UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

IN THE MATTER OF: LIGHTMAN DRUM COMPANY SUPERFUND SITE COLONIAL HEIGHTS PACKAGING INC.; CONTINENTAL HOLDING INC.; CRODA INKS CORPORATION; GENERAL MOTORS CORPORATION; HENKEL CORPORATION for itself and on behalf of AMCHEM PRODUCTS, INC.; KIMBERLY-CLARK TISSUE COMPANY on behalf of SCOTT PAPER COMPANY; SARA LEE HOUSEHOLD AND BODYCARE USA on behalf of KIWI BRANDS; SONOCO PRODUCTS COMPANY; STAUFFER CHEMICAL COMPANY; STEPAN COMPANY; SYNTHANE-TAYLOR CORPORATION; UNION CARBIDE CORPORATION for itself and on behalf of AMCHEM PRODUCTS ,INC.; USG for itself and on behalf of DAP, INC. USX CORPORATION; WHITING-PATTERSON COMPANY; WILMINGTON CHEMICAL COMPANY; Respondents. Proceeding Under Sections 104, 122(a), and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act as amended (42 U.S.C. §§ 9604, 9622(a), 9633(d)(3).	U.S.E.P.A. Index No. CERLCA-02-2000-2034

ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

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I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the above-captioned Respondents ("Respondents"). The Consent Order concerns the preparation of, performance of, and reimbursement for all costs incurred by EPA in connection with a Remedial Investigation and Feasibility Study ("RI/FS") for the Lightman Drum Company Superfund Site ("Site") located in Winslow Township, Camden County, New Jersey.

II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by Sections 104, 122(a) and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, ("CERCLA") as amended, 42 U.S.C. §§ 9604, 9622(a), 9622(d)(3). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C.

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

III. PARTIES BOUND

4. This Consent Order shall apply to and be binding upon EPA and shall be binding upon the Respondents, their successors and assigns. Respondents agree to instruct their officers, directors, employees and agents involved in the performance of the work required by this Consent Order to cooperate in carrying out the Respondents' obligations under this Consent Order. Respondents are jointly and severally responsible for carrying out all actions required of them by this Consent Order. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondents or of the Site shall alter Respondents' responsibilities under this Consent Order.

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

IV. STATEMENT OF PURPOSE

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

7. The activities conducted under this Consent Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS and for a Record of Decision ("ROD") that is consistent with CERCLA and the National Oil Pollution and Hazardous Substances Contingency Plan ("NCP"), 40 C.F.R. Part 300. The activities conducted under this Consent Order shall be conducted in compliance with all applicable EPA guidances, policies, and procedures and any amendments thereto.

V. EPA's FINDINGS OF FACT AND CONCLUSIONS OF LAW

8. The Site comprises approximately 15 acres located at 139 North Route 73, Winslow Township, Camden County, New Jersey and is identified as Block 4004, Lot 6 on the Winslow Township Tax Assessor Map. The Site also includes any area in the vicinity of the Site to which hazardous substances have migrated or threaten to migrate and all areas in close proximity to the

contamination necessary for the implementation of the response actions required by the Consent Order.

9. Located in a semi-rural area, approximately 8,000 people live within a three mile radius of the Site. Jerome Lightman owns the Site, and Lightman Drum Company, Inc. ("LDC") currently operates a drum brokerage business there. A small office building, several sheds and a drum storage area are situated on the Site, with the remainder of the Site consisting of vacant land.

10. In the 1970s LDC operated an industrial waste hauling and drum reclamation business. It moved its operations to the Site in spring 1974, storing empty drums and drums filled with wastes there.

11. In 1974 an inspector for the New Jersey Department of Environmental Protection ("NJDEP") inspected the Site and ascertained that LDC disposed of chemical material from drums into the two excavations. The inspector detected a strong solvent and lacquer odor emanating from the excavations. During further inspections from 1974 to 1982, NJDEP observed evidence of chemical spills at the Site. Inspectors also noted numerous drums containing chemicals, which were allowed to run onto the ground, and many drums leaking wastes onto the ground.

12. In 1977 NJDEP determined that LDC installed two 5000-gallon underground storage tanks (USTs) in order to store waste materials, including waste paint pigment, thinner and solvents.

13. In 1978 NJDEP issued a one-year Temporary Operating Authorization to LDC allowing it to store wastes at the Site, including, but not limited to, chemical powders, pesticides, waste oil, oil sledges, paint, pigment, thinner, ink residues, ketone, alcohols, and mixed solvents. NJDEP did not renew the Temporary Operating Authorization.

14. In 1984 an NJDEP inspector observed that the USTs had been excavated. The inspector noted stains on the exterior of one UST, holes in that UST and stains on the ground immediately beneath the UST holes and the UST stains, indicating that the UST had leaked while underground.

15. In 1984, a fire burned 200 plastic drum liners that were stored at the Site. An investigator for the Camden County Fire Marshal's office ascertained that some of the liners contained residues of hazardous substances, which were released

onto the ground. The hazardous substances included hydrofluoric acid and phosphoric acid.

16. In 1987, NJDEP sampled the soil at the Site and the sampling detected hazardous substances, including but not limited to, tetrachloroethene, 1,2,4 trichlorobenzene, 1,2 dichlorobenzene, and ethyl benzene. The sampling also detected pesticides, PCBs and inorganic compounds. Based on the results of the sampling, NJDEP determined that LDC had discharged pollutants into the waters or land of New Jersey, in violation of the Water Pollution Control Act, New Jersey Statutes Annotated 58:10A-1 et seq.

17. NJDEP issued an Administrative Order ("New Jersey Order") to LDC in 1988 requiring it to conduct a remedial investigation and feasibility study at the Site. The soil investigation conducted pursuant to the New Jersey Order revealed that the surface and subsurface soil contained numerous hazardous substances, including volatile organic compounds such as trichloroethene, tetrachloroethene, toluene, benzene, ethylbenzene, methylene chloride, chloroform and xylene; semivolatile organic chemicals such as BIS(2-ethylhexyl) phthalate, Di-n-butyl phthalate, and 1,2-declare-benzene; and inorganic chemicals, including arsenic, lead and chromium. The pesticides alpha and gamma chlordane, dieldrin, and beta-B.C.. were also detected in the soil.

18. A groundwater investigation conducted pursuant to the New Jersey Order revealed that the groundwater underlying the Site contained hazardous substances, including volatile organic chemicals such as benzene, trichloroethene, tetrachloroethene, toluene, chloroform, and methylene chloride; and semivolatile organic chemicals such as bis(2-ethylhexyl)phthalate, Di-n-butyl phthalate, 1,2-dichlorobenzene and naphthalene.

19. Some of the hazardous substances in the groundwater underlying the Site, for example, tetrachloroethene, chloroform, and methylene chloride, are known carcinogens in animals and are probable or suspected carcinogens in humans. One of the hazardous substances in the groundwater underlying the Site, benzene, is a known human carcinogen. Some of the hazardous substances detected at the Site are known to cause acute and/or chronic health effects, other than cancer, in humans who may be exposed to such chemicals.

20. Many of the hazardous substances in the groundwater exist at levels which exceed the applicable Maximum Contaminant Levels ("MCLs") which have been established for such substances.

MCLs are enforceable drinking water standards which have been established for certain substances under the Federal Safe Drinking Water Act and/or the New Jersey Safe Drinking Water Act.

21. At the request of NJDEP, EPA performed a Hazard Ranking System ("HRS") Evaluation of the Site in May 1999 pursuant to 40 CFR Part 300, Appendix A. The purpose of the HRS Evaluation was to assess the potential score of the releases at the Site to determine its eligibility for placement on the National Priorities List ("NPL") set forth at 40 CFR Part 300, Appendix B.

22. Based on the results of the HRS Evaluation, EPA placed the Site on the NPL by publication in the Federal Register on October 22, 1999, 48 Fed. Reg. 40658.

23. This Consent Order addresses the RI/FS to investigate the extent of contamination in the air, soil, surface water, sediment, groundwater and building interiors at the Site. The Respondents to this Consent Order are listed in Attachment I.

24. The Site is a "facility" as defined in section 101(9) of CERCLA, 42 U.S.C. §9601(9).

25. Wastes and constituents thereof at the Site, sent to the Site, disposed of at the Site, and/or transported to the Site identified in Paragraphs 16-18 are "Hazardous Substances" as defined in section 101(14) of CERCLA, 42 U.S.C. §9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under section 104(a)(1) of CERCLA.

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

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

28. Each Respondent is a responsible party under sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§9604, 9607 and 9622.

29. The actions required by this Consent Order are necessary to protect the public health or 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).

VI. NOTICE

30. By providing a copy of this Consent Order to the State of New Jersey ("State"), EPA is notifying the State that this Consent Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Consent Order.

VII. WORK TO BE PERFORMED

31. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. Within forty-five (45) days of the effective date of this Consent Order, Respondents shall provide written notice to EPA of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories, to be used in carrying out such work. The qualifications of the persons undertaking the work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. The Consent Order is contingent upon Respondents' demonstration to EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in the Consent Order. If EPA disapproves, in writing, of any person(s)' technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacement(s) within twenty-one (21) days of the written notice. If EPA subsequently disapproves of the replacement(s), EPA reserves the right to terminate this Consent Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing of any changes in or additions to the personnel used to carry out such work, providing their names, titles, and qualifications. EPA shall have the same right to approve changes in and additions to personnel as it has hereunder regarding the initial notification.

32. Respondents shall conduct the work required hereunder in accordance with CERCLA, the NCP, and guidance which EPA identifies to Respondents, including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive No. 9355.3-01) (hereinafter, the "RI/FS Guidance"), "Guidance for Data Useability in Risk Assessment" (OSWER Directive No. 9285.7-05), and guidances referenced therein, as they may be amended or modified by EPA. The activities and deliverables identified

below shall be developed as provided for in the RI/FS Work Plan and shall be submitted to EPA. All work performed under this Consent Order shall be in accordance with the schedules herein, and in full accordance with the schedules, standards, specifications, and other requirements of the Statement of Work ("SOW") (attached as Attachment II), RI/FS Work Plan, and Quality Assurance/Quality Control Plan ("QAPP") as initially approved by EPA, and as they may be amended or modified by EPA prior to completion of the RI/FS. For the purposes of this Consent Order, day means calendar day unless otherwise noted in this Consent Order.

33. Task I: Work Plan. Within 105 days of the effective date of this Consent Order Respondents shall submit a detailed Work Plan for the RI/FS to EPA for review and approval. The RI/FS Work Plan shall provide for the collection of all data needed for performing the RI/FS. The RI/FS Work Plan shall comply with CERCLA and relevant EPA guidance, including the RI/FS Guidance, "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05) and guidances referenced therein, as they may be amended or modified by EPA.

The RI/FS Work Plan shall include plans and schedules for implementation of RI/FS tasks, and shall include, but not be limited to, the following items:

A. A QAPP, which shall be prepared consistent with "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations" (EPA QA/R-5, October 1998), and which shall include the following elements:

1. A detailed description of the sampling, analysis, and monitoring that shall be performed during the RI/FS phase, consistent with the attached Statement of Work and this Consent Order. At a minimum, the QAPP shall provide the following:

a. A plan to investigate the extent of and characterize groundwater contamination at the Site;

b. A plan to investigate the extent of surface water and sediment contamination at the Site;

c. A plan to investigate the extent of soil contamination at the Site.

d. A plan to investigate the extent of air contamination at the Site, if deemed necessary by EPA.

e. A plan to investigate the extent of contamination in building interiors at the Site.

2. All sampling, analysis, data assessment, and monitoring shall be performed in accordance with the "Region II CERCLA Quality Assurance Manual," Revision 1, EPA Region 2, dated October 1989, and any updates thereto, or an alternate EPA-approved test method, and the guidelines set forth in this Consent Order. All testing methods and procedures shall be fully documented and referenced to established methods or standards.

3. The "QAPP" shall also specifically include the following items:

a. An explanation of the way(s) the sampling, analysis, testing, and monitoring will produce data for the RI/FS phase;

b. A detailed description of the sampling, analysis, and testing to be performed, including sampling methods, analytical and testing methods, sampling locations and frequency of sampling;

c. A map depicting sampling locations; and

d. A schedule for performance of specific tasks.

4. In the event that additional sampling locations, testing, and analyses are utilized or required, Respondents shall submit to EPA an addendum to the QAPP for approval by EPA.

5. The QAPP shall address the following elements:

Project Management

a. Title and Approval Sheet
b. Table of Contents and Document Control Format
c. Distribution List
d. Project/Task Organization and Schedule

e. Problem Definition/Background
f. Project/Task Description
g. Quality Objectives and Criteria for Measurement Data
h. Special Training Requirements/Certification
i. Documentation and Records

Measurement/Data Acquisition

j. Sampling Process Design
k. Sampling Methods Requirements
l. Sample Handling and Custody Requirements
m. Analytical Methods Requirements
n. Quality Control Requirements
o. Instrument/Equipment Testing, Inspection, and Maintenance Requirements
p. Instrument Calibration and Frequency
q. Inspection/Acceptance Requirements for Supplies and Consumables
r. Data Acquisition Requirements (Non-Direct Measurements)
s. Data Management

Assessment/Oversight

t. Assessments and Response Actions
u. Reports to Management

Data Validation and Usability

v. Data Review, Validation, and Verification Requirements
w. Validation and Verification Methods
x. Reconciliation with Data Quality Objectives

6. In order to provide quality assurance and maintain quality control with respect to all samples to be collected, Respondents shall ensure the following:

a. Quality assurance and chain-of-custody procedures shall be performed in accordance with standard EPA protocol and guidance, including the "Region II CERCLA Quality Assurance Manual," Revision 1, EPA Region 2, dated October 1989, and any updates thereto, and the guidelines set forth in this Consent Order.

b. The laboratory to be used must be specified. If the laboratory participates in the Contract Laboratory Program ("CLP") for the analysis to be performed for this investigation, then project specific Performance Evaluation ("PE") samples will not be required, as CLP laboratories run EPA PEs on a quarterly basis. If the proposed laboratory does not participate in the CLP for the analyses required, PE samples must be analyzed to demonstrate the capability to conduct the required analysis prior to being approved for use. Once a non-CLP laboratory has been selected, the laboratory should submit a copy of their Laboratory Quality Assurance Program Plan ("LQAPP") to EPA for review and approval.

For any analytical work performed, including that done in a fixed laboratory, in a mobile laboratory, or in on-site screening analyses, Respondents must submit to EPA a "Non-CLP Superfund Analytical Services Tracking System" form for each laboratory utilized during a sampling event, within thirty (30) days after acceptance of the analytical results. Upon completion, such documents shall be submitted to the EPA Project Coordinator, with a copy of the form and transmittal letter to:

Regional Sample Control Center Coordinator
USEPA Region 2
Division of Environmental Science & Assessment
2890 Woodbridge Avenue, Bldg. 209, MS-215
Edison, NJ 08837

c. The laboratory utilized for analyses of samples must perform all analyses according to accepted EPA methods as documented in the "Contract Lab Program Statement of Work for Organic Analysis, (OLM04.2)" or the latest revision, and the "Contract Lab Program Statement of Work for Inorganic Analysis, (ILM04.0)" or the latest revision, or other EPA approved methods.

d. Unless indicated otherwise in the approved QAPP, upon receipt from the laboratory, all data will be validated.

e. Submission of the validation package (checklist, report and Form Is containing the final data) to EPA, prepared in accordance with the provisions of Subparagraph g., below.

f. Assurance that all analytical data that are validated as required by the QAPP are validated according to the procedures stated in the "EPA Region II Contract Lab Program Organics Data Review and Preliminary Review (SOP #HW-6, Revision 11)," dated June 1996, or the latest revision, and the "Evaluation of Metals Data for the Contract Laboratory Program (SOP #HW-2, Revision 11)," dated January 1992 or the latest revision, or EPA-approved equivalent procedures. Region 2 Standard Operating Procedures are available at: *http://www.epa.gov/region02/smb/sops.htm*

g. Unless indicated otherwise in the QAPP, Respondents shall require deliverables equivalent to CLP data packages from the laboratory for analytical data. Upon the EPA's request, Respondents shall submit to the EPA the full documentation (including raw data) for this analytical data. EPA reserves the right to perform an independent data validation, data validation check, or qualification check on generated data.

h. Respondents shall insert a provision in their contract(s) with the laboratory utilized for analyses of samples, which will require granting access to EPA personnel and authorized representatives of the EPA for the purpose of ensuring the accuracy of laboratory results related to the Site.

B. Health and Safety Plan ("HSP"). The HSP shall conform to 29 CFR §1910.120, "OSHA Hazardous Waste Operations Standards," and the EPA guidance document, "Standard Operating Safety Guidelines" (OSWER, 1988).

C. Community Relations Plan ("CRP"). EPA will prepare a community relations plan, in accordance with EPA guidance and the NCP. Respondents shall provide information supporting EPA's community relations programs.

D. A schedule providing for the completion of Site Characterization and submission of RI and FS reports by no later than 18 months from approval of the RI/FS Work Plan.

Following approval or modification by EPA, the RI/FS Work Plan will be incorporated into this Consent Order.

34. Task II: Site Characterization. Following EPA's written approval or modification of the RI/FS Work Plan, Respondents shall implement the provisions of this Work Plan to characterize the nature, quantity, and concentrations of hazardous substances, pollutants, or contaminants emanating from the property and present outside the boundaries of the property. Respondents shall provide EPA with validated analytical data within forty-five (45) days of each sampling activity, in an electronic format (i.e., an IBM-compatible computer disk) in a form showing the location, medium and results. Within ten (10) days of completion of field activities, Respondents shall notify EPA in writing. Within forty-five (45) days of completion of validation of the final set of field data, Respondents shall submit to EPA a Site Characterization Summary Report. Within fourteen (14) days after Respondents' submittal of the Site Characterization Summary Report, Respondents shall make a presentation to EPA and the State on the findings of the Site Characterization Summary Report and discuss EPA's and the State's preliminary comments and concerns associated with the Site Characterization Summary Report. If EPA disapproves of or requires revisions to the Site Characterization Summary Report, in whole or in part, Respondents shall amend and submit to EPA a revised Site Characterization Summary Report which is responsive to the directions in all EPA comments within twenty-one (21) days of receipt of EPA's comments.

35. Task III: Identification of Candidate Technologies Memorandum. An Identification of Candidate Technologies Memorandum shall be submitted within forty-five (45) days of Respondents' receipt of the last set of validated analytical results. The candidate technologies identified shall include innovative treatment technologies (as defined in the RI/FS Guidance) where appropriate. If EPA disapproves of or requires revisions to the technical memorandum identifying candidate

technologies, in whole or in part, Respondents shall amend and submit to EPA a revised technical memorandum, identifying candidate technologies which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

36. Task IV: Treatability Studies. At EPA's request, Respondents shall conduct treatability studies, except where Respondents can demonstrate to EPA's satisfaction that they are not needed. Respondents shall conduct treatability studies in accordance with EPA guidance, including, but not limited to, "Guidance on Oversite of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Volumes 1 and 2" (July 1991) (EPA/540/G-91/010a) and (EPA/540/G-91/010b). 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. If requested by EPA to undertake treatability studies, Respondents shall provide EPA with the following deliverables:

A. Treatability Testing Statement of Work. If EPA determines that treatability testing is required and so notifies Respondents, Respondents shall, within twenty-one (21) days thereafter, submit to EPA a Treatability Testing Statement of Work.

B. Treatability Testing Work Plan. Within thirty (30) days EPA's approval of the Treatability Testing Statement of Work, Respondents shall submit a Treatability Testing Work Plan, including a schedule. Upon its approval by EPA, said schedule shall be deemed incorporated into this Consent Order by reference. If EPA disapproves of or requires revisions to the Treatability Testing Work Plan, in whole or in part, Respondents shall amend and submit to EPA a revised Treatability Testing Work Plan which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

C. Treatability Study QAPP and HSP. Within thirty (30) days of the identification by EPA of the need for a separate or revised QAPP and HSP, Respondents shall submit to EPA a revised QAPP and/or HSP, as appropriate. If EPA disapproves of or requires revisions to the revised QAPP and/or HSP in whole or in part, Respondents shall amend and submit to EPA a revised Treatability Study QAPP, and/or HSP which is responsive to the directions in all EPA comments,

within twenty-one (21) days of receiving EPA's comments.

D. Treatability Study Evaluation Report. Within thirty (30) days of completion of any treatability testing, sampling, and analysis, Respondents shall submit a Treatability Study Evaluation Report to EPA. If EPA disapproves of or requires revisions to the Treatability Study Evaluation Report, in whole or in part, Respondents shall amend and submit to EPA a revised Treatability Study Evaluation Report which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

37. Task V: Baseline Risk Assessment. Respondents shall conduct a baseline risk assessment which identifies and characterizes the actual and potential risks that the Site poses to human health and the environment. The baseline risk assessment shall be incorporated by the Respondents into the RI. Respondents shall conduct this risk assessment in accordance with EPA guidance set forth in the documents entitled: The Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (EPA/540/1-89/002, December, 1989) and Volume 2, Environmental Evaluation Manual (EPA/540/1-89/001, April, 1988; The Superfund Exposure Assessment Manual (EPA/540/1-88/001, April, 1988); the Exposure Factors Handbook (EPA/600/8-89/043, March, 1989); Guidance for Data Usability in Risk Assessment (EPA/540/G-90/008, October, 1990) and Risk Assessment Guidance for Superfund, Volume I, Supplemental Guidance: Standard Default Exposure Factors, Interim Final (Office of Emergency and Remedial Response, U.S. EPA, 1991); and Dermal Exposure Assessment: Principles and Application (Office of Research and Development, EPA/600/8-91/011B, January, 1992) and other guidance listed in Appendix I of Attachment II. The major components of the baseline risk assessment shall include contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization. During the risk assessment, Respondents shall provide EPA with the following deliverables:

A. Human Health Risk Assessment.

1. Actual and potential cancer risks and non-cancer hazards to human health shall be identified and characterized in accordance with CERCLA, the NCP, and EPA guidances including, but not limited

to, the RI/FS Guidance, "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive No. 9355.7-04) and the definitions and provisions of "Risk Assessment Guidance for Superfund (RAGS)," Volume 1, "Human Health Evaluation Manual," (December 1989) (EPA/540/1-89/002). Other EPA guidance to be used in the development of risk assessments is provided in the SOW, Appendix I.

2. Representative contaminants and associated concentrations in groundwater, soil, sediment, and surface water for the human health risk assessment shall be determined utilizing all currently available media-specific analytical data generated during the RI/FS.

3. Memorandum on Exposure Scenarios and Assumptions. Within 60 days after approval of the RI/FS Work Plan, or if revisions are required based on EPA's comments, within 60 days of submitting the revised RI/FS Work Plan, Respondents shall submit a memorandum describing the exposure scenarios and assumptions, taking into account for the baseline human health risk assessment the present and reasonably anticipated future use of the Site. The memorandum should include appropriate text describing the conceptual site model and summarizing the conceptual site model exposure routes of concern for the site in RAGS Part D Table 1 format. The summary of exposure variables should be discussed and the assumptions presented in RAGS Part D Table 4 format. If EPA disapproves of or requires revisions to the memorandum, in whole or in part, Respondents shall amend and submit to EPA a revised memorandum which is responsive to the directions in all EPA comments, within 21 days of receiving EPA's comments.

4. A List of Hazardous Substances Present and Proposed Contaminants of Concern shall be included with the Site Characterization Summary Report. The Site Characterization Summary Report shall list the hazardous substances present in groundwater, in soils, in sediment, in surface water and the contaminants of potential concern ("COPC") as described in the RAGS. The data on contaminants of potential concern should be

presented in RAGS Part D Table 2 (USEPA, 1998) format. The media specific exposure point concentrations should be provided in RAGS Part D Table 3 format. If EPA disapproves of or requires revisions to the Site Characterization Summary Report, in whole or in part, Respondents shall amend and submit to EPA a revised Site Characterization Summary Report which is responsive to the directions in all of EPA's written comments within twenty-one(21) days of receipt of EPA's comments.

5. Toxicological and Epidemiological Studies Memorandum. Within 60 days of submitting the Site Characterization Summary Report, Respondents shall submit a list of the toxicological values i.e., Cancer Slope Factors, Reference Doses, Reference Concentrations, Weight of Evidence, and adjusted dermal toxicological factors where appropriate, for the chemicals of concern. The toxicological data should be presented in RAGS Part D Tables 5 and 6 format. The sources of data in order of priority are: the Integrated Risk Information System (IRIS); 1997 Health Effects Assessment Summary Tables (HEAST); and contact with the National Center for Environmental Assessment in EPA's Office of Research and Development in Cincinnati, Ohio. Appropriate chemical-specific references to these toxicity sources should be included in the Tables. If EPA disapproves of or requires revisions to the Memorandum, in whole or in part, Respondents shall amend and submit to EPA a revised memorandum which is responsive to the directions in all EPA comments, within 21 days of receiving EPA's comments.

6. Baseline Human Health Risk Assessment Section of the RI Report. Within 60 days of EPA approval or modification of the memoranda on toxicological and epidemiological studies, Respondents shall submit to EPA a baseline human health risk assessment section for inclusion in the RI report. The submittal shall include RAGS Part D Tables 7 through 10 summarizing the calculated cancer risks and non-cancer hazards and appropriate text in the risk characterization section of the report. If EPA disapproves of or requires revisions to the section, in whole or in part, which disapproval or

required revision shall be provided in writing with reasons for the disapproval or directions for revisions to make the submittal apposable, Respondents shall amend and submit to EPA a revised report which is responsive to the directions in all EPA comments, within 30 days of receiving EPA's comments. The approved baseline risk assessment section shall be incorporated into the RI report.

B. Ecological Risk Assessment. Actual and potential ecological risks shall be identified and characterized in accordance with CERCLA, the NCP, and EPA guidances including, but not limited to, "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments," (1997) (EPA/540-R-97-006). Within 60 days of EPA approval or modification of the memoranda on toxicological and epidemiological studies, Respondents shall submit to EPA a baseline ecological risk assessment section for inclusion in the RI report. If EPA disapproves of or requires revisions to the updated ecological assessment, in whole or in part, Respondents shall amend and submit to EPA a revised, updated ecological assessment which is responsive to the directions in all EPA comments, within 30 days of receiving EPA's comments.

38. Task VI: Presentation on Preliminary Findings of the RI, Development of Remedial Action Objectives and Development and Screening of Remedial Alternatives. Respondents shall develop remedial action objectives and develop and screen remedial alternatives. Within thirty (30) days after EPA's approval of Respondents' Treatability Study Evaluation Report, if treatability studies are undertaken, or within 30 days of submission of the Draft RI report/risk assessment, whichever is later, Respondents shall make a presentation to EPA and the State during which the Respondents shall summarize the preliminary findings of the RI, identify the remedial action objectives, and summarize the development and preliminary screening of remedial alternatives. Respondents shall address any comments made by EPA during this presentation in the appropriate document.

39. Task VII: Remedial Investigation Report. Within forty-five (45) days of the Task VI Presentation to EPA, Respondents shall submit to EPA a draft RI report consistent with the RI/FS Work Plan and the RI/FS Guidance. The RI report shall

be prepared in accordance with the "Region II RI Report Guidelines." If EPA disapproves of or requires revisions to the RI Report, in whole or in part, Respondents shall amend and submit to EPA a revised RI Report which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

40. Task VIII: Feasibility Study Report. Within sixty (60) days of the Task VI Presentation to EPA, Respondents shall submit a draft FS Report. Respondents shall refer to the RI/FS Work Plan and RI/FS Guidance for report content and format. Within twenty-one (21) days of submitting the draft FS Report, Respondents shall make a presentation to EPA and the State at which Respondents shall summarize the findings of the draft FS Report and discuss EPA's and the State's preliminary comments and concerns associated with the draft FS Report. If EPA disapproves of or requires revisions to the draft FS Report, in whole or in part, Respondents shall amend and submit to EPA a revised FS Report which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's written comments.

41. EPA reserves the right to comment on, modify and direct changes for all deliverables required pursuant to this Consent Order. At EPA's sole discretion, Respondents must fully correct all deficiencies and incorporate and integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables.

42. Respondents shall not proceed further with any subsequent activities or tasks until receiving EPA approval for the following deliverables: RI/FS Work Plan, QAPP, Baseline Risk Assessment, and Treatability Testing Work Plan (if treatability study work is required to be undertaken). While awaiting EPA approval on these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.

43. Upon receipt of the draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

44. For all remaining deliverables not enumerated above in Paragraph 42, Respondents shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or

permanently, on any task, activity or deliverable at any point during the RI/FS process.

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

46. In the event that EPA takes over some of the tasks, but not the preparation of the RI and FS Reports, Respondents shall incorporate and integrate information supplied by EPA into the final RI and FS Reports.

47. Neither failure of EPA to expressly approve or disapprove of Respondents' submission within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables that are in accordance with CERCLA, NCP and EPA guidance, including but not limited to, RI/FS guidance.

48. Respondents shall assure that all work performed, samples taken and analysis conducted conform to the requirements of the RI/FS Work Plan, the EPA-approved QAPP and guidance identified therein. Respondents shall assure that field personnel used by respondents are properly trained in the use of field equipment and in chain of custody procedures.

49. Respondents shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

A. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected

schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondents shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

B. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the RI/FS. Respondents shall provide all relevant information, including information under the categories noted in Subparagraph A above, on the off-site shipments, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

VIII. NOTIFICATION AND REPORTING REQUIREMENTS

50. All reports and other documents submitted by Respondents to EPA (other than the monthly progress reports referred to below) which purport to document Respondents' compliance with the terms of this Consent Order shall be signed by a responsible corporate official(s) of one or more of the Respondents or by the Project Manager who has been delegated this responsibility by the Respondents and whose qualifications have been found by EPA to be acceptable pursuant to Paragraph 61 of this Consent Order. Notwithstanding such a delegation of responsibility, Respondents shall remain liable for the proper performance of the work required by this Consent Order. For purposes of this Consent Order, a responsible corporate official is an official who is in charge of a principal business function.

51. Until the termination of this Consent Order, Respondents shall prepare and provide EPA with written monthly progress reports which: (1) describe the actions which have been taken toward achieving compliance with this Consent Order during the previous month; (2) include all results of sampling, tests, modeling and all other data (including raw data) received or generated by or on behalf of Respondents during the previous month in the implementation of the work required hereunder; (3) describe all actions, data and plans which are scheduled for the next two months and provide other information relating to the progress of work as is customary in the industry; (4) include information regarding percentage of completion, all delays encountered or anticipated that may affect the future schedule for completion of the work required hereunder, and a description of all efforts made to mitigate those delays or anticipated delays. These progress reports must be submitted to EPA by

Respondents by the fifteenth (15th) day of every month following the effective date of this Consent Order.

52. Upon the occurrence of any event during performance of the work required hereunder which event, pursuant to Section 103 of CERCLA requires reporting to the National Response Center, Respondents shall, within twenty-four (24) hours, orally notify the EPA Project Coordinator (or, in the event of the unavailability of the EPA Project Coordinator, the Chief of the Southern New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II), in addition to the reporting required by Section 103. Within twenty (20) days of the onset of such an event, Respondents shall furnish EPA with a written report setting forth the events which occurred and the measures taken, and to be taken, in response thereto.

53. Unless otherwise specified by EPA, all work plans, reports, notices and other documents required to be submitted to EPA under this Consent Order shall be sent by certified mail, return receipt requested, to the following addressees:

7 copies: (including 1 unbound copy)	New Jersey Remediation Branch Emergency and Remedial Response Division U.S. Environmental Protection Agency, Region II 290 Broadway, 19th Floor New York, New York 10007-1866 ATTN: Lightman Drum Company Site Remedial Project Manager
1 copy:	New Jersey Superfund Branch Office of Regional Counsel U.S. Environmental Protection Agency, Region II 290 Broadway, 17th Floor New York, New York 10007-1866 ATTN: Lightman Drum Company Site Attorney
4 copies:	ATTN: Lightman Drum Company Site Manager Bureau of Federal Case Management Department of Environmental Protection 401 East State Street P.O. Box 028 Trenton, New Jersey 08625

54. Respondents shall give EPA at least twenty-one (21) days advance notice of all field work or field activities to be performed by Respondents pursuant to this Consent Order.

IX. MODIFICATION OF THE WORK PLAN

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

56. In the event of conditions posing an immediate threat to human health or welfare or the environment, Respondents shall notify EPA and the State immediately. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA Project Coordinator (or, in the event of the unavailability of the EPA Project Coordinator, the Chief of the Southern New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II) by telephone within twenty-four (24) hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, EPA shall modify or amend the RI/FS Work Plan in writing accordingly. Respondents shall perform the RI/FS Work Plan as modified or amended.

57. EPA may determine that in addition to tasks defined in the initially approved RI/FS Work Plan, other additional work may be necessary to accomplish the objectives of this RI/FS. EPA may require that the Respondents perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. Respondents shall confirm their willingness to perform the additional work in writing to EPA within ten (10) days of receipt of the EPA request or Respondents shall invoke dispute resolution. Subject to EPA resolution of any dispute, Respondents shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. EPA reserves the right to conduct the work

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

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

58. EPA retains the responsibility for the release to the public of the RI and FS reports. EPA retains responsibility for the preparation and release to the public of the Proposed Plan and Record of Decision in accordance with CERCLA and the NCP.

59. EPA shall provide Respondents with the final RI and FS Reports (to the extent that Respondents do not already have these reports), Proposed Plan and Record of Decision.

60. EPA will assemble the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondents shall provide copies of plans, task memoranda including documentation of field modifications, recommendations for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action. Respondents can request that additional documents be placed in the Administrative Record. Copies of these documents will be provided by the Respondent.

XI. PROJECT COORDINATORS, OTHER PERSONNEL

61. EPA has designated the following individual as its Project Coordinator with respect to the Site:

Michelle Granger, Remedial Project Manager
New Jersey Remediation Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway, 19th Floor
New York, New York 10007-1866
(212) 637-4975

No later than forty-five (45) days after the effective date of this Consent Order, Respondents shall select their own Project Coordinator and shall notify EPA in writing of the name, address,

qualifications, job title and telephone number of that Project Coordinator. He or she shall have technical expertise sufficient to adequately oversee all aspects of the work contemplated by this Consent Order. Respondents and EPA's Project Coordinators shall be responsible for overseeing the implementation of this Consent Order and shall coordinate communications between EPA and Respondents. EPA and the Respondents may change their respective Project Coordinator. Such a change shall be accomplished by notifying the other party in writing at least ten (10) days prior to the change where possible, and concurrently with the change or as soon thereafter as possible in the event that advance notification is not possible. Within two (2) days of the effective date of this Consent Order, the Respondents shall notify EPA in writing, of the name, address, job title, and telephone number of a Primary Contact. The Primary Contact shall coordinate communications between the Respondents and the EPA Project Coordinator until selection of the Project Coordinator.

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

63. All activities required of Respondents under the terms of this Consent Order shall be performed only by qualified persons possessing all necessary permits, licenses, and other authorizations required by applicable law.

XII. OVERSIGHT

64. During the implementation of the requirements of this Consent Order, Respondents and their contractors and subcontractors shall be available for such conferences and inspections with EPA as EPA may determine are necessary for EPA to adequately oversee the work being carried out and/or to be carried out.

65. Respondents and their employees, agents contractors and consultants shall cooperate with EPA in its efforts to oversee Respondents' implementation of this Consent Order.

XIII. SAMPLING, ACCESS AND DATA AVAILABILITY/ADMISSIBILITY

66. If any area to which access is necessary to perform work under this Consent Order is owned in whole or in part by parties other than those bound by this Consent Order, Respondents shall obtain, or use their best efforts to obtain, access agreements from the present owner(s) within sixty (60) days of the effective date of this Consent Order. Such agreements shall provide access for EPA, its contractors and oversight officials, NJDEP and its contractors, and the Respondents or their authorized representatives, and agreements for such access shall specify that Respondents are not EPA's representatives with respect to liability associated with Site activities. Copies of such agreements shall be provided to EPA upon request prior to Respondents' initiation of field activities. Respondents' best efforts shall include providing reasonable compensation to any property owner, provided, however, that best efforts shall not include payment of compensation to the owner of the parcel identified as Block 4004, Lot 6 on the Tax Assessor Map of Winslow Township, Camden County, New Jersey. If access agreements are not obtained within the time referenced above, Respondents shall immediately notify EPA of their failure to obtain access. EPA may, in its sole discretion, obtain access for Respondents, perform those tasks or activities with EPA contractors, or terminate this Consent Order in the event that Respondents cannot obtain access agreements. In the event that EPA performs those tasks or activities with EPA contractors and does not terminate this Consent Order, Respondents shall reimburse EPA for all costs incurred in performing such activities and shall perform all other activities not requiring access to the given property. Respondents additionally shall integrate the results of any such tasks undertaken by EPA into their reports and deliverables. Furthermore, Respondents agree to indemnify the United States as specified in Paragraph 108 of this Consent Order. Respondents also shall reimburse EPA pursuant to Paragraph 92 for all costs and attorney fees incurred by the United States in its efforts to obtain access for Respondents.

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

representatives deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by the Respondents. Respondents agree to provide EPA and its designated representatives with access to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Consent Order. All parties with access to the Site under this paragraph shall comply will all approved health and safety plans.

68. All data, records, photographs and other information created, maintained or received by Respondents or their agents, contractors or consultants in connection with implementation of the work under this Consent Order, including but not limited to contractual documents, quality assurance memoranda, raw data, field notes, laboratory analytical reports, invoices, receipts, work orders and disposal records, shall, without delay, be made available to EPA on request. EPA shall be permitted to copy all such documents and other items.

69. Upon request by EPA, or its designated representatives, Respondents shall provide EPA or its designated representatives with duplicate and/or split samples of any material sampled in connection with the implementation of this Consent Order, or allow EPA or its designated representatives to take such duplicate or split samples.

70. The Respondents may assert a claim of business confidentiality under 40 C.F.R. §2.203, covering part or all of the information submitted to EPA pursuant to the terms of this Consent Order, provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. §9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. §2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the State of New Jersey without further notice to the Respondents. Respondents agree not to assert confidentiality claims with respect to any data related to site conditions, sampling, or monitoring.

71. Notwithstanding any other provision of this Consent Order, EPA hereby retains all of its information gathering, access and inspection authority under CERCLA, the Solid Waste Disposal Act, 42 U.S.C. §§6901-6991, and any other applicable statute or regulation.

72. For the purpose only of this Consent Order, Respondents waive any objections as to the validity of any data gathered, generated, or evaluated by EPA, the State or Respondents in the performance or oversight of the work that has been verified according to the Quality Assurance/Quality Control ("QA/QC") procedures required pursuant to this Consent Order. If Respondents object to any other data relating to the RI/FS and which is submitted in a monthly progress report in accordance with Paragraph 51 herein, Respondents shall submit to EPA a report that identifies and explains their objections, describes their views regarding the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) days of the monthly progress report containing the data.

XIV. OTHER APPLICABLE LAWS

73. Respondents shall comply with all laws that are applicable when performing the RI/FS. No local, state, or federal permit shall be required for any portion of the work, including studies, required hereunder which is conducted entirely on-Site, where such work is carried out in compliance with Section 121 of CERCLA, 42 U.S.C. §9621; however, Respondents must comply with the substantive requirements that would otherwise be included in such permits. For any work performed pursuant to this Consent Order, which is not "on-site", as defined in Sections 300.5 and 300.400(e) of the NCP, Respondents shall obtain all permits necessary under applicable laws and shall submit timely applications and requests for any such permits. This Consent Order is not, nor shall it act as, a permit issued pursuant to any federal or state statute or regulation.

XV. RECORD PRESERVATION

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

XVI. COMMUNITY RELATIONS

75. Respondents shall cooperate with EPA in providing information relating to the work required hereunder to the public. To the extent requested by EPA, Respondents shall participate in the preparation of all appropriate information disseminated to the public and make presentations at, and participate in, public meetings which may be held or sponsored by EPA to explain activities at or concerning the Site.

XVII. DISPUTE RESOLUTION

76. Any significant dispute concerning activities or deliverables required under this Consent Order shall be resolved as follows: if the Respondents object to an EPA notice of disapproval or determination made pursuant to this Consent Order, and if the given dispute is one for which dispute resolution has been expressly provided for herein, Respondents shall notify EPA's Project Coordinator, in writing, of their objections within fourteen (14) days of receipt of the disapproval notice or determination. Respondents' written objections shall define the dispute, state the basis of Respondents' objections, and be sent to EPA by certified mail, return receipt requested. EPA and the Respondents shall then have an additional twenty-one (21) days to reach agreement. If an agreement is not reached within the twenty-one (21) days, Respondents may, within fourteen (14) days of the conclusion of the aforementioned 21 day period, request a determination by the Chief of the New Jersey Remediation Branch of the Emergency and Remedial Response Division, EPA Region II (hereinafter, the "Chief"). Such a request by Respondents shall be made in writing. The Chief's determination is EPA's final decision. Respondents shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondents agree with the decision. If Respondents do not agree to perform or do not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from the Respondents of the costs of that work, to seek enforcement of the decision, to seek stipulated penalties, and/or to seek any other appropriate relief.

77. Respondents are not relieved of their obligations to perform and conduct activities and submit deliverables on the schedules which are approved by EPA and applicable to the work required pursuant to this Consent Order, while a matter is pending in dispute resolution. The invocation of dispute resolution does not stay accrual of stipulated penalties under this Consent Order.

XVIII. DELAY IN PERFORMANCE/STIPULATED PENALTIES

78. For each day that the Respondents fail to comply with any of the requirements of this Consent Order, EPA may assess, and if so, Respondents shall pay stipulated penalties in accordance with the terms below. For purposes of this paragraph, the term "fail to comply" shall include failure by the Respondents to submit an original or revised deliverable within the time limits set forth in or established pursuant to this Consent Order, failure to revise a deliverable to fully conform with EPA's comments, and submittal of an original deliverable which is of such poor quality as to not even qualify as a bona fide submission. Stipulated penalties begin to accrue on the day that performance is due or a violation occurs, and shall continue to accrue until the noncompliance is corrected, or until EPA notifies Respondents in writing that EPA is assuming responsibility for the portion of work for which penalties are accruing, whichever occurs earlier. Where a revised submission by Respondents is required by EPA, stipulated penalties shall continue to accrue until a deliverable satisfactory to EPA is produced. EPA will provide written notice of those violations for which EPA is assessing stipulated penalties; nevertheless, penalties shall accrue from the day a violation commences. Payment shall be due within thirty (30) days of receipt of a demand letter from EPA, or within 30 days of completion of dispute resolution under Section XVII (should the dispute resolution procedures be timely invoked by Respondents with respect to an EPA assessment of stipulated penalties), whichever is later.

79. Respondents shall pay interest on any unpaid balance, which shall begin to accrue at the end of the 30-day period referred to in Paragraph 78, above, at the rate established pursuant to Section 107(a) of CERCLA, 42 U.S.C. §9607(a).

80. All payments to the EPA under this Section shall indicate that the payment is for stipulated penalties, and shall be remitted via Electronic Funds Transfer ("EFT"), along with the following information, to EPA's Account with Mellon Bank, Pittsburgh, Pennsylvania, as follows:

i. Amount of Payment
ii. Title of Mellon Bank to receive the payment: EPA
iii. Account code for Mellon Bank account receiving the payment: 9108544
iv. Mellon Bank ABA Routing Number: 043000261
v. Name of Party making payment
vi. EPA Index Number: CERCLA-02-2000-2034

vii. Site/Spill Identifier Number: 02MS

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for stipulated penalties, the name of the Site, the case Index number, and the name and address of the party making payment to the United States as specified in Section VIII (Notification and Reporting Requirements) and to:

Ronald Gherardi, Chief
Financial Management Branch
U.S. Environmental Protection Agency, Region II
290 Broadway, 29th Floor
New York, New York 10007-1866.

81. For the following major deliverables, stipulated penalties shall accrue in the amount of $2,000 per day, per violation, for the first seven days of noncompliance; $3,000 per day, per violation, for the eighth (8th) through the fourteenth (14th) day of noncompliance; $5,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day; and $15,000 per day, per violation for all violations lasting beyond thirty (30) days:

A) An original and any revised RI/FS Work Plan;

B) An original and any revised QAPP, HSP, or CRP;

C) An original and any revised RI Report;

D) An original and any revised Treatability Testing Work Plan, if required;

E) An original and any revised Treatability Study QAPP and/or HASP, if required;

F) An original and any revised Treatability Study Evaluation Report, if required;

G) An original and any revised Baseline Risk Assessment Report;

H) An original and any revised FS Report.

82. For the following interim deliverables, stipulated penalties shall accrue in the amount of $750 per day, per violation, for the first seven (7) days of noncompliance; $1,000

per day, per violation, for the eighth (8th) through fourteenth (14th) day of noncompliance; $2,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day of noncompliance; and $5,000 per day per violation for all violations lasting beyond thirty (30) days:

A) An original and any revised Site characterization Summary Report;

B) An original and any revised Identification of Candidate Technologies Memorandum;

C) An original and any revised Treatability Testing Statement of Work;

D) An original and any revised Ecological Risk Assessment Reports;

E) Presentation regarding Findings of RI, Remedial Action Objective, and Development and Preliminary Screening of Alternatives;

F) Presentation regarding the draft FS Report;

G) Certificate of Insurance.

83. For the monthly progress reports or any other violations of this Consent Order not specified above, stipulated penalties shall accrue in the amount of $250 per day, per violation, for the first fourteen (14) days of noncompliance; and $750 per day, per violation for all violations lasting beyond fourteen (14) days.

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

85. In the event that EPA requires that corrections to an interim deliverable be reflected in the next deliverable, rather than requiring that the interim deliverable be resubmitted, any stipulated penalties which accrue for that interim deliverable shall cease to accrue on the date of such decision by EPA.

86. The stipulated penalties provisions of this Consent Order do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of the Respondents' failure to comply with this Consent Order, including but not limited to conduct of all or part of the RI/FS by EPA. Payment of stipulated penalties does not alter Respondents' obligation to complete performance under this Consent Order.

XIX. FORCE MAJEURE

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

88. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Order, whether or not caused by a force majeure event, Respondents shall notify by telephone the EPA Project Coordinator or, in his or her absence, the Chief of the Southern New Jersey Remediation Section of the Emergency and Remedial Response Division, EPA Region II, within forty-eight (48) hours of when Respondents knew or should have known that the event might cause a delay. Within five (5) business days thereafter, Respondents shall provide in writing: the reasons for the delay; Respondents rationale for interpreting the circumstances as constituting a force majeure event (should that be Respondents' claim); the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Such written notice shall be accompanied by all available pertinent documentation including, but not limited to,

third-party correspondence. Respondents shall exercise best efforts to avoid or minimize any delay and any effects of a delay. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of force majeure.

89. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Consent Order that are directly affected by the force majeure event will be extended for a period of time, determined by EPA, not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

90. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or if Respondents object to the length of the extension determined by EPA pursuant to Paragraph 89, above, the issue shall be subject to the dispute resolution procedures set forth in section XVII of this Consent Order. In order to qualify for a force majeure defense, Respondents shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondents did exercise or are exercising due diligence by using their best efforts to avoid and mitigate the effects of the delay, and that Respondents complied with the requirements of Paragraph 88.

91. Should Respondents carry the burden set forth in Paragraph 90, the delay at issue shall not be deemed a violation of the affected obligation of this Consent Order.

XX. REIMBURSEMENT

92. Respondents hereby agree to reimburse EPA for all response costs, including oversight costs, incurred by EPA with respect to the RI/FS. EPA will periodically send billings to Respondents for the costs incurred by EPA. Those billings will be accompanied by a printout of cost data in EPA's financial management system, and by a calculation of EPA's indirect costs. EPA's costs may include, but are not limited to, costs incurred by EPA in overseeing Respondents' implementation of the requirements of this Consent Order and activities performed by EPA as part of the RI/FS and community relations, including any costs incurred while obtaining access. Such costs will include both direct and indirect costs, including, but not limited to,

time and travel costs of EPA personnel and associated indirect costs, contractor costs, cooperative agreement costs, costs of compliance monitoring, including the collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that may arise as a result of this Consent Order, review and approval or disapproval of reports, and costs of redoing any of Respondents' tasks.

93. Respondent(s) shall, within 30 days of receipt of each such billing, remit the amount of those costs via EFT, along with the following information, to EPA's Account with Mellon Bank, Pittsburgh, Pennsylvania, as follows:

i. Amount of Payment
ii. Title of Mellon Bank to receive the payment: EPA
iii. Account code for Mellon Bank account receiving the payment: 9108544
iv. Mellon Bank ABA Routing Number: 043000261
v. Name of Party making payment
vi. EPA Index Number: CERCLA-02-2000-2034
vii. Site/Spill Identifier Number: 02MS

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for response costs, the name of the Site, the case Index number, and the name and address of the party making payment to the United States as specified in Section VIII (Notification and Reporting Requirements) and to:

Ronald Gherardi, Chief
Financial Management Branch
U.S. Environmental Protection Agency, Region II
290 Broadway, 29th Floor
New York, New York 10007-1866

94. Respondents may invoke the Dispute Resolution procedures of Section XVII of this Consent Order with respect to payment demands submitted to Respondents by EPA under Paragraph 92. However, Respondents agree to limit any disputes concerning such costs to mathematical errors and the inclusion of costs which are inconsistent with the NCP or are outside the scope of this Consent Order. Respondents shall identify any contested costs and the basis of their objection. All undisputed costs shall be remitted by Respondents in accordance with the schedule set forth above. Disputed costs shall be paid by Respondents into an escrow account while the dispute is pending. Respondents bear the burden of establishing an EPA mathematical error or the

inclusion of costs which are inconsistent with the NCP or are outside the scope of this Consent Order.

95. Respondents shall pay interest on any amounts overdue under Paragraph 93. Such interest shall begin to accrue on the first day that the respective payment is overdue. Interest shall accrue at the rate of interest on investments of the Hazardous Substances Superfund, in accordance with Section 107(a) of CERCLA.

XXI. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

96. EPA reserves the right to bring an action against Respondents (and/or any other responsible parties) under Section 107 of CERCLA for recovery of all response costs incurred by the United States at the Site that are not reimbursed by Respondents, including but not limited to, oversight costs, any costs incurred in the event that EPA performs the RI/FS or any part thereof and any future costs incurred by the United States in connection with response activities conducted under CERCLA at the site.

97. EPA reserves the right to bring an action against Respondents to enforce the requirements of this Consent Order, to collect stipulated penalties assessed pursuant to Section XVIII of this Consent Order, and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. §9609, or any other applicable provision of law.

98. Except as expressly provided in this Consent Order, each party reserves all rights and defenses it may have. Nothing in this Consent Order shall be construed to limit, in any way, EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

99. Following satisfaction of the requirements of this Consent Order, Respondents shall have resolved their liability to EPA for the work performed by Respondents pursuant to this Consent Order, and EPA shall deem such work to have been performed in compliance with the NCP. Further, Respondents are entitled to protection from contribution actions or claims as provided by Section 113(f)(2), 42 U.S.C. §9613(f)(2) for matters addressed in this Consent Order. The "matters addressed in this Consent Order" are the work performed by the Respondents under the requirements of the Consent Order and the response costs paid by the Respondents pursuant to Paragraph 92. Respondents are not released from liability, if any, for any response actions taken beyond the scope of this Consent Order regarding removals, other

operable units, remedial design/remedial action of this operable unit, or activities arising pursuant to Section 121(c) of CERCLA.

XXII. DISCLAIMER

100. By signing and taking actions under this Consent Order, Respondents do not admit, adopt, accept, concede, or acknowledge EPA's Findings of Fact and Conclusions of Law contained herein. Respondents reserve the right to contest such Findings of Fact and Conclusions of Law in any proceeding regarding the Site other than an action brought by the United States, including EPA, to enforce this Consent Order. Furthermore, the participation of the Respondents in this Consent Order shall not be considered an admission of liability and is not admissible in evidence against Respondents in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Except as otherwise provided in this Consent Order, Respondents do not admit liability under CERCLA or any other statute or common law and any responsibility for response costs or damages thereunder, and do not, by signing this Consent Order, waive any rights they may have. Respondents retain their rights to assert claims against other potentially responsible parties at the Site. However, the Respondents agree not to contest the validity or the terms of this Consent Order in any action brought by the United States, including EPA, to enforce its terms.

XXIII. OTHER CLAIMS

101. In entering into this Consent Order, Respondents waive any right to seek reimbursement under Section 106(b) of CERCLA for the costs of the RI/FS. Respondents also waive any right to present a claim under Sections 111 or 112 of CERCLA or under any other provision of law for costs incurred in the performance of this Consent Order. This Consent Order does not constitute any decision or preauthorization of funds under Section 111(a)(2) of CERCLA. Respondents further waive all other statutory and common law claims against EPA, including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

102. Except as expressly provided in this Consent Order, nothing in this Consent Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any "person," as that term is defined in Section 101(21) of CERCLA, not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to

the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site. Nothing herein shall constitute a finding that Respondents are the sole responsible parties with respect to the release and threatened release of hazardous substances at or from the Site.

103. Nothing in this Consent Order shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Order. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this Consent Order may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto.

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

XXIV. FINANCIAL ASSURANCE, INSURANCE, AND INDEMNIFICATION

105. Respondents shall demonstrate their ability to perform the work and any other obligations required under this Consent Order, including a margin for cost overruns, by presenting to EPA within fifteen (15) days of the effective date of this Consent Order one of the following: (1) the most recent annual report to shareholders and the most recent quarterly report filed with the U.S. Securities and Exchange Commission or (2) internal financial information to allow EPA to determine that the Respondents have sufficient assets available to perform the work required by this Consent Order. Respondents shall demonstrate financial assurance in an amount no less than $2,000,000, the estimated cost of the work required by this Consent Order. If EPA determines that the financial assurances submitted by Respondents pursuant to this paragraph are insufficient to allow EPA to determine that the Respondents have sufficient assets available to perform the work required by this Consent Order, Respondents shall, within fifteen (15) days after receipt of notice of EPA's determination, obtain and present to EPA for approval additional financial assurances meeting the requirements of this paragraph.

106. Within sixty (60) days of the effective date of the Consent Order, the Respondents shall submit to EPA a certification that Respondents or their contractor and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of the Respondents pursuant to this Consent Order. Respondents shall ensure that such insurance or indemnification is maintained for the duration of all activities required by the Consent Order.

107. For the duration of this Consent Order, Respondents shall satisfy, and shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of the Respondents, in furtherance of this Consent Order.

108. Respondents agree to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims and causes of action arising from or on account of acts or omissions of Respondents, their employees, agents, servants, receivers, successors, or assignees, or any persons acting on behalf of Respondents, including, but not limited to, firms, corporations, parent, subsidiaries and contractors, in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondents in carrying out activities under this Consent Order.

109. Neither the United States Government nor any agency thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondents or Respondents' officers, directors, employees, agents, contractors, consultants, receivers, trustees, successors or assigns in carrying out any action or activity pursuant to this Consent Order.

XXV. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

110. This Consent Order shall be effective seven (7) days after the Consent Order is signed by the Regional Administrator or her delegate.

111. This Consent Order may be amended by mutual agreement

of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. EPA Project Coordinators do not have the authority to sign amendments to this Consent Order.

112. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondents will be construed as relieving the Respondents of their obligation to obtain such formal approval as may be required by this Consent Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and other documents required to be submitted to EPA pursuant to this Consent Order shall, upon approval by EPA, be deemed to be incorporated in and an enforceable part of this Consent Order.

XXVI. TERMINATION AND SATISFACTION

113. This Consent Order shall terminate when Respondents demonstrate in writing and certify to the satisfaction of EPA that all activities required under this Consent Order, including any additional work, payment of costs in accordance with Section XX of this Consent Order, and payment of any stipulated penalties demanded by EPA, have been performed and EPA has approved the certification in writing. This notice shall not, however, terminate Respondents' obligation to comply with any of Respondents' remaining obligations under this Consent Order, including record preservation and the payment of any costs specified in Section XX of this Consent Order which have not yet, at that time, been paid by Respondents.

114. The certification referred to in paragraph 113, above, shall be signed by a responsible official representing each Respondent. Such representative shall make the following attestation:

> "I certify that the information contained in or accompanying this certification is true, accurate, and complete."

For purposes of this Consent Order, a responsible official is a corporate official who is in charge of a principal business function.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Jeanne M. Fox
Regional Administrator
U.S. Environmental Protection Agency
Region II

11/13/00
Date

ATTACHMENT I

Each of the entities identified below comprise the Respondents as to the Consent Order to which this list is Attachment I:

Colonial Heights Packaging Inc.
Continental Holding Inc.
Croda Inks Corporation
General Motors Corporation
Henkel Corporation for itself and on behalf of Amchem Products, Inc.
Kimberly-Clark Tissue Company on behalf of Scott Paper Company
Sara Lee Household and Bodycare USA on behalf of Kiwi Brands
Sonoco Products Company
Stauffer Chemical Company
Stepan Company
Synthane-Taylor Corporation
Union Carbide Corporation for itself and on behalf of Amchem Products, Inc.
USG Corporation for itself and on behalf of Dap, Inc.
USX Corporation
Whiting-Patterson Company
Wilmington Chemical Company

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Colonial Heights Packaging Inc.
(Name of Respondent)

By: _____ 09.26.00
(Signature) (Date)

John E. Holleran
(Printed Name of Signatory)

Counsel
(Title of Signatory)

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

CONTINENTAL HOLDINGS INC.
(Name of Respondent)

By: Terrence Dwyer
(Signature)

9/28/00
(Date)

TERRENCE DWYER
(Printed Name of Signatory)

AUTHORIZED ATTORNEY
(Title of Signatory)

Croda Inks Corporation

7 Century Drive Parsippany NJ 07054-4688
Tel (201) 644-4900 Fax (201) 644-8222

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Croda Inks Corporation
(Name of Respondent)

By: _____ September 27, 2000
(Signature) (Date)

Steven Fish
(Printed Name of Signatory)

Assistant Secretary
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

General Motors Corporation
(Name of Respondent)

By: Don A. Schiemann
(Signature)

September 27, 2000
(Date)

Don A. Schiemann
(Printed Name of Signatory)

Attorney
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Henkel Corporation for itself and
on behalf of Amchem Products, Inc.
(Name of Respondent)

By: _____ September 26, 2000
(Signature) (Date)

Juliette B. Richter
(Printed Name of Signatory)

Associate General Counsel
and Risk Manager
(Title of Signatory)

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Kimberly-Clark Tissue Company on behalf of Scott Paper Company
(Name of Respondent)

By: Marcia K. Cowan 9/28/00
(Signature) (Date)

Marcia K. Cowan
(Printed Name of Signatory)

Counsel
(Title of Signatory)

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

SARA LEE HOUSEHOLD & BODY CARE, ON BEHALF OF KIWI BRANDS
(Name of Respondent)

By: _____ 9-27-00
(Signature) (Date)

JOHN J. WITZIG
(Printed Name of Signatory)

ASST. SECTY
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Sonoco Products Company
(Name of Respondent)

By: Charles J. Hupfer 9/28/2000
(Signature) (Date)

Charles J. Hupfer
(Printed Name of Signatory)

Vice President, Treasurer and Secretary
(Title of Signatory)

IN THE MATTER OF: LIGHTMAN DRUM COMPANY SUPERFUND SITE
ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Stauffer Chemical Company
(Name of Respondent)

By: Joseph C Kelly
(Signature)

September 28, 00
(Date)

Joseph C. Kelly
(Printed Name of Signatory)

Vice President & General Counsel
Stauffer Management Company, as agent for Aventis CropScience USA, Inc.
(Title of Signatory) (corporate successor to Stauffer Chemical Company)

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Stepan Company
(Name of Respondent)

By: F. Quinn Stepan
(Signature)

October 27,2000
(Date)

F.Quinn Stepan
(Printed Name of Signatory)

Chairman/CEO
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Alco Industries, Inc. for Synthane-Taylor
(Name of Respondent)

By: Bette J. Walters 9/28/2000
(Signature) (Date)

Bette J. Walters
(Printed Name of Signatory)

Vice President, Secretary and General Counsel
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Union Carbide Corporation, for itself, and on behalf of Amchem Products Inc.
(Name of Respondent)

By: Mark E Tapp
(Signature)

September 27, 2000
(Date)

MARK E. TAPP
(Printed Name of Signatory)

Manager, Remediation
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

USG Corporation, on behalf of
DAP, Inc. and the former
Durabond Products Company
(Name of Respondent)

By: _____ September 28, 2000
(Signature) (Date)

William C. Foote
(Printed Name of Signatory)

Chairman, President & Chief Executive
(Title of Signatory)
Officer for USG Corporation

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

USX Corporation, formerly known as United States Steel Corporat
(Name of Respondent)

By: _____ October 2, 2000
(Signature) (Date)

William J. McKim
(Printed Name of Signatory)

Assistant General Counsel - Environmental & Real Estate and Assistant Secretary
(Title of Signatory)

FOR THE RESPONDENTS

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

FORENCO, INC.
(as successor to Whiting-Patterson Company)
(Name of Respondent)

By: ______________________ September 29, 2000
(Signature) (Date)

JOHN T. SOBOTA
(Printed Name of Signatory)

Its Vice President
(Title of Signatory)

700059

FOR THE RESPONDENTS:

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Consent Order. Respondent hereby consents to the issuance of this Consent Order and to its terms. The individual executing this Consent Order on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Consent Order and to bind Respondent thereto.

Wilmington Chemical Co
(Name of Respondent)

By: _____ October 6, 2000
(Signature) (Date)

JOHN H. KNOCK
(Printed Name of Signatory)

attorney for Wilmington Chemical Co
(Title of Signatory)

ATTACHMENT II

STATEMENT OF WORK FOR
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AT THE
LIGHTMAN DRUM COMPANY SITE
WINSLOW TOWNSHIP, CAMDEN COUNTY, NEW JERSEY

A. INTRODUCTION

1. The purpose of this remedial investigation/feasibility study (RI/FS) is to investigate the nature and extent of contamination at the Lightman Drum Company Site and develop and evaluate potential remedial alternatives. The RI and FS are interactive and may be conducted concurrently so that the data collected in the RI influences the development of remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies, if needed.

2. The Respondents will conduct this RI/FS and will produce a draft RI and FS report that are in accordance with this statement of work (SOW), the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), and any other guidance that EPA uses in conducting a RI/FS, as well as any additional requirements in the Consent Order. The RI/FS Guidance describes the report format and the required report content. The Respondents will furnish all necessary personnel, materials, and services needed, or incidental to, performing the RI/FS, except as otherwise specified in the Consent Order.

3. At the completion of the RI/FS, EPA will be responsible for the selection of the Site remedy and will document the selection in a Record of Decision (ROD). The remedial action alternative selected by EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will 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 final RI/FS report, as adopted by EPA, and the baseline risk assessment will, with the administrative record, form the basis for the selection of the Site remedy and will provide the information necessary to support the development of the ROD.

4. As specified in CERCLA Section 104(a)(1), as amended by SARA, EPA will provide oversight of the Respondents' activities throughout the RI/FS. The Respondents will support EPA's initiation and conduct of activities related to the implementation of oversight activities.

B. TASK 1 - SCOPING

1. The RI/FS is conducted to gather sufficient data and information necessary to characterize the nature and extent of contamination in order to support the selection of a remedy for the Site that will reduce or eliminate risks to human health or the environment associated with contamination at the Site.

2. The RI/FS achieves its objectives by determining the horizontal and vertical distribution and concentration of hazardous substances in the soil, in sediment, in surface and groundwater, in the air (if deemed necessary by EPA), and in building interiors, and their association with the Site.

3. Before planning RI/FS activities, all existing data for the Site will be thoroughly compiled and reviewed by the Respondents. Specifically, this will include presently available data relating to the varieties and quantities of hazardous substances at the Site, and past disposal practices.

4. The Respondents will conduct a visit to the Site during the scoping phase of the project to assist in developing a conceptual understanding of sources and areas of contamination as well as potential exposure pathways and receptors at the Site. During the visit to the Site the Respondents should observe the Site's physiography, hydrology, geology, and demographics, as well as natural resource, ecological and cultural features. This information will be utilized to better scope the project and to determine the extent of additional data necessary to characterize the Site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

5. Once the Respondents have collected and analyzed existing data and conducted a visit to the Site, the specific project scope will be planned. Project planning activities include those tasks described below as well as identifying data needs, developing a work plan, designing a data collection program, and identifying health and safety protocols. The Respondents will meet with EPA regarding the following activities before the drafting of the RI/FS work plan, quality assurance project plan (QAPP), and health and safety plan (HSP) for the Site.

a. RI/FS Work Plan

i. The Respondents will submit a RI/FS work plan, a QAPP, and a HSP. The RI/FS work plan and QAPP must be reviewed and approved by EPA prior to the initiation of field activities. EPA reviews and comments on the HSP, but does not "approve" the HSP.

ii. The work plan will include a comprehensive description of the work to be performed, including the methodologies to be utilized, as well as a corresponding schedule for completion. In addition, the work plan must include the rationale for performing the required activities. Specifically, the work plan will present a statement of the problem(s) and potential problem(s)

posed by the Site and the objectives of the RI/FS. Furthermore, the plan will include for the Site a background summary setting for the Site description including the geographic location of the Site, and to the extent possible, a description of the Site's physiography, hydrology, geology, demographics, ecological, cultural and natural resource features; a synopsis of the history of the Site and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site.

iii. The major part of the work plan is a detailed description of the tasks to be performed, information needed for each task and for the baseline risk assessment, information to be produced during and at the conclusion of each task, and a description of the work products that will be submitted to EPA. This includes the deliverables set forth in the remainder of this SOW; a schedule for each of the required activities which is consistent with the RI/FS guidance; and a project management plan, including a data management plan (e.g., requirements for compatibility with EPA's Geographic Information System (GIS), minimum data requirements, data format and backup data management), monthly reports to EPA and meetings and presentations to EPA at the conclusion of each major phase of the RI/FS. The Respondents will refer to Appendix B of the RI/FS Guidance for a comprehensive description of the contents of the required work plan. Because of the unknown details of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. The Respondents will submit a technical memorandum documenting the need for additional data, and identifying the DQOs whenever such requirements are identified. In any event, the Respondents are responsible for fulfilling additional data and analysis needs identified by EPA consistent with the general scope and objectives of this RI/FS.

iv. The QAPP provides a mechanism for planning field activities. The QAPP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis. The QAPP will also describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired DQOs. The DQOs will at a minimum reflect use of analytical methods to identifying contamination and remediating contamination consistent with the levels for remedial action objectives identified in the National Contingency Plan. In addition, the QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting and personnel qualifications. For example, EPA encourages the use of field screening techniques that can provide useful information on the concentration and extent of contamination and the need for further laboratory analyses. Field personnel should be available for EPA QA/QC training and orientation where applicable. The Respondents will demonstrate, in advance to EPA's satisfaction, that each laboratory it may use is qualified to conduct the proposed work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and DQOs approved in the QAPP for the Site by EPA. In order to

obtain an accurate identification and quantification of volatile organic contamination in soil, the recently adopted methanol preservation method at N.J.A.C. 7:26E-2.1(a)4 must be used. The laboratory must have and follow an approved QA program. If a laboratory not in the Contract Laboratory Program (CLP) is selected, methods consistent with CLP methods that would be used at these Sites for the purposes proposed and QA/QC procedures approved by EPA will be used. If the laboratory is not in the CLP program, a laboratory QA program must be submitted for EPA review and approval. EPA may require that the Respondents submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment, material specifications, and analyzed project specific Performance Evaluation (PE) samples. The Respondents will provide assurances that EPA has access to laboratory personnel, equipment and records for sample collection, transportation and analysis.

v. Site Health and Safety Plan

A HSP will be prepared in conformance with the Respondents' health and safety program, and in compliance with OSHA regulations and protocols. The health and safety plan will include the elements described in the RI/FS Guidance, such as a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and site control for the Site.

vi. Community Relations

The development and implementation of community relations activities are the responsibility of EPA. The critical community relations planning steps performed by EPA include preparation and implementation of the community relations plan. Although implementation of the community relations plan is the responsibility of EPA, the Respondents may assist by providing information regarding the history of the Site, participating in public meetings, or by preparing fact sheets for distribution to the general public. EPA will establish a community information repository, at or near the Site, to house one copy of the administrative record. The extent of PRP involvement in community relations activities is left to the discretion of EPA. The Respondents' community relations responsibilities, if any, will be specified in the community relations plan. All PRP-conducted community relations activities will be subject to oversight by EPA.

C. TASK 2 - SITE CHARACTERIZATION

1. As part of the RI, the Respondents will perform the activities described in this task, including the preparation of site characterization summaries and a RI report. The overall objective of site characterization is to describe areas of the Site that may pose a threat to human health or the environment. This is accomplished by first determining the Site's physiography, geology, and hydrology. Surface and subsurface pathways of migration will be defined. The Respondents will identify the sources of contamination and define the nature, extent, and volume

of the sources of contamination, including their physical and chemical constitutes as well as their concentrations at incremental locations to background in the affected media. The Respondents will also investigate the extent of migration of this contamination, including building interiors, as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of contamination at the Site. Using this information, contaminant fate and transport is then determined and projected.

2. During this phase of the RI/FS, the work plan, QAPP, and HSP are implemented. Field data are collected and analyzed to provide the information required to accomplish the objectives of the study. The Respondents will notify EPA at least three weeks in advance of the field work regarding the planned dates for field activities, including ecological field surveys, field lay out of the sampling grid, excavation, installation of wells, initiating sampling, installation and calibration of equipment, pump tests, and initiation of analysis and other field investigation activities. The Respondents will demonstrate that the laboratory and type of laboratory analyses that will be utilized during characterization of the Site meet the specific QA/QC requirements and the DQOS of the Site investigations as specified in the QAPP. In view of the unknown conditions of the Site, activities are often iterative, and to satisfy the objectives of the RI/FS it may be necessary for the Respondents to modify the work specified in the initial work plan. However, any deviation from the work plan must be approved by EPA prior to implementation. In addition to the deliverables below, the Respondents will provide a monthly progress report and participate in meetings at major points in the RI/FS.

a. Field Investigation

The field investigation includes the gathering of data to define the Site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. These activities will be performed by the Respondents in accordance with the RI/FS work plan, QAPP, and HSP. At a minimum, this shall address the following:

i. Implement and document field support activities

The Respondents will initiate field support activities following approval of the RI/FS work plan. Field support activities may include scheduling, and procuring equipment, office space, laboratory services, and/or contractors. The Respondents may initiate other time critical field support activities, such as obtaining access to the Site, prior to approval of the RI/FS work plan and QAPP. The Respondents will notify EPA three weeks prior to initiating field support activities so that EPA may adequately schedule oversight tasks. The Respondents will also notify EPA in writing upon completion of field support activities.

ii. Investigate and define Site physical and biological characteristics

The Respondents will collect data on the physical and biological characteristics of the

Site and its surrounding areas including the physiography, geology, and hydrology, and specific physical characteristics identified in the work plan. This information will be ascertained through a combination of physical measurements, observations, and sampling efforts and will be utilized to define potential transport pathways and human and ecological receptor populations. In defining the physical characteristics of the Site the Respondents will also obtain sufficient engineering data (such as pumping characteristics) for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

iii. Define sources of contamination

The Respondents will locate each source of contamination. For each location, the areal extent and depth of contamination will be determined by sampling at incremental depths on a sampling grid. The physical characteristics and chemical constituents and their concentrations will be determined for all known and discovered sources of contamination. The Respondents shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the QA/QC plan and DQOs.

Defining the source of contamination will include analyzing the potential for contaminant release (e.g., long term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

iv. Describe the nature and extent of contamination

The Respondents will gather information to describe the nature and extent of contamination as a final step during the field investigation. To describe the nature and extent of contamination, the Respondents will utilize the information on the Site physical and biological characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated. The Respondents will then implement an iterative monitoring program and any study program identified in the RI/FS work plan such that by using analytical techniques sufficient to detect and quantify the concentration of contaminants, the migration of contaminants through the various media at the Site can be determined. In addition, the Respondents will gather data for calculations of contaminant fate and transport. This process is continued until the area and depth of contamination are known to the level of contamination established in the QA/QC plan and DQOs. EPA will use the information on the nature and extent of contamination to determine the level of risk presented by the Site. Respondents will use this information to help to determine aspects of the appropriate remedial action alternatives to be evaluated.

b. Data Analysis

Evaluate Site characteristics

The Respondents will analyze and evaluate the data to describe: (1) physical and biological characteristics at the Sites, (2) contaminant source characteristics, (3) nature and extent of contamination and (4) contaminant fate and transport. Results of the Site's physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants. Where modeling is appropriate, such models shall be identified to EPA in a technical memorandum prior to their use. All data and programming, including any proprietary programs, shall be made available to EPA together with a sensitivity analysis. The RI data shall be presented in an electronic format required by EPA at the time of submission. The Respondents shall agree to discuss and then collect data to fill any data gaps identified by the EPA, as necessary to complete the baseline risk assessment. (See "Guidance for Data Useability in Risk Assessment - Publication # 9285.7- 09A - April 1992.) Also, this evaluation shall include any information relevant to characteristics of the Site necessary for evaluation of the need for remedial action in the baseline risk assessment and for the development and evaluation of remedial alternatives. (See Risk Evaluation of Remedial Alternatives (Part C) - OSWER Directive 9285.7-01C - December 1991.) Analysis of data collected for characterization of the Site will meet the DQOs developed in the QAPP (or revised during the RI).

c. Data Management Procedures

The Respondents will consistently document the quality and validity of field and laboratory data compiled during the RI.

i. Document field activities

Information gathered during characterization of the Site will be consistently documented and adequately recorded by the Respondents in well maintained field logs and laboratory reports. The method(s) of documentation must be specified in the work plan and/or the QAPP. Field logs or dedicated field log-books must be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports must document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

ii. Maintain sample management and tracking

The Respondents will maintain field reports, sample shipment records analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the evaluation of remedial alternatives. Analytical results developed under the work plan will not be included in the site characterization reports for the Site unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Respondents will establish a data security system to safeguard chain-of custody forms and other project records to prevent

loss, damage, or alteration of project documentation.

d. Site Characterization Deliverables

The Respondents will prepare for the Site the preliminary site characterization summaries and the remedial investigation report.

Preliminary Site Characterization Summary

After completing field sampling and analysis, the Respondents will prepare a concise characterization summary. This summary will review the investigative activities that have taken place, and describe and display data from the Site documenting the location and characteristics of surface and subsurface feature and contamination at the Site including the affected medium, types, location types, physical state, concentration of contaminants and quantity. In addition, the location, dimensions, physical condition and varying concentrations of each contaminant throughout each source and the extent of contaminant migration through each of the affected media will be documented. The site characterization summaries for the Site will provide EPA with a preliminary reference for the development of the risk assessment, and evaluating the development and screening of remedial alternatives and the refinement and identification of ARARs.

e. Fate and Transport Model Memorandum

At EPA's request, Respondents shall submit a memorandum on a fate and transport model, unless they can demonstrate to EPA's satisfaction that such a model is unnecessary. If EPA determines that a fate and transport model is required and so notifies Respondents, Respondents shall, within 60 days thereafter, submit the memorandum on the model. This memorandum shall detail how a three dimensional (3-D) groundwater flow and contaminant transport model will be developed to depict effects of the Site's contaminants within the groundwater flow regime of the Site. If EPA disapproves of or requires revisions to the memorandum, in whole or in part, Respondents shall amend and submit to EPA a revised memorandum which is responsive to the directions in all EPA comments, within 21 days of receiving EPA's comments. The results of this modeling effort shall be included in the RI/FS Report.

D. TASK 3 - IDENTIFICATION OF CANDIDATE TECHNOLOGIES

The Respondents will identify in a technical memorandum, subject to EPA's review and approval, candidate technologies for a treatability studies program. The memorandum will be submitted after the last set of analytical results collected during the RI have been validated. The listing of candidate technologies will cover the range of technologies required for alternatives analysis. The specific data requirements for the testing program will be determined and refined

during characterization of the Site and the development and screening of remedial alternatives (Tasks 2 and 6, respectively).

E. TASK 4 - TREATABILITY STUDIES; AS NECESSARY

Treatability testing will be performed by the Respondents, at EPA's request, to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and results and operating conditions will be used in the detailed design of the selected remedial technology. The following activities will be performed by the Respondents.

i. Conduct literature survey and determine the need for treatability testing

The Respondents will conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance (O&M) requirements, and implementability of candidate technologies. If practical candidate technologies have not been sufficiently demonstrated, or cannot be adequately evaluated, or cannot be adequately evaluated for this Site on the basis of available information, treatability testing will be conducted. Where it is determined by EPA that treatability testing is required, and unless the Respondents can demonstrate to EPA's satisfaction that they are not needed, the Respondents will submit a SOW to EPA outlining the steps and data necessary to evaluate and initiate the treatability testing program.

ii. Evaluate treatability studies

Once a decision has been made to perform treatability studies, the Respondents and EPA will decide on the type of treatability testing to use (e.g., bench versus pilot). 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 the potential for delay of the FS. To assure that a treatability testing program is completed on time, and with accurate results, the Respondents will either submit a separate treatability testing work plan or an amendment to the original site work plan for the Site for EPA review and approval.

iii. Treatability Testing and Deliverables

The deliverables that are required, in addition to the memorandum identifying candidate technologies, where treatability testing is conducted include a SOW, work plan, a sampling and analysis plan, and a final treatability evaluation report. EPA may also require a treatability study health and safety plan, where appropriate.

iv. Treatability testing work plan

The Respondents will prepare a treatability testing work plan or amendment to the original site work plan for the Site for EPA review and approval describing the background of the Site, 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, and residual waste management. The DQOs for treatability testing should be documented as well. If pilot scale treatability testing is to be performed, the pilot-scale work plan will 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. For on-site testing work, respondents will need to satisfy the substantive requirements of permit (permit equivalent), as appropriate. If testing is to be performed off-site for any of the Site, the Respondents will address all necessary permitting requirements to the satisfaction of appropriate authorities.

v. Treatability study QAPP

If the original QAPP is not adequate for defining the activities to be performed during the treatability test, a separate treatability study QAPP or amendment to the original QAPP for the Site will be prepared by the Respondents for EPA review and approval. Task 1 of this SOW and Consent Order provides additional information on the requirements of the QAPP.

vi. Treatability study HSP

If the original HSP is not adequate for defining the activities to be performed during the treatment tests, a separate or amended HSP will be developed by the Respondents. Task 1 of this SOW and Consent Order provides additional information on the requirements of the HSP. EPA reviews and comments on, but does not "approve" treatability study health and safety plan.

vii. Treatability study evaluation report

Following completion of treatability testing, the Respondents will analyze and interpret the testing results in a technical report to EPA. Depending on the sequences of activities, this report may be a part of the RI/FS report or a separate deliverable. The report will evaluate each technology's effectiveness, implementability, cost and actual results as compared with predicted results as compared with predicted results. The report will also evaluate full scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

F. TASK 5 - BASELINE RISK ASSESSMENT

Respondents will prepare a Baseline Risk assessment for the Site which shall be incorporated by the Respondents into the RI. To the extent requested by EPA, Respondents shall provide the information and deliverables needed for the risk assessment pursuant to Task V of

the Consent Order and Task 2 of this SOW.

G. TASK 6 - DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

The development and screening of remedial alternatives is performed to develop an appropriate range of waste management options that will be evaluated. This range of alternatives should include options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but which vary in the types of treatment, the amount treated, and the manner in which long-term residuals or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a no-action alternative. The following activities will be performed as a function of the development and screening of remedial alternatives.

1. Development and Screening of Remedial Alternatives

The Respondents will begin to develop and evaluate a range of appropriate waste management options that at a minimum ensure protection of human health and the environment, concurrent with the RI site characterization task.

i. Develop general response actions

The Respondents will develop general actions for each medium of interest defining containment, treatment, excavation, pumping, or other actions, singly or in combination, to satisfy the remedial action objectives.

ii. Identify areas or volumes of media

The Respondents will 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. The chemical and physical characterization of the Site will also be taken into account.

iii. Assemble and document alternatives

The Respondents will assemble selected representative technologies into alternatives for each affected medium or operable unit. Together, all of the alternatives will represent a range of treatment and containment combinations that will address either the Site or the operable unit(s) as a whole. A summary of the assembled alternatives and their related action-specific ARARs will be prepared by the Respondents for inclusion in a technical memorandum.

The reasons for eliminating alternatives during the preliminary screening process must be specified.

iv. Refine alternatives

The Respondents will refine the remedial alternatives to identify contaminant volume addressed by the proposed process and sizing of critical unit operations as necessary. Sufficient information will be collected for an adequate comparison of alternatives. PRGs for each chemical in each medium will also be modified as necessary to incorporate any new risk assessment information presented in the baseline risk assessment report. Additionally, action-specific ARARs will be updated as the remedial alternatives are refined.

v. Conduct and document screening evaluation of each alternative

The Respondents may perform a final screening process based on short and long term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for detailed analysis. If necessary, the screening of alternatives will be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis. As appropriate, the screening will preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable. The Respondents will make a presentation to EPA and the State, identifying the remedial action objectives and summarizing the development and preliminary screening of remedial alternatives.

2. Alternatives Development and Screening Deliverables

The Respondents will prepare a technical memorandum summarizing the work performed in and the results of each task above, including an alternatives array summary. The memorandum will also summarize the reasoning employed in screening, arraying alternatives that remain after screening, and identifying the action-specific ARARs for the alternatives that remain after screening. These will be modified by the Respondents 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.

3. Detailed analysis of remedial alternatives

The detailed analysis will be conducted by the Respondents to provide EPA with the information needed to allow for the selection of a remedy for the Site. This analysis is the final task to be performed by Respondents during the FS.

i. Detailed Analysis of Alternatives

The Respondents will conduct a detailed analysis of alternatives which 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.

ii. Apply nine criteria and document analysis

The Respondents will apply nine evaluation criteria to the assembled remedial alternatives 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; (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.

(Note: criteria 8 and 9 are considered after the RI/FS report has been released to the general public.) For each alternative the Respondents should 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 the Respondents does not have direct input on criteria (8) state (or support agency) acceptance and (9) community acceptance, these will be addressed by EPA.

iii. Compare alternatives against each other and document the comparison of alternatives

The Respondents will perform a comparative analysis between the remedial alternatives. That is, each alternative will be compared against the others using the evaluation criteria as a basis of comparison. Identification and selection of the preferred alternative are reserved by EPA. The Respondents will prepare a technical memorandum summarizing the results of the comparative analysis. The technical memorandum may identify the remedial alternative(s) which appear to best satisfy the nine evaluation criteria.

iv. Detailed Analysis Deliverables

The Respondents will submit a draft FS report to EPA for review and approval. Once EPA's comments have been addressed by the Respondents to EPA's satisfaction, the final FS report may be bound with the final RI report.

H. TASK 7 - REMEDIAL INVESTIGATION REPORT

The Respondents will prepare and submit a draft RI report to EPA for review and approval. This report shall summarize results of field activities to characterize the Site, sources of contamination and the fate and transport of contaminants. Respondents shall provide the information and deliverables needed for the Remedial Investigation Report pursuant to Task VII

of the Consent Order. The Respondents will refer to the RI/FS Guidance for an outline of the report format and contents as well as the "Region II RI Report Guidelines." Following comment by EPA, the Respondents will prepare a final RI report which satisfactorily addresses EPA's comments.

I. TASK 8 - FEASIBILITY STUDY REPORT

The Respondents will prepare a draft FS report for EPA review and comment. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of remedial alternatives. Respondents shall provide the information and deliverables needed for the Feasibility Study Report pursuant to Task VIII of the Consent Order. The Respondents will refer to the RI/FS Guidance for an outline of the report format and the required report content. The Respondents will prepare a final FS report which satisfactorily addresses EPA's comments on the draft FS Report.

REFERENCES FOR CITATION

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The (revised) National Contingency Plan

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.3

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA,. Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.

"Data Quality Objectives for Remedial Response Activities, " U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

"Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29,1980.

"EPA Requirements for QAPPs for Environmental Data Operations,"U.S. EPA, Office of Emergency and Remedial Response, QA/R-5, October 1998.

"Interim Guidelines and Specifications for Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

"Users Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, August 1982.

"Interim Guidance with Applicable or Relevant and Appropriate Requirements,' U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

"CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of

Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.

"Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S." U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.

"Draft Guidance on Superfund Decision Documents," U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355.-02

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual" (Part A), EPA/540/1-89/002

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual" (Part B), EPA/540/R-92/003

"Risk Assessment Guidance for Superfund - Volume II Environmental Evaluation Manual," March 1989, EPA/540/1-89/ 001

"Guidance for Data Useability in Risk Assessment," October, 1990, EPA/540/G-90/008

"Performance of Risk Assessments in Remedial Investigation/Feasibility Studies (RI/FSs) Conducted by Potentially Responsible Parties (PRPs)," August 28, 1990, OSWER Directive No.9835.15.

"Risk Evaluation of Remedial Alternatives" (Part C), December 1991, OSWER Directive 9285.7-01C.

"Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991, OSWER Directive No. 9355.0-30.

"Supplemental Guidance to RAGS: Calculating the Concentration Term," May 1992, OSWER Directive 9285.7-081.

"Health and Safety Requirements of Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.

OSHA Regulations in 29 CFR 1910.120 (Federal Register 45654, December 19, 1986).

"Interim Guidance on Administrative Records for Selection of CERCLA Response Actions," U.S. EPA, Office of Waste Programs Enforcement, March 1, 1989, OSWER Directive No. 9833.3A.

"Community Relations in Superfund: A Handbook," U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9230.0#3B.

"Community Relations During Enforcement Activities And Development of the Administrative Record," U.S. EPA, Office of Programs Enforcement, November 1988, OSWER Directive No. 9836.0-1a.

APPENDIX I

HUMAN HEALTH RISK ASSESSMENT GUIDANCE DOCUMENTS

The following list, although not comprehensive, comprises many of the guidance documents that apply to the RI/FS process:

Superfund Risk Assessment Guidance

1. USEPA, 1989, Risk Assessment Guidance for Superfund (RAGS); Volume I Human Health Evaluation Manual Part A, OERR, EPA/540/1-89/002, December 1989.

2. USEPA, 1990, Risk Assessment Guidance for Superfund (RAGS); Volume I, Human Health Evaluation Manual, (Part B, Development of Risk-Based Preliminary Remediation Goals), OERR, EPA/540/R-92/003.

3. USEPA, 1991, Risk Assessment Guidance for Superfund (RAGS); Volume I, Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Alternatives), OSWER Directive 9285.7-01C, December 1991.

4. USEPA, 1998, Risk Assessment Guidance for Superfund (RAGS), Volume I, Human Health Evaluation Manual, Part D, OERR, Interim Publication No. 9285.7-01D.

Exposure Factors

5. USEPA, 1992, Supplemental Guidance to RAGS: Calculating the Concentration Term, OSWER 9285.7-081, May 1992.

6. USEPA, 1991, RAGS Volume I: Human Health Evaluation Manual Supplemental Guidance, Standard Default Exposure Factors, OSWER Directive 9285.6-03, March 25, 1991.

7. USEPA, 1997, Exposure Factors Handbook - Final Volumes I - III, Office of Health and Environmental Assessment, Washington, D.C.

Dermal Exposure

8. USEPA, 1992, Dermal Exposure Assessment: Principles and Applications, OSWER, EPA/600/8-91/011B, January 1992.

9. USEPA, 2000, Human Health Evaluation Manual: Supplemental Guidance: Interim Dermal Risk Assessment Guidance, OSWER Directive 9285.7-10. (USEPA will make appropriate data from the manual available in the event that this guidance is not finalized before the risk assessment is developed.).

Toxicity and Chemical Specific Guidance

10. USEPA, 1997, Integrated Risk Information System (IRIS), On-line Service. (WWW.EPA.GOV/IRIS)

11. USEPA, 1997, Health Effects Assessment Summary Tables (HEAST).

12. USEPA, 1996, PCBs: Cancer Dose-Response Assessment and Application to Environmental Mixtures, EPA/600/P-96/001A.

13. USEPA, 1993, Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons, EPA/600/R-93/C89, July 1993.

Risk Characterization Guidance

14. USEPA, 1995, Memorandum from Administrator Carole Browner on Risk Characterization, February 22, 1995.

15. USEPA, 1995, EPA Risk Characterization Program, Memorandum from Administrator Carol Browner, March 21, 1995.

Risk Assessment Guidelines and Policies

16. USEPA, 1996, Revised Policy on Performance of Risk Assessments During Remedial Investigation/Feasibility Studies (RI/FS) Conducted by Potentially Responsible Parties, OSWER Directive No. 9340.1-02 mistakenly numbered 9835.15c.

17. USEPA, 1986, Risk Assessment Guidelines for Mutagenicity Risk Assessment, 51 Fed. Reg. 34006, September 24, 1986.

18. USEPA, 1986, Risk Assessment Guidelines for Chemical Mixtures, 51 Fed. Reg. 34014, September 24, 1986.

19. USEPA, 1990, Risk Assessment Guidelines for Male and Female Reproductive Health Effects.

20. USEPA, 1995, Risk Assessment Guidelines for Carcinogen Risk Assessment Proposed, Federal Register.

21. USEPA, 1992, Risk Assessment Guidelines for Exposure Assessment. Federal Register

22. USEPA, 1995, New Policy and Evaluating Health Risks to Children, Memorandum from Administrator Carol Browner and Deputy Administrator Fred Hansen, October 20, 1995.

23. USEPA, 1997, Policy for Use of Probabilistic Analysis in Risk Assessment, Office of Research and Development, EPA/630/R-97/001.

Data Useability and Quality

24. USEPA, 1992, Final Guidance on Data Useability in Risk Assessment (Part A), OSWER Directive 9285.7-09A., June 1992.

25. USEPA, 1992, Guidance for Data Useability in Risk Assessment (Part B), OSWER Directive 9285.7-09B, August 1992.

26. USEPA, 1993, Data Quality Objectives Process for Superfund, Interim Final Guidance, OSWER Publication 93559-01, EPA 540-R-93-071.

Air

27. USEPA, 1989, Air/Superfund National Technical Guidance Study Services, Volumes I-IV, EPA 450/1-89/001, 002, 003, 004, July 1989.

Soil

28. USEPA, 1993, Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, OSWER Directive #9355.4-12.

29. USEPA, 1995, Soil Screening Guidance: Technical Background Document EPA 540/R-95/126.

30. USEPA, 1996, Final Soil Screening Guidance, May 17, 1996, Soil Screening Guidance User's Guide, EPA 540/R-96/018.

31. USEPA, 1996, Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soils.

Risk Management

32. USEPA, 1993, Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, OSWER Directive 9355.0-30.

33. USEPA, 1993, Guidance for Conducting Non-Time Critical Removal Actions Under CERCLA, OSWER 540-R-93-057, August 1993.

34. USEPA, 1992, National Oil and Hazardous Substances Pollution Contingency Plan, OERR, OSWER Publication 9200.2-14, January 1992.