modeling contemplates that one model will be used for both the Lower Passaic River Study Area and the Newark Bay Study Area, (e) that the bioaccumulation modeling will be completed within the risk assessment process, consistent with EPA guidance, and (f) that phased approaches to the Modeling may be desirable as a means of expediting completion of the RI/FS.

- The Project Plans should be coordinated, to the greatest extent practicable, with the project plans for the Newark Bay RI/FS and CSO/SSO Study of the Lower Passaic River Study Area. Pursuant to Section 104(b)(2) of CERCLA and 40 C.F.R. 300.430(b)(7) the Project Plans should be coordinated, to the extent practicable, with any natural resource damage assessments that may be performed by the trustees for natural resources, and with the WRDA Study being conducted by ACOE, with NJDOT/OMR as local sponsor.

- In the application of these principles, EPA will make the final decision, consistent with the Settlement Agreement, as to whether or not the Project Plans should be modified and what modifications, if any, will be made.

Appendix G

Performance Guarantee