

In the Matter of:)	
Parker Hannifin Corporation)	Docket No. RCRA-07-2012-0046
400 South Street)	
McCook, Nebraska 69001-1448)	PROCEEDING UNDER SECTION 3013
)	OF THE RESOURCE
)	CONSERVATION AND RECOVERY
RESPONDENT)	ACT, 42 U.S.C. § 6934
)	
RCRA I.D. NO. NED033074892)	

ADMINISTRATIVE ORDER ON CONSENT

I. JURISDICTION

1. This Administrative Order (“Order”) is issued to Parker Hannifin Corporation (hereinafter “Respondent” or “Parker Hannifin”) pursuant to the authority vested in the Administrator of the U.S. Environmental Protection Agency (“EPA”) by Section 3013(a) of the Solid Waste Disposal Act of 1976, commonly referred to as the Resource Conservation and Recovery Act (“RCRA”), and further amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6934(a). The authority to issue this Order has been delegated to the Regional Administrator of the EPA, Region 7, by EPA Delegation No. 8-20, and further delegated to the Director of the Air and Waste Management Division (“Director”) of the EPA, Region 7, by Regional Delegation No. R7-8-020.

2. The EPA has granted the state of Nebraska authorization to operate a state hazardous waste program in lieu of the federal program, pursuant to Section 3006(b) of RCRA, 42 U.S.C. § 6926(b). The State, however, does not have the authority to enforce Section 3013 of RCRA. The EPA has notified the Nebraska Department of Environmental Quality (“NDEQ”) that this Order is being issued and is providing a copy to the NDEQ.

3. The Order is based upon the administrative record compiled by the EPA and incorporated herein by reference. The record is available for review by Respondent and the public at the EPA’s Regional Office at 11201 Renner Blvd, Lenexa, Kansas 66219.

4. The EPA has determined that the presence and/or release of hazardous wastes, as defined by Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), at the Parker Hannifin facility, may present a substantial hazard to human health or the environment.

II. PARTIES BOUND

5. This Order is issued to Parker Hannifin who is the owner and operator of the manufacturing facility located at 400 South Street, McCook, Nebraska 69001 (the “Facility”).

6. The provisions of this Order shall apply to and be binding upon Respondent, its agents, successors, assigns, and upon all officers, directors, employees, agents, contractors, consultants, and any other persons designated by Respondent to act on behalf of Respondent at the Facility.

7. Except as provided herein, no change in ownership, corporate, or partnership status relating to the Parker Hannifin facility described in this Order will in any way alter the status or responsibility of Respondent under this Order, and any conveyance by Respondent of title, easement, or other interest in the Parker Hannifin facility described herein, or a portion of such interest, shall not affect Respondent's obligations under this Order. Respondent shall be responsible and liable for any failure to carry out all activities required of Respondent by this Order, regardless of its use of employees, agents, contractors, or consultants to perform any such tasks.

8. Respondent shall provide a copy of this Consent Order to all supervisory contractors, subcontractors, laboratories, and consultants retained to conduct or monitor any portion of the work performed pursuant to this Order within seven (7) business calendar days of the effective date of this Consent Order, or on the date of such retention, and Respondent shall condition all such contracts on compliance with the terms of this Order.

9. Not later than sixty (60) days prior to any voluntary transfer by Respondent of any interest in the Facility or the operation of the Facility, Respondent shall give written notice: (a) to the transferee regarding the Consent Order; and (b) to EPA regarding the proposed transfer, including the name and address of the transferee and the date on which the transferee was notified of this Consent. Respondent shall also provide a description of the property and/or the operations being transferred. In the case of a voluntary transfer through a bankruptcy, Respondent shall notify EPA within 24 hours of the decision to transfer property. Respondent shall notify EPA of any involuntary transfers immediately upon Respondent's initial receipt of notice of any involuntary transfer. Not later than three (3) days after any transfer, Respondent shall submit copies of the transfer documents to EPA. Respondent shall provide a copy of this Consent Order to any subsequent owners or successors before a controlling interest in ownership rights, stock, assets or the Facility is transferred.

10. Respondent shall undertake all actions required by the terms and conditions of the Order, including any portions of this Order incorporated by reference.

III. STATEMENT OF PURPOSE

11. This Order is issued to Respondent to address the EPA's determination that the presence of hazardous wastes at Respondent's facility may present a substantial hazard to human health or the environment by requiring Respondent to conduct monitoring, testing, analysis, and reporting to ascertain the nature and extent of such hazards. To further these objectives, Respondent shall submit a plan to determine the nature and extent of any release of hazardous waste, hazardous waste constituents, and/or Constituents of Concern ("COCs"), which are reasonably likely to be found at, or around, or emanating from the Facility through sampling, analysis, monitoring, and reporting.

IV. FINDINGS OF FACT

12. Respondent is a corporation organized under the laws of the state of Ohio, and is a “person” as defined in Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).

13. The Parker Hannifin facility, referred to in this Order as the “Parker Hannifin facility” or “the Facility” or “Site,” is located in Red Willow County, bounded on the south side by South Street and on the west side by Karrer Street as shown on the attached map, Attachment 1. The latitude and longitude of the Facility is 40.192023 and -100.622047. The Facility is approximately 12.5 acres, including 5 acres of facility buildings.

14. Parker Hannifin and prior owners have been manufacturing domestic, industrial, and automotive hoses and belts at this location since 1971.

15. Dayco Corporation owned Electric Hose and Rubber Co., when operations began in 1971. The name of the Facility was officially changed from Electric Hose and Rubber Co. to Dayco Products, Inc., in 1984. On October 11, 1988, ownership changed from Dayco to Mark IV Industries, Inc. Mark IV Industries sold the Facility to Parker Hannifin Corporation effective October 20, 2001. Operations are ongoing.

16. On August 11, 1980, Dayco Corporation filed a Notification of Hazardous Waste Activity (EPA Form 8700-12) identifying themselves as a generator of hazardous waste, pursuant to Section 3010 of RCRA, 42 U.S.C. § 6930.

17. The manufacturing process involves a rubber extrusion process utilizing freezing, reinforcement with a cloth material, and steam vulcanization. Various chemicals are mixed with natural and synthetic rubber and carbon black in a compounding process in the mill area. The material is heated, rolled, cut into 4-inch strips in the production area, and stored by color prior to further processing. After storage, the uncured rubber is drawn into various sized extruders which form the hose. In the reinforcing area, the hose is wrapped with a braided yarn (rayon and cotton) to reinforce hose construction. The hose is then covered with an additional layer of uncured rubber. The hose is vulcanized in the production area to cure the rubber, cooled, and cut to length. In the finish area, brass couplings are affixed to the hose if required. The finished product is rolled, packaged and stored in the finish warehouse in preparation for shipment.

18. Solvents, including trichloroethylene (TCE), a methyl ethyl ketone (MEK)-toluene mixture, isopropyl alcohol, and petroleum naphtha, were used by Dayco at various stages of production in the past. Additional wastes generated at Dayco included waste oil, scrap rubber and hose, scrap yarn, and incinerator ash.

19. From 1982 to 1987, Dayco incinerated waste solvents and waste rubber in an on-site incinerator. The incinerator was used to generate steam for the vulcanization process as well. A RCRA inspection conducted by the Nebraska Department of Environmental Control (NDEC) in 1983 determined that some unknown quantity of TCE was incinerated in the onsite incinerator, but the incinerator was having difficulty handling the TCE waste at the time of the inspection.

On May 17, 1984, NDEC conducted a RCRA inspection where the inspector determined that Dayco was burning chlorinated solvents in its incinerator without the appropriate permit. An August 21, 1987, NDEC RCRA inspection found that Respondent was burning hazardous waste fuel for energy recovery in a device which is neither an industrial furnace nor a boiler. The incinerator ceased operation in August 1987 and was formally closed in 1989.

20. The use of TCE ceased in 1984, and the remaining TCE and TCE waste amounting to 43 drums were transported off site in August 1984 for subsequent disposal.

21. MEK and toluene were used at the Dayco facility from 1982 to 1987. An MEK-toluene mixture formed the basis of cements that were used to adhere uncured rubber hose covers to cured hose prior to the final vulcanizing stage. Approximately 500 pounds of waste cement were generated each month. The MEK-toluene waste was disposed of in the on-site incinerator or was incinerated off site.

22. Isopropyl alcohol was also used in cementing uncured rubber cover to hose and, in combination with carbon dioxide and water, was used to prepare hose for the yarn wrapping process. An on-site solvent recovery system was used to recover the isopropyl alcohol from the 2,000 pounds of used cooling fluid generated monthly. After recovery and manufacturing, approximately 1,000 pounds of waste cooling material (non-recoverable liquid and still bottoms) were generated each month. The used cooling fluid was used to fuel the incinerator while it was in operation.

23. Petroleum naphtha was used to remove mandrel from hose and to clean mechanical parts and other components at Dayco. Naphtha waste was incinerated on site until closure of the incinerator, after which it was supplied and collected by Safety Kleen of Grand Island.

24. The town of McCook receives its public water supply from five municipal wells located approximately 1.5 to 2 miles south of the Facility. Rural areas outside McCook rely on private wells for drinking water. Potable water for the Facility is provided by the town of McCook. The Facility has three inactive on-site production wells formerly used by Dayco for contact and non-contact process water. This water is then discharged under a NPDES permit to the Republican River, located 2,000 feet south of the site.

25. The entire town of McCook is located within a 4-mile radius of the Facility. The nearest resident and school are 100 feet and 3,100 feet, respectively, from the site. Highway, rail corridor, and industrial facilities are located to the east, north, and south, respectively, and a few homes are located across the street to the south (downgradient) of the plant.

26. According to the July 29, 2003 Additional Site Investigations report, the Facility conducted a water well search in 2002 to identify water supply wells located within a 2,000 foot radius of the property boundary. Three (3) water supply wells in addition to the three (3) on site facility wells were identified upgradient from the site.

27. According to the December 7, 2001 Site Investigation Report, the Facility conducted a survey of most of the monitoring wells at the site. Groundwater flow was southerly toward the Republican River. Barnett Park is located approximately 550 feet south, down-gradient, of the facility. The Park contains ponds that are stocked for fishing and is used for recreational activities.

28. Currently, Parker Hannifin is a Conditionally Exempt Small Quantity Generator (CESQG), generating D001, F003, and F005 wastes.

29. A 1992 RCRA Facility Assessment (RFA) identified the following solid waste management units (SWMUs) at the Facility:

a. Lab Satellite Accumulation Unit – A satellite accumulation unit was located in the technical lab. Spent solvent, generated in the lab was stored in 55 gallon drums prior to removal to the drum storage pad. Some spills were reported.

b. Parts Washer Unit #1 – This parts washer is located in the reinforcing area near the technical lab. The parts washer holds approximately 35 gallons in a sink which drains to a 35 gallon collection drum beneath the sink. The waste handled at this unit includes waste Naphtha, D001.

c. Parts Washer Unit #2 – This parts washer unit is located just west of the cement room which houses the alcohol recycle unit in the northeast corner of the reinforcing area. The parts washer holds approximately 35 gallons in a sink which drains to a 35 gallon collection drum beneath the sink. The waste handled at this unit includes waste Naphtha, D001.

d. Parts Washer Unit #3 – This parts washer unit is located just east of the old incinerator room along the north wall of the reinforcing area. The parts washer holds approximately 35 gallons in a sink which drains to a 35 gallon collection drum beneath the sink. The waste handled at this unit includes waste Naphtha, D001.

e. Parts Washer Unit #4 – This parts washer unit is located in the maintenance room located in the south area of the facility where the hoses are finished. The parts washer holds approximately 35 gallons in a sink which drains to a 35 gallon collection drum beneath the sink. The waste handled at this unit includes waste Naphtha, D001.

f. Alcohol Recycling Unit – The alcohol recycling unit is housed in a cement room located on the north wall of the reinforcing area. The room is approximately 15 feet by 18 feet with a concrete floor sloped toward the center. Approximately 30 gallons of used cooling fluid isopropyl alcohol and carbon dioxide are recycled every month.

g. Drum Storage Area – The drum storage area/pad, in existence since 1982, is a concrete fenced area located northeast of the loading dock on the north side of the facility about 100 feet from the rear of the facility. Drums of spent solvents and waste oil were stored in this location prior to offsite disposal. The storage area was curbed and fenced in August, 1987.

30. As part of the closure plan for the incinerator, Dayco collected samples of incinerator ash, firebricks and soil for analysis of metals, solvents, and dioxins/furans (not all contaminants were analyzed in each medium). Three (3) soil samples were collected and composited from the area surrounding the former incinerator. It does not appear that samples were taken in the footprint of the incinerator.

31. In August 2001, Secor International, Inc., performed a limited Phase II assessment of the Dayco/Mark IV facility as part of a property transfer to Parker Hannifin. Five monitoring wells were installed around the perimeter of the facility, with screened intervals bracketing the water table at around 30 feet. Additional samples were collected by Montgomery Watson Harza (MWH) in October and reported in a December 2001 Site Investigation Report. Sampling confirmed the presence of chlorinated solvent contamination, including 1,1,1-trichloroethane, 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane, 1,2-dichloroethane, tetrachloroethene (PCE), and TCE in shallow well MW-1 near the southwest corner of the facility. 1,1-DCE and PCE were detected at concentrations of 73 and 5.4 micrograms per liter ($\mu\text{g/L}$), respectively, in excess of their respective Maximum Contaminant Levels (MCL). Trace concentrations of chlorinated solvents were detected in probe samples collected by MWH near the base of the aquifer (the only interval sampled) at 55 feet below ground surface, also near the southwest corner of the facility.

32. In July 2003, Mark IV submitted to NDEQ an Additional Site Investigations report completed by MWH. Several rounds of monitoring well sampling and limited probe investigation confirmed earlier results and demonstrated a plume extending an undetermined distance south and off-site from the facility. MWH conducted quarterly groundwater sampling between June 2002 and March 2003. 1,1-DCE and PCE were again detected above the applicable MCL. Detected concentrations of 1,1-DCE exceeded the MCL in MW-1 during the four quarterly sampling events. PCE concentrations exceeded the MCL in MW-1 during the four quarterly sampling events and in MW-2 during the March 2003 quarterly sampling event. The town of McCook, Nebraska receives its drinking water supply from five municipal wells located 1.5 to 2 miles south of the Parker Hannifin facility. The five municipal wells are completed in the shallow aquifer at an average depth of 80 feet.

33. **Tetrachloroethene (PCE):** Based on the available human epidemiologic data and experimental and mechanistic studies, it is concluded that PCE poses a potential human health hazard for noncancer toxicity to the central nervous system, kidney, liver, immune and hematologic system, and on development and reproduction. PCE is characterized by the EPA as likely to be carcinogenic to humans by all routes of exposure. The Federal drinking water standard for PCE is 5 ug/l.

34. **Trichloroethene (TCE):** Based on the available human epidemiologic data and experimental and mechanistic studies, it is concluded that TCE poses a potential human health hazard for noncancer toxicity to the central nervous system, kidney, liver, immune system, male reproductive system, and the developing fetus. TCE is characterized by the EPA as carcinogenic in humans by all routes of exposure. The Federal drinking water standard for TCE is 5 ug/l.

35. **1,1-Dichloroethene (1,1-DCE):** Exposure to lower levels of 1,1-DCE in air for a prolonged period may cause damage to the nervous system, liver, and lungs. At higher levels, some people have lost their breath and fainted after breathing 1,1-DCE. Animal studies have found that high levels of 1,1-DCE may cause damage to the liver, kidney, and lungs. 1,1-DCE is characterized by the EPA as a possible human carcinogen. The Federal drinking water standard for 1,1-DCE is 7 µg/L.

36. The potential exposure pathways of concern for the hazardous wastes and/or constituents managed and/or released at the Parker Hannifin facility are groundwater, soil, and vapor intrusion. Specifically, any persons, animals, or organisms ingesting the groundwater may be adversely impacted by hazardous wastes released from the Parker Hannifin facility.

V. EPA DETERMINATIONS AND CONCLUSIONS OF LAW

37. Based on the above Findings of Fact and the Administrative Record for this Order, the EPA has determined the following:

38. Respondent's Facility is a "facility or site" within the meaning of Section 3013(a) of RCRA, 42 U.S.C. § 6934 (a).

39. Respondent is a "person" as defined in Section 1004(15) of RCRA, 42 U.S.C. § 6903(15), and at 40 C.F.R. § 260.10.

40. Respondent is "owner" and "operator" of the Facility located at 400 South Street, McCook, Nebraska, where hazardous wastes are or have been stored, treated or disposed of, within the meaning of Section 3013(a) of RCRA, 42 U.S.C. § 6934(a).

41. Hazardous wastes, as defined in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), have been or are generated and/or otherwise managed and are present at the Parker Hannifin facility within the meaning of Section 3013 of RCRA, 42 U.S.C. § 6934.

42. EPA hereby determines that the presence of hazardous waste that is or has been managed at the Facility and/or the release of hazardous waste which has been stored, treated, or disposed of at the Facility may present a substantial hazard to human health and/or the environment within the meaning of Section 3013 of RCRA, 42 U.S.C. § 6934.

43. EPA further determines that the monitoring, testing, analysis, and reporting set forth in this Order are reasonable to ascertain the nature and extent of such potential hazard at the Facility and to protect human health and the environment.

VI. ORDER FOR MONITORING, TESTING, ANALYSIS, AND REPORTING

General Requirements

44. Based upon the Findings of Fact and Conclusions of Law set forth above, pursuant to Section 3013 of RCRA, 42 U.S.C. Section 6934, Respondent agrees to and is hereby ordered to perform the following acts in the manner and by the dates specified herein.

All work undertaken pursuant to this Order shall be performed in a manner consistent with, at a minimum: the Statement of Work (SOW), attached hereto as Attachment 2 and incorporated by reference, and all other Work Plans and/or reports approved by the EPA pursuant to the terms of this Order; RCRA and its implementing regulations; and all applicable or relevant EPA guidance documents. Respondent agrees to perform the activities described in the SOW pursuant to the schedule and in the manner specified therein, unless modifications thereto are approved by EPA.

45. All work required by this Order shall be performed within the time frames specified herein and in the SOW, or according to schedules approved by EPA, unless an extension of time is granted in writing by the EPA's Project Manager.

46. Unless otherwise specified herein the term "days" as used in this Consent Order shall mean business days. For calendar day deadlines, in the event that a deadline falls on a weekend or Federal holiday, the deadline shall become the next workday.

47. In the event that Respondent obtains information which indicates there exists a previously unknown release of hazardous waste and/or constituents at the Facility, that has not been previously reported to a state or federal agency, including any submittals under this Order, Respondent shall immediately notify the EPA orally of such situation.

48. Respondent shall notify the EPA in writing of such previously unknown release described in the previous paragraph, within seven (7) days of when Respondent became aware of the situation. The written notification shall summarize the immediacy and magnitude of the threat or potential threat to human health or the environment and the proposed response to the release to control, abate or mitigate such threat.

Required Work and Deliverables

49. Within thirty (30) days of the effective date of this Consent Order, Respondent shall submit to EPA a Work Plan ("WP") that shall be completed in a manner consistent with Task I of the RFI SOW.

50. Within sixty (60) days of receipt of the EPA's written approval of the WP, unless an alternative schedule is approved by the EPA, Respondent shall commence the work specified in the approved WP, and shall complete this work within the schedule approved by the EPA. This work shall be completed in accordance with the approved WP and Task I and II of the RFI SOW. If at any time during implementation of corrective action under this Order, the EPA determines that additional work is necessary to accomplish the corrective action required under this AOC, the EPA will provide written notification to the Respondent of the requirement for additional work to be performed by the Respondent.

51. The EPA will consider any proposals by Respondent in the WP to perform investigative work in addition to that required by Task I and II of the RFI SOW in approving any alternative deadlines for completion of the required field work.

52. Respondent shall promptly notify EPA in writing of the date it completes the work required by the approved WP. Within ninety (90) days of the date of completion stated in Respondent's notice, Respondent shall submit a RCRA Facility Investigation Report ("the Report") to the EPA for review and approval. The Report shall be prepared in accordance with Task I and II of the RFI SOW.

53. In the event the RFI reveals COCs at concentrations that pose an unacceptable risk to human health or the environment and requiring a remedial solution, Respondent will, within sixty (60) days of Respondent's receipt of EPA's written approval of the RFI Report, submit a CMS Work Plan for EPA review and approval. The CMS Work Plan shall be prepared in accordance with Task I of the CMS SOW.

54. Within forty five (45) days of written notification by EPA, if required by EPA, Respondent will submit a site specific Risk Assessment Work Plan to the EPA for review and approval. The Work Plan shall be prepared in accordance with Task II of the RFI SOW.

55. Within forty five (45) days of written notification by EPA, if required by EPA, Respondent shall submit a Vapor Intrusion Characterization (VIC) Work Plan to the EPA for review and approval. The VIC Work Plan shall be prepared in accordance with Task II of the RFI SOW.

56. In accordance with the schedule in the EPA approved VIC Work Plan, Respondent will submit a VIC Report to the EPA for review and approval. The VIC Report shall be prepared in accordance with Task II of the RFI SOW.

57. Within sixty (60) days of receipt of EPA's written approval of the CMS Work Plan, Respondent shall submit for approval a draft CMS Report. The CMS Report shall be prepared in accordance with EPA guidance and Task II of the CMS SOW.

58. Following the effective date of this Consent Order until termination, Respondent shall provide the EPA with signed Quarterly Progress Reports by the 15th day of each calendar month following the end of the quarterly monitoring period. Quarterly Progress Reports shall be prepared in accordance with Task II of the RFI and CMS SOWs.

59. All deliverables are subject to EPA approval, modification and/ or disapproval pursuant to Article X.

60. The absence of an EPA Project Manager for the Parker Hannifin facility shall not be cause for stoppage of Work; however, deliverable dates may be revised accordingly.

61. Respondent may seek the extension of any deadline contained within this Order or any work plan approved by EPA. Subject to the foregoing sentence and the provisions of Articles XIV and XV, any delay in performance in this Order, that in the EPA's judgment is not properly justified by Respondent under the terms of this Order, shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligation to fully perform all obligations under the terms and conditions of this Order.

VII. ACCESS TO PROPERTY AND INFORMATION

62. Respondent shall provide access to the Facility and to all records and documentation relating to the Work at the Facility and the activities conducted pursuant to the Order. In addition, Respondent shall make commercially reasonable efforts to obtain access to nearby affected properties in accordance with Paragraph 65 of this Order. Such access to property and information shall be provided to the EPA employees and authorized contractors, agents, consultants, designees, authorized EPA representatives, and authorized State of Nebraska representatives (collectively, "governmental personnel"), in such reasonable numbers, for such reasonable purposes, and at such reasonable times so as not to unreasonably interfere with ongoing business and manufacturing operations at the Facility. These individuals shall have the authority to enter the areas at the Facility subject to the Work for the purposes of, inter alia: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts related to the Work and this Order at the Facility; reviewing the progress of the Respondent in carrying out the terms of this Order and conducting such tests, sampling, or monitoring as the EPA deems necessary; using a camera, sound recording, or other documentary type equipment, subject to Paragraphs 102-104; and verifying the reports and data submitted to the EPA by Respondent. Respondent shall have the right to have an employee, consultant or agent accompany the governmental personnel during all times of access. Subject to Paragraphs 102-104 of this Order, Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data that pertain to Work undertaken pursuant to this Order.

63. Respondent shall submit to the EPA, upon request, results of all sampling or tests and all other data generated by Respondent or its contractor(s), during implementation of this Consent Order.

64. To the extent that activities/work required by this Order or any approved Workplan(s) prepared pursuant hereto, must be performed on property or in areas owned by or in possession of someone other than Respondent, Respondent shall use its commercially reasonable efforts to obtain all necessary access agreements within sixty (60) days after the later of (i) the effective date of this Order, or (ii) the date when the need for such access is identified by Respondent or EPA if such access is required. Respondent shall immediately notify the EPA if, after using its commercially reasonable efforts, it is unable to obtain such agreements.

65. As used in this Article, "commercially reasonable efforts" shall include, at a minimum, an initial visit, a follow-up telephone call, and a certified letter from Respondent to the present owner of the property, requesting an access agreement to permit Respondent and the EPA, including its authorized representatives, access to the property to conduct the activities required under this Consent Order. "Commercially reasonable efforts" also includes, if necessary, the payment of reasonable consideration for access to the present owner of any property where Work is to be performed, or where the EPA may determine access is necessary, such consideration may include payment of reasonable rental costs, and compensation for losses sustained by owner or occupant of the realty directly and solely attributable to such access.

66. Respondent shall provide EPA's Project Manager with a copy of any access agreements. Access agreements shall provide access to Respondent, its contractor(s), EPA and

its representatives, the authorized State representatives, including contractors. Any such access agreements shall be incorporated by reference into this Order.

67. In Respondent's notification to the EPA of failure to obtain access, Respondent shall describe in writing its efforts to obtain access. The EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the Work described herein. Respondent shall reimburse the EPA for all costs incurred by the EPA in obtaining access, including, but not limited to, attorney's fees and the amount of any commercially reasonable compensation and costs incurred by the EPA.

68. Respondent shall provide the EPA a copy of the Site(s) Health and Safety Plan(s) within sixty (60) days of the effective date of this Consent Order.

69. Respondent shall make commercially reasonable efforts to obtain access agreements that provide EPA with access to off-site property until such time as the EPA has granted notice of completion as set forth in Article XXII, Termination and Satisfaction.

70. In the event that Respondent wishes to assert a privilege with regard to any document which the EPA seeks to inspect or copy pursuant to this Order, Respondent shall provide a written description of the content of each document withheld, the privilege claimed, and the basis of the privilege being claimed. For the purposes of this Consent Order, privileged documents are those documents exempt from discovery from the United States in litigation under the Federal Rules of Civil Procedure and/or any applicable case law. The EPA may dispute any such claim of privilege pursuant to Article XIV, Dispute Resolution.

71. Nothing in this Consent Order shall limit or otherwise affect EPA's right of access and entry pursuant to RCRA, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq., or any other legal authority.

VIII. ADDITIONAL WORK

72. Consistent with the objectives of this Order, the EPA or Respondent may determine that additional monitoring, testing, analysis, and/or reporting is necessary to ascertain the nature and extent of any hazard to human health and the environment which may be presented by the presence or release of hazardous waste and/or constituents at or from the Facility. These tasks and deliverables may or may not have been in the EPA-approved RFI Workplan.

73. If the EPA determines that such additional work is necessary, the EPA shall request in writing that Respondent perform the additional work and shall specify the reasons for the EPA's determination that additional work is necessary.

74. Within thirty (30) calendar days after the receipt of such determination, Respondent shall have the opportunity to request a conference with the EPA to discuss the additional work the EPA has requested.

75. In the event that Respondent agrees to perform the additional actions and/or work, such actions/work shall be performed in accordance with this Order.

Respondent shall submit to the EPA, within sixty (60) days following the EPA's receipt of Respondent's agreement to perform additional work, a Work Plan including schedule, for performance of such additional work.

76. Such Work Plan shall be subject to the review and approval procedures of Article X, Submissions/EPA Review/Modifications, of this Consent Order. Upon receipt of the EPA's written approval of such Work Plan, Respondent shall implement such Work Plan in accordance with its terms and schedule.

77. The EPA reserves the right to order Respondent to perform such additional actions or work or to perform such additional actions or work itself and to seek to recover from Respondent all costs of performing such additional work, pursuant to any rights it may have under applicable law.

IX. MINIMUM QUALIFICATIONS FOR PERSONNEL

78. All work performed by Respondent pursuant to this Consent Order shall be under the direction and supervision of a professional engineer or geologist with demonstrated expertise in hazardous waste site investigation.

79. Within fifteen (15) business days after the effective date of this Consent Order, Respondent shall submit to the EPA in writing, the name, title, and qualifications of the supervisory personnel and of any contractors or subcontractors to be used in carrying out the terms of this Consent Order.

80. Notwithstanding Respondent's selection of supervisory personnel, contractors or subcontractors, nothing herein shall relieve Respondent of its obligation to comply with the terms and conditions of this Consent Order.

81. Respondent shall notify the EPA seven (7) calendar days prior to any change in the supervisory personnel and/or contractors or subcontractors to be used in carrying out the terms of this Consent Order, and shall submit to the EPA, in writing, the name, title and qualifications of the additional or replacement supervisory personnel, contractor or subcontractor. The EPA may disapprove at any time the use of any supervisory personnel, contractor or subcontractor and shall notify Respondent, in writing, of such disapproval and the reasons for such disapproval.

82. The EPA's disapproval of any such supervisory personnel, contractor, and/or subcontractor shall not be subject to the dispute resolution procedures of Article XIV, below.

83. Within fifteen (15) business days from receipt of the EPA's written notice disapproving the use of any supervisory personnel, contractor and/or subcontractor, Respondent

shall notify the EPA, in writing, of the name, title and qualifications of the personnel who will replace the personnel disapproved by the EPA.

84. In the event of subsequent disapproval of the proposed replacement, the EPA reserves the right to conduct the work required pursuant to this Consent Order and seek reimbursement from Respondent, pursuant to any right it may have under applicable law.

X. SUBMISSIONS/EPA REVIEW/MODIFICATIONS

85. All reports, plans, procedures, and other documents which must be submitted to EPA pursuant to this Consent Order shall be sent to the EPA's Project Manager by certified mail or overnight express that provides proof of service. The EPA's Project Manager's name, mailing address, telephone number, facsimile number, and email address are as follows:

Bruce Morrison
Project Manager
AWMD/WRAP
U.S. EPA, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219
(913) 551- 7755
(913) 551-7065
Morrison.Bruce@epa.gov

86. After submission of any document, plan, or report, the EPA will approve the document, conditionally approve the document with comments, or disapprove the document with comments.

87. If the EPA approves the document, plan, or report, the EPA will notify Respondent in writing and Respondent shall implement all activities required in the document, if any, in accordance with the schedules in the approved document.

88. Subject to Article XIV, Dispute Resolution, if the EPA conditionally approves the document with comments, the comments shall be considered incorporated into the document. The conditionally approved document with the comments incorporated shall be an enforceable part of this Consent Order. Respondent shall revise the document in accordance with the comments and resubmit it within thirty (30) days of Respondent's receipt of conditional approval. Respondent may request additional time within which to submit a revised submission.

89. If the EPA disapproves the document with comments, Respondent shall revise the document in accordance with the EPA's comments within thirty (30) business days of receipt of notice of disapproval. Respondent may request additional time within which to submit a revised submission. The EPA will review the resubmitted document in accordance with this Article. If approved or conditionally approved with comments upon resubmission, Respondent shall commence any work required by the document in accordance with the schedules therein.

90. If upon resubmission of a document, the EPA determines in its sole discretion that the Respondent has failed to adequately incorporate the EPA's comments and as a result disapproves the revised submission, Respondent may invoke the Dispute Resolution provisions of Article XIV, Dispute Resolution, of this Consent Order. In the event Respondent does not invoke the dispute resolution procedures of Article XIV, Dispute Resolution of this Consent Order, Respondent may submit to EPA for approval a subsequent revised submission which responds to any comments received and/or corrects any deficiencies identified by EPA. Respondent may request additional time within which to submit a subsequent revised submission. Otherwise, EPA reserves the right to revise such submission and to seek to recover from Respondent any costs incurred in making such revisions, in accordance with any rights it may have under RCRA and any other applicable law.

91. Subject to any properly-invoked Dispute Resolution process under Paragraph 90 and Article XIV, in the event EPA and Respondent cannot resolve issues relating to Respondent's subsequent revised submission, EPA may unilaterally revise the document in accordance with the EPA's comments, and the unilaterally modified document shall be considered the approved document. Respondent shall commence any work required by the unilaterally modified document in accordance with the schedules therein.

92. Respondent shall implement all documents, plans, or reports according to the specifications and schedules contained in the Order or in a subsequent EPA-approved document, plan, or report.

93. Any EPA approved submission, or submission modified by the EPA, shall be incorporated into and made an enforceable part of this Consent Order, and failure to implement the submission in accordance with the requirements and schedules contained therein, or as they may be extended pursuant to Paragraph 61 of this Order, shall be deemed a violation of this Consent Order and subject to stipulated penalties as provided in Section XVII unless excused pursuant to Article XIV, Dispute Resolution or Article XV, Force Majeure.

94. Respondent shall provide the EPA with Quarterly progress reports which contain a summary of work performed and information required in accordance with Task III of the RFI and CMS SOWs.

95. Any notice, report, certification, data presentation, or other document submitted by Respondent pursuant to this Consent Order which discusses, describes, demonstrates, or supports any finding or makes any representation concerning Respondent's compliance or noncompliance with any requirement of this Consent Order shall be certified by a duly authorized representative of Respondent. A person is a "duly authorized representative" only if (a) the authorization is made in writing, and (b) the authorization specifies either an individual or position having responsibility for overall operation of the regulated facility or activity; thus, the individual must be named and occupy a named position; and the written authorization is submitted to the EPA's Project Manager.

96. The certification required by the previous paragraph shall be in the following form:

“I certify under penalty of law that this [name of submission] and all attachments were prepared under my direction or supervision in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.”

Signature: _____

Name: _____

Title: _____

XI. SAMPLING AND DATA/DOCUMENT AVAILABILITY

97. Respondent shall submit to the EPA the results of all sampling and/or tests or other data generated by, or on behalf of, Respondent pursuant to the requirements of this Order.

98. Respondent shall notify the EPA, in writing and by electronic mail, at least thirty (30) days in advance of engaging in any field activities at the Facility conducted pursuant to this Order.

99. At the request of the EPA, Respondent shall allow the EPA or its authorized representatives to take split and/or duplicate samples of all samples collected by Respondent pursuant to this Order. Similarly, at the request of Respondent, the EPA will allow Respondent or its authorized representatives to take split and/or duplicate samples of any samples collected by the EPA under this Order, provided that such sampling shall not delay EPA’s proposed sampling activities.

100. Nothing in this Order shall limit or otherwise affect the EPA’s authority to collect samples pursuant to any applicable law, including, but not limited to, RCRA, the Clean Water Act (“CWA”), the Clean Air Act (“CAA”), and/or the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”).

XII. QUALITY ASSURANCE

101. Commencing on the Effective Date of this Consent Order and continuing thereafter, Respondent shall use EPA-approved quality assurance, quality control, and chain-of-custody procedures, as specified in the EPA-approved RFI Workplan, for all sample collection and analysis for work performed under this Consent Order. Respondent shall submit to the Project Manager any necessary update to such procedures within sixty (60) days of the Effective Date of this Consent Order and shall submit other updates as necessary. In addition, Respondent shall:

- a. Ensure that laboratories used by Respondent for analyses perform such analyses according to the EPA methods included in “Test Methods for Evaluating Solid Waste”

(SW-846, November 1986) or other methods deemed satisfactory to the EPA. If methods other than EPA methods are to be used, Respondent shall submit all analytical protocols to be used for analyses to the EPA for approval in the RFI Work Plan and shall obtain EPA approval prior to the use of such analytical protocols.

b. Ensure that laboratories used by Respondent for analyses participate in a quality assurance/quality control program equivalent to that which is followed by EPA. As part of such a program, and upon request by the EPA, such laboratories shall perform analyses of samples provided by the EPA to demonstrate the quality of the analytical data.

c. Inform the EPA Project Manager at least thirty (30) calendar days in advance of any planned laboratory analysis regarding which laboratory which will be used by Respondent and use commercially reasonable efforts to provide that EPA personnel and the EPA authorized representatives have reasonable access to the laboratories and personnel used for analysis.

XIII. INFORMATION SUBMITTED TO EPA

102. Respondent may assert a business confidentiality claim in the manner described in 40 C.F.R. § 2.203(b) covering all or part of any information submitted to the EPA pursuant to this Consent Order. In accordance with 40 C.F.R. § 2.204(e)(4), any assertion of confidentiality shall be adequately substantiated by Respondent when the assertion is made. Respondent shall have the burden of demonstrating to the EPA that such privilege exists.

103. Information submitted for which Respondent has asserted a claim of confidentiality as specified above shall be disclosed by the EPA only to the extent and manner permitted by 40 C.F.R. Part 2, Subpart B. If no such confidentiality claim accompanies the information when it is submitted to the EPA, the information may be made available to the public by the EPA without further notice to Respondent.

104. If Respondent wishes to assert a privilege with regard to any document which EPA seeks to inspect or copy pursuant to this Order, Respondent shall identify the document, the privilege claimed, and the basis therefor in writing. For the purposes of this Order, "privileged documents" are those documents exempt from discovery from the United States in litigation under the Federal Rules of Civil Procedure.

105. Respondent agrees not to assert any confidentiality claim with respect to any physical, sampling, monitoring, or analytical data.

106. The EPA may dispute, or request validation of, any claim that information is "confidential business information" pursuant to the provisions of 40 C.F.R. Part 2.

107. If Respondent believes that information submitted to the EPA should be exempt from requests made to the EPA under the Freedom of Information Act (FOIA), 5 U.S.C. 552, *et seq.*, because of national security concerns, Respondent may identify such information to the EPA.

108. Subject to Article XIV, Dispute Resolution, the EPA will evaluate whether such information is properly exempt from FOIA production.

XIV. DISPUTE RESOLUTION

109. The parties shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion. Except where expressly provided, the parties agree that the procedures contained in this Article are the sole procedures for resolving disputes arising under this Order.

110. If Respondent disagrees, in whole or in part, with any decision by the EPA pursuant to this Order, Respondent's Project Manager shall notify the EPA Project Manager of the dispute within fifteen (15) days of notification of such decision. The Project Managers shall attempt to resolve the dispute informally.

111. If the Project Managers have not resolved the dispute informally within thirty (30) days of Respondent's notice to the EPA, Respondent shall have at that time the option to pursue the matter formally by placing its objections in writing. Respondent's written objections must be sent to the EPA Project Manager within fifteen (15) business days after the period for informal discussion has ended, and must set forth the specific points of the dispute, the position Respondent claims should be adopted as consistent with the requirements of this Order, the basis for Respondent's position, and any matters which it considers necessary for the EPA's determination. If Respondent fails to follow any of the requirements contained in this paragraph then it shall have waived its right to further consideration of the disputed issue. The EPA and Respondent shall then have an additional thirty (30) days from the EPA's receipt of Respondent's objections to attempt in good faith to resolve the dispute. If agreement is reached, the resolution shall be reduced to writing, signed by an authorized representative of each party and shall become a part of this Order. Any extension of time shall be accomplished through a written amendment to this Order pursuant to Article XIX, Subsequent Modification of Final Consent Order.

112. If the parties are unable to reach an agreement within the aforesaid thirty (30)-day period, the matter shall be referred to the Division Director, Air and Waste Management Division, EPA Region 7. The Division Director shall then decide the matter and provide a written statement of his or her decision to Respondent. Such decision shall become an enforceable part of this Order.

113. No action or decision by the EPA, including without limitation, decisions of the Division Director, or his or her designates, pursuant to this Consent Order, shall constitute final agency action giving rise to any rights to judicial review prior to the EPA's initiation of judicial action to compel Respondent's compliance with the requirements of this Consent Order.

114. The invocation of formal dispute resolution procedures under this Article shall not extend, postpone or affect any obligation of Respondent under this Order unless the EPA determines otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue during the dispute resolution procedures, but payment shall be stayed pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Order. In the event that

Respondent does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XVII, Stipulated Penalties.

XV. FORCE MAJEURE

115. Respondent agrees to perform all requirements of this Consent Order within the time limits set forth herein, unless the performance is prevented or delayed by events which constitute a force majeure. For the purposes of this Consent Order, a force majeure is defined as any event arising from causes beyond Respondent's reasonable control, or beyond the reasonable control of their consultants and contractors, which delays or prevents performance by a date required by this Consent Order, despite Respondent's commercially reasonable efforts to meet all applicable time limits. The term force majeure shall not include unanticipated or increased costs of performance, changed economic circumstances, normal weather conditions which could have been overcome by due diligence, or failure to make timely application for federal, state, or local permits.

116. Respondent shall have the burden of proving that any delay is or will be caused by a force majeure. The EPA shall make the final determination as to whether certain events constitute a force majeure.

117. Respondent shall promptly notify the EPA orally or by electronic transmission, and shall also notify EPA in writing within five (5) business days after it becomes or should have become aware of any event which Respondent believes constitutes a force majeure. Such notice shall include an estimate of the anticipated length of delay, including necessary demobilization and remobilization, a description of the cause of the delay, the measures taken or to be taken to minimize delay, and an estimated timetable for implementation of these measures. In addition to the above notification requirements, Respondent shall undertake all reasonable actions to prevent or minimize any delay in achieving compliance with any requirements of this Order after it becomes or should have become aware of any event which may delay such compliance.

118. Failure to comply with the notice provision of this Article shall constitute a waiver of Respondent's right to assert a force majeure claim with respect to such event for any time period prior to the giving of notice.

119. If the EPA determines that the delay has been or will be caused by a force majeure, the time for performance for that element of work may be extended for a period approved by EPA that is equal to the delay resulting from such circumstances. This schedule extension shall be accomplished through written amendment to this Order pursuant to Article XIX, Subsequent Modification of Final Consent Order. The time of performance of any activity dependent on the delayed activity shall be similarly extended, except to the extent that the dependent activity can be implemented in a shorter time. The EPA shall determine whether subsequent requirements are to be delayed and the time period granted for any delay. Such an extension does not alter the schedule for performance or completion of other, non-dependent tasks required by the Order or the SOW.

120. In the event that the EPA and Respondent cannot agree that any delay or failure has been or will be caused by a force majeure, or if there is no agreement on the length of the

extension, such dispute shall be resolved in accordance with the provisions of Article XIV of this Order, Dispute Resolution.

XVI. RECORD PRESERVATION

121. Respondent shall retain, during the pendency of this Order, and for a minimum of five (5) years after its termination, a copy of all data, records, and documents now in its possession or control, or in the possession or control of its divisions, officers, directors, employees, agents, contractors, subcontractors, successors, representatives, and assign, or which come into the possession or control of the Respondent, its divisions, officers, directors, employees, agents, contractors, subcontractors, successors, representatives, and assign, which relate in any way to this Order or to solid and/or hazardous waste management and/or disposal at the Facility.

122. After five (5) years, Respondent shall consult with the EPA in order to make such records available to EPA for inspection or shall make copies of such records available to the EPA shall EPA so elect. Respondent shall notify the EPA, in writing, at least thirty (30) days in advance of the proposed destruction of any such records, and shall provide the EPA with the opportunity to inspect, copy and/or take possession of any such records.

Such written notification shall reference the caption, docket number and date of issuance of this Consent Order and shall be addressed to:

Don Lininger, Branch Chief
Waste Remediation and Permitting Branch
Air and Waste Management Division
U.S. EPA, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Respondent shall not destroy any record to which the EPA in writing has requested access for inspection and/or copying until the EPA has obtained such access or withdrawn its request for such access. Additionally, Respondent shall provide data, records, and documents retained under this Article at any time before the expiration of the five (5) year period at the written request of the EPA.

XVII. DELAY IN PERFORMANCE/STIPULATED PENALTIES

123. Unless there has been written modification of a compliance date by the EPA, or excusable delay as defined in Section XV, Force Majeure, in the event that Respondent fails to comply with any requirement set forth in this Order, Respondent shall pay stipulated penalties set forth below, upon receipt of written demand by the EPA. Compliance by Respondent with this Order shall include commencement or completion, as appropriate, of an activity, plan, study, or report required by this Order in a manner acceptable to EPA and within the specified time schedules in and approved under this Order.

124. The stipulated penalties for violations relating to this Order shall accrue as follows: for failure to timely submit a deliverable, commence, properly perform, or complete work by the deadlines or in the manner as prescribed by this Order or pursuant to a plan approved under this Order:

- (i) \$750 per day for the first through fourteenth days or part thereof of non-compliance;
- (ii) \$1000 per day for each day of noncompliance, or part thereof, thereafter.

b. For failure to comply with the provisions of this Order, after receipt of notice of noncompliance by the EPA, in the time frame allowed in the notice:

- (i) \$ 750 per day for the first through fourteenth days or part thereof of non-compliance;
- (ii) \$ 1000 per day for each day of noncompliance, or part thereof, thereafter; in addition to any stipulated penalties imposed for the underlying noncompliance.

125. Subject to Paragraphs 123 and 124, all stipulated penalties shall begin to accrue on the date that complete performance is due or a violation or non-compliance occurs and shall continue to accrue through the final day of correction of the violation or non-compliance. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Order.

126. All penalties owing under this Section shall be due within thirty (30) calendar days of receipt by Respondent of written demand by the EPA for payment thereof, unless Respondent timely invokes procedures set out in Section XI, Dispute Resolution. Such notification shall describe the noncompliance and shall indicate the amount of the penalties due. Interest shall begin to accrue on the unpaid balance at the end of this thirty (30) calendar day period. Interest will accrue on the unpaid balance at the United States Tax and Loan Rate until such penalties and interest have been paid in full and will be compounded annually.

127. All penalties shall be paid by certified or cashier's check made payable to "Treasurer of the United States" and remitted to:

U.S. Environmental Protection Agency
Fines and Penalties
Cincinnati Finance Center
P.O. Box 979077
St. Louis, Missouri 63197-9000

128. All payments shall reference the EPA Docket Number which appears on the face of this Consent Order and Respondent's name and shall indicate that they are in payment of stipulated penalties. A copy of the payment and transmittal of payment shall be sent to the EPA's Project Manager at the address shown in Section X, Submissions/EPA Review.

129. The stipulated penalties set forth in this Section do not preclude the EPA from

pursuing any remedies or sanctions which may be available to the EPA by reason of Respondent's failure to comply with any of the requirements of this Consent Order, nor shall payment of said penalties relieve Respondent of the responsibility to comply with this Consent Order.

130. Neither invoking dispute resolution procedures pursuant to Section XIV nor the payment of penalties shall alter in any way Respondent's obligation to comply with the requirements of this Consent Order.

131. Respondent may dispute the EPA's demand for payment of stipulated penalties for any alleged violation of this Order by invoking the dispute resolution procedures outlined in Section XIV, Dispute Resolution. Stipulated penalties shall continue to accrue during the dispute resolution procedures, but need not be paid, for any noncompliance which is the subject of dispute resolution during the period of dispute resolution. To the extent that Respondent does not prevail upon resolution of the dispute, Respondent shall remit to the EPA within seven (7) calendar days of receipt of such resolution any outstanding penalty payment, including any accrued interest, in the manner described above in Paragraphs 126-128 of this Section. To the extent Respondent prevails upon resolution of the dispute, no penalties shall be payable.

XVIII. RESERVATION OF RIGHTS

132. The EPA expressly reserves all rights and defenses it may have, including the right both to disapprove of work performed by Respondent pursuant to this Order, to require that Respondent correct and/or perform any work disapproved by the EPA, and to require that Respondent perform tasks in addition to those stated in the Scope(s) of Work or any other provision of this Order.

133. The EPA hereby reserves all of its statutory and regulatory powers, authorities, rights and remedies, both legal and equitable, including any which may pertain to Respondent's failure to comply with any of the requirements of this Order, including without limitation, the assessment of penalties under Section 3013(e) of RCRA, 42 U.S.C. § 6934(e).

134. This Order shall not be construed as a covenant not to sue, or as a release, waiver or limitation of any rights, remedies, defenses, powers and/or authorities, civil or criminal, which the EPA has under RCRA, CERCLA, CWA, the Safe Drinking Water Act (SWDA), CAA, or any other statutory, regulatory, or common law enforcement authority of the United States. Nothing in this Order shall be construed to limit the EPA's authority to respond to imminent and substantial endangerments.

135. This Order is not intended to be, nor shall it be construed to be, a permit. Further, the parties acknowledge and agree that the EPA's approval of the Workplan does not constitute a warranty or representation that the Workplan will achieve the required cleanup or performance standards. Compliance by Respondent with the terms of this Consent Order shall not relieve Respondent of its obligations to comply with RCRA or any other applicable local, state or federal laws.

136. Nothing herein shall limit the power and authority of the EPA or the United States to, at any time, take, direct, or order all actions necessary to protect public health, welfare, or the environment and/or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from Respondent's facility.

137. Nothing herein shall prevent the EPA from seeking legal or equitable relief to enforce the terms of this Consent Order, including the right to seek injunctive relief and/or the imposition of statutory penalties. The EPA also further reserves the right to take any legal or equitable action as it deems appropriate and necessary, or to require Respondent in the future to perform additional activities pursuant to RCRA, CERCLA, or any other applicable law.

138. The EPA reserves the right to perform any portion of the work required to be performed herein or any additional work including, but not limited to, monitoring, sampling, analysis, site characterization, remedial investigation, feasibility studies, and response/corrective actions or reporting as the EPA deems necessary to protect public health or the environment or if Respondent fails to perform the work consented to herein or any additional work agreed upon pursuant to this Order in a timely and satisfactory manner. The EPA may exercise its authority under RCRA, CERCLA, or any other authority to undertake or require the performance of response actions at any time.

The EPA reserves the right to seek reimbursement from Respondent for all costs incurred by the EPA in connection with any such actions. Notwithstanding compliance with the terms of this Order, Respondent is not released from liability, if any, for the costs of any reasonable response action taken by the EPA.

139. The EPA reserves whatever rights it may have under any environmental law or authority, or in equity, to seek to recover from Respondent any costs incurred by the EPA in overseeing the implementation of this Order.

140. The EPA shall not be deemed a party to any contract involving Respondent and relating to activities at the Facility and shall not be liable for any claim or cause of action arising from or on account of any act, or omission of Respondent, its officers, employees, contractors, receivers, trustees, agents or assigns, in carrying out the activities of this Order.

XIX. SUBSEQUENT MODIFICATION OF FINAL CONSENT ORDER

141. This Consent Order may be amended only by mutual agreement of the EPA and Respondent. Any such amendment shall be in writing, shall be signed by an authorized representative of each party, shall have as its effective date the date on which it is signed by both parties, and shall be incorporated into this Consent Order.

142. Any reports, plans, specifications, schedules, other submissions and attachments required by this Consent Order are, upon written approval by EPA, incorporated into this Consent Order. Any noncompliance with such EPA-approved reports, plans, specifications, schedules, other submissions, and attachments shall be considered a violation of this Consent

Order and shall subject Respondent to the stipulated penalty provisions included in Section XVII, Stipulated Penalties.

143. Modifications in the studies, techniques, procedures, designs, or schedules utilized in carrying out this Consent Order and necessary for the completion of the project may be made by written agreement of the Project Managers. Such modifications shall have as an effective date the date on which the agreement is signed by both Project Managers.

144. No informal advice, guidance, suggestions, or comments by the EPA regarding reports, plans, specifications, schedules, and any other writing submitted by Respondent shall be construed as relieving Respondent of its obligation to obtain written approval when required by this Consent Order.

XX. OTHER APPLICABLE LAWS

145. All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable federal, state, and local laws, regulations, permits, and ordinances. Respondent shall obtain or require its authorized representatives to obtain all permits and approvals necessary under such laws and regulations.

146. Compliance by Respondent with the terms of this Consent Order shall not relieve Respondent of its obligation to comply with RCRA, or any other applicable federal, state, or local laws, regulations, permits, and ordinances.

147. Respondent admits to the EPA's jurisdiction in this matter pursuant to Article I of this Consent Order.

148. This Consent Order is not and shall not be interpreted to be a permit, or as a ruling or a determination of any issue related to a permit under federal, state or local law. This Consent Order shall not in any way affect Respondent's obligation, if any, to secure such a permit, nor shall this Consent Order be interpreted in any way to affect or waive any of the conditions or requirements that may be imposed by such permit, nor of Respondent's right to appeal any conditions of such permit. Respondent shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

XXI. OTHER CLAIMS

149. Nothing in this Consent Order shall constitute or be construed as a release from any claim, cause of action, demand, or defense in law or equity, against any person, firm, partnership, or corporation 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 wastes, hazardous waste constituents, hazardous substances, pollutants, or contaminants found at, taken to, or migrating from the Facility.

150. Neither the United States nor the EPA shall be deemed a party to any contract involving Respondent and relating to activities at Respondent's facility. Further, the United States and/or the EPA shall not be liable for any claim or cause of action arising from or on

account of any act, or the omission of Respondent, its officers, employees, contractors, receivers, trustees, agents or assigns, in carrying out the activities required by this Order.

151. Respondent agrees to indemnify and hold harmless the United States, EPA, and their employees from claims arising directly from acts or omissions of Respondent or its employees, officers, directors, agents, independent contractors, and assigns in carrying out activities required by this Consent Order.

XXII. TERMINATION AND SATISFACTION

152. The provisions of this Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated to the satisfaction of the EPA that the terms of the Order, including any additional tasks determined by the EPA to be required pursuant to this Order, have been satisfactorily completed.

153. Respondent may request termination as appropriate and the EPA shall consider the request in good faith. The termination notice shall not, however, terminate Respondent's obligations to comply with any continuing obligations hereunder, including, but not limited to, Article XVI, Record Preservation; Article XVIII, Reservation of Rights; Article XX, Other Applicable Laws; and Article XXI, Other Claims.

XXIII. SEVERABILITY

154. If any portion or authority of this Order or application of this Order to any party or circumstance, is held by any judicial or administrative authority to be invalid, the application of other provisions to Respondent or other parties or circumstances and remainder of this Order shall not be affected and shall remain in full force.

XXIV. SURVIVABILITY/PERMIT INTEGRATION

155. If, subsequent to the issuance of this Order, a RCRA permit or other Order is issued to the Facility, the requirements of this Order will be incorporated by reference into that Order or permit.

156. Any requirements of this Order shall not terminate upon the issuance of a RCRA permit or Order unless all Order requirements are expressly replaced by the requirements in the permit or all provisions of this Order have been fully complied with to the EPA's satisfaction in accordance with Article XXII, Termination and Satisfaction.

XXV. ATTORNEY'S FEES

157. The Respondent shall bear its own costs and attorney's fees.

XXVI. EFFECTIVE DATE

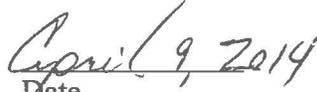
158. The effective date of this Consent Order shall be the date on which Respondent receives a true and correct copy of the fully executed Consent Order, as shown by the return receipt.

XXVII. CERTIFICATION OF SIGNATURE

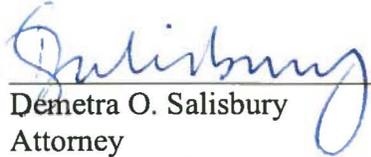
159. The undersigned representative of Respondent certifies that he/she is fully authorized to enter into the terms and conditions of this Order and to bind the party it represents to the terms of this document.

FOR RESPONDENT:
Parker-Hannifin Corporation:


Name: _____
Title: *General Manager*


Date

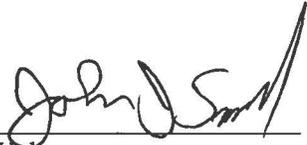
FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7



Demetra O. Salisbury
Attorney
Office of Regional Counsel
EPA Region 7

April 30, 2014
Date

IT IS SO ORDERED:



Rebecca Weber
Director
Re Air and Waste Management Division

5/7/14
Date

Attachments:

1. Map of Site
2. Statement of Work

CERTIFICATE OF SERVICE

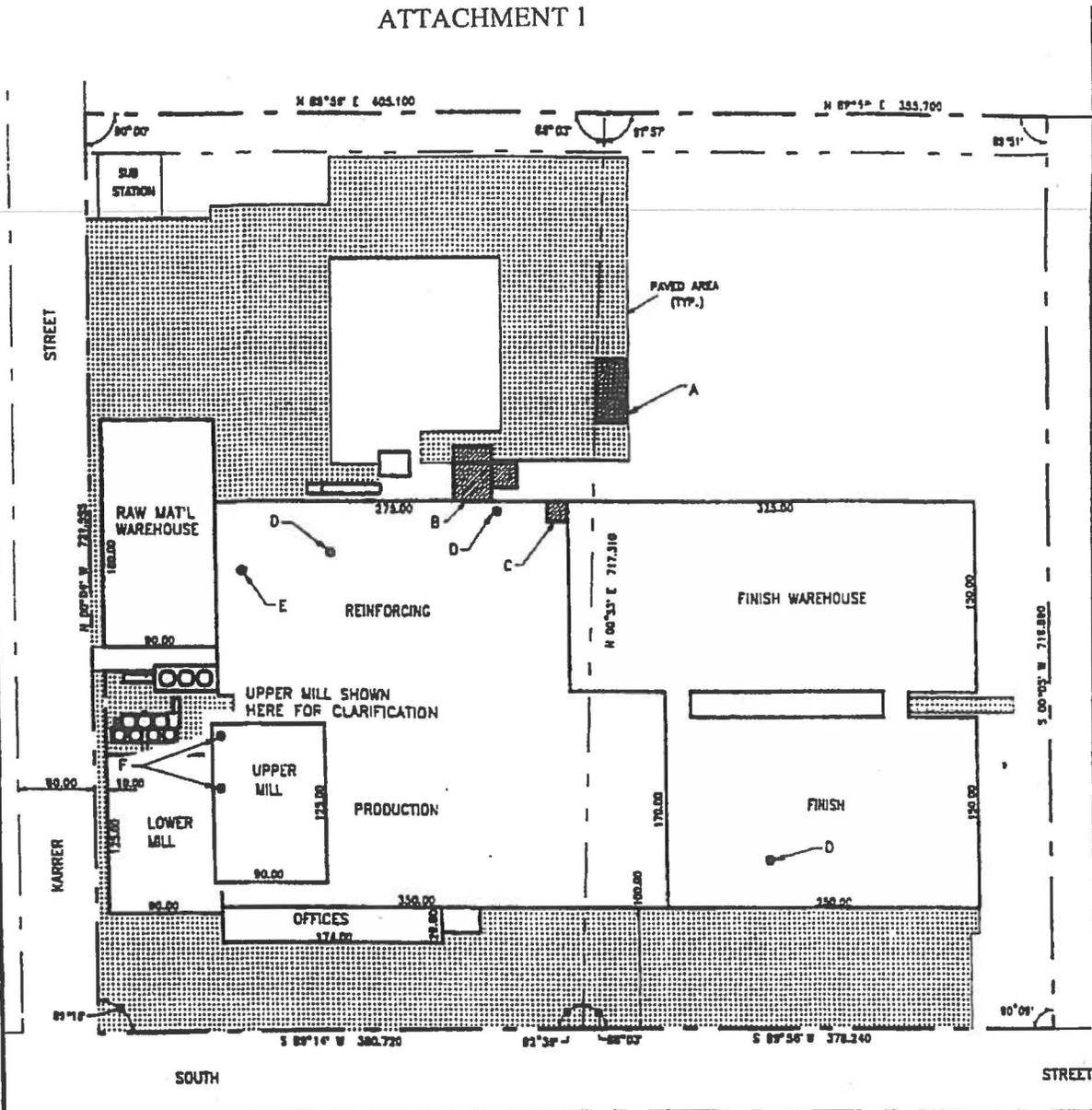
I certify that I have caused a copy of the foregoing Consent Order to be served upon the person designated below on the date below, by causing said copy to be deposited in the U.S. Mail, First Class (Certified Mail, Return Receipt Requested, postage prepaid), at Lenexa, Kansas, in an envelope addressed to the below:

Kathy Robinson
Printed name

Kathy Robinson
Signature

Dated this 8th day of May, 2014.

ATTACHMENT 1



PARKER HANNIFIN PROPERTY MAP

Legend

- A....Drum Storage Area
- B....Former Incinerator Location
- C....Alcohol Recycle Unit
- D....Parts Washer
- E....Satellite Accumulation Unit
- F....Dust Collector



ATTACHMENT #2

Statement of Work

Parker Hannifin

NED055074892

400 South Street

McCook, Nebraska 69001-1448

RCRA FACILITY INVESTIGATION (RFI)

PURPOSE

The purpose of this RCRA Facility Investigation ("RFI") is to determine the nature and extent of releases of RCRA hazardous wastes and/or RCRA hazardous waste constituents from regulated units, hazardous waste management units (HWMUs), solid waste management units (SWMUs), areas of concern (AOCs) and other source areas at Parker Hannifin, 400 South Street, McCook, Nebraska (Facility/Site), and to gather all necessary data to support a Corrective Measures Study. The RFI includes the collection of site-specific data to evaluate any human health and/or ecological impacts of contamination from the facility. The Respondent shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RFI.

All reports and work plans shall be submitted with one copy. All documents submitted to EPA should be sent to:

Bruce Morrison
Project Manager
AWMD/WRAP/KNRP
U.S. EPA, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219.

SCOPE

The RCRA Facility Investigation consists of three primary tasks. Following are the three primary tasks of an RFI and their typical subtasks:

TASK I: RFI WORK PLAN REQUIREMENTS

- A. Description of Current Conditions
- B. Quality Assurance Project Plan
- C. Sampling and Analysis Plan

TASK II: RCRA FACILITY INVESTIGATION

- A. Environmental Setting
- B. Source Characterization
- C. Contamination Characterization
- D. Potential Receptor Identification
- E. Data Analysis
- F. Site Conceptual Model
- G. Risk Assessment
- H. Vapor Intrusion Characterization

TASK III: RFI REPORTING

- A. RFI Work Plan/Description of Current Conditions
- B. RFI Report
- C. Risk Assessment
- D. Vapor Intrusion Characterization Work Plan
- E. Vapor Intrusion Characterization Report
- F. Quarterly Progress Reports

In accomplishing the above Tasks, the Respondent shall comply with the provisions of the corresponding Administrative Order on Consent (Order), Docket No. RCRA-07-2012-0046 between the United States Environmental Protection Agency (EPA) and the Respondent; this SOW; the *RCRA Corrective Action Plan*, EPA/520-R-94-004, OSWER Directive 9902.3-2A, May 1994; and all applicable EPA guidance, (including, but not limited to, the guidance documents referenced in the Order and this SOW).

TASK I: RFI WORK PLAN REQUIREMENTS

Within the timeframes specified in the Order, Respondent shall prepare an RFI Work Plan to support and guide the work necessary to characterize the current nature and extent of contamination in soil and groundwater on the facility property. In addition, the RFI Work Plan shall describe the procedure for characterizing the current nature and extent of contamination that migrated beyond the facility property including soil, groundwater, surface water, and sediment sampling. The RFI Work Plan shall include the components described below and a schedule for completing all requirements listed in Task II of this Statement of Work. During the implementation of the RCRA Facility Investigation, it may be necessary to modify the RFI Work Plan to increase the amount and/or type of samples to be collected in order to fully characterize the site for threats to public health and the environment. All modifications to the RFI Work Plan are required to be submitted to and approved by the EPA prior to implementation. EPA may approve or modify this submittal in accordance with Article X of the Order. The RFI Work Plan shall include the following elements:

A. Current Conditions

The Respondent shall submit for EPA approval a report providing the background information pertinent to the Facility. This report shall include information gathered during any previous investigations, inspections, interim measure activities and any other relevant data, which helps to identify potential sources of contamination and characterize the current site conditions with respect to the extent of contamination from RCRA hazardous constituents. EPA will review and approve or modify this submittal in accordance with Article X of the Order.

1. Facility Background

The Respondent's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage, or disposal of solid and RCRA hazardous waste. The Respondent's report shall include:

- a. Map(s) depicting the following:

- i) General geographic location;
- ii) Property boundary lines, with the owners of all adjacent property clearly indicated;
- iii) Topography (with a contour interval of 10 feet and a scale of 1 inch = 100 feet), water ways, wetlands, flood plains, and, drainage patterns;
- iv) All tanks, buildings, utilities, paved areas, and easements;
- v) All solid or hazardous waste treatment, storage, or disposal areas active after November 19, 1980;
- vi) All known past solid or RCRA hazardous waste substance treatment, storage, or disposal areas and all known spill, fire, or other accidental release locations where RCRA hazardous constituents may have been released or disposed;
- vii) All known past and present product and waste underground tanks or piping;
- viii) Surrounding land uses (residential, commercial, agricultural, recreational);
- ix) Location and construction details of all production and groundwater monitoring wells at and within a one (1) mile radius of the site.
- x) Location and description of surface water bodies within a one (1) mile radius of the facility.

All maps shall be consistent with the requirements set forth in 40 C.F.R. Section 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

- b. History and description of ownership and operation; solid and hazardous waste generation; treatment, storage, and disposal activities at the facility and list of hazardous chemicals used onsite;
- c. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location of the spills, and a description of the response actions conducted (local, state, or Federal response units or private parties), including any inspection reports or technical reports generated as a result of the response;
- d. Summary of past permits requested and/or received, any enforcement actions and their subsequent responses; and
- e. Production and monitoring well construction details including but not limited to,

well depth, screen interval, casing diameter, elevation of top of casing, and date of construction.

2. Nature and Extent of Contamination

The Respondent's report shall describe the existing information on the nature and extent of contamination.

- a. The Respondent's report shall identify all possible source areas of contamination. This, at a minimum, should include all regulated units, SWMUs, HWMUs, AOCs, spill areas, and other suspected source areas of contamination. For each area, the Respondent shall identify the following:
 - i) Location of unit/area (which shall be depicted on a facility map);
 - ii) Quantities of solid and hazardous wastes;
 - iii) Hazardous waste or hazardous constituents, to the extent known; and
 - iv) Identification of areas where additional information is necessary.
- b. The Respondent shall prepare an assessment and description of the existing nature and extent of contamination. This should include:
 - i) Available monitoring data in tabular form and qualitative information on locations and levels of contamination at the facility;
 - ii) All potential migration pathways including information on geology, soils, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and
 - iii) All potential impacts or threats to human health and the environment, including demography, groundwater and surface water use, and land use.

B. Quality Assurance Project Plan (QAPP)

To ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented, the Respondent shall prepare a QAPP to document all monitoring procedures, sampling, field measurements and sample analysis performed during the RFI to characterize the environmental setting, source(s), and contamination as required in Task II. The Respondent shall use quality assurance, quality control, and chain-of-custody procedures approved by the EPA. The QAPP should be prepared in accordance with the EPA *Requirements for Quality Assurance Project Plans*, EPA QA/R-5, EPA/240/B-01/003, March 2001, and following EPA *Guidance for Preparing Quality Assurance Project Plans*, EPA QA/G-5, EPA/240/R-02/009, December 2002. The minimum elements of Respondent's quality assurance program for data

collection activities are in Chapter One of EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. The QAPP shall include a description and qualifications of all personnel performing or directing the RFI, including contractor personnel. Standard operating procedures (SOPs) shall be included as an attachment to the plan(s) if SOPs are cited in the text.

The RFI Work Plan shall include Data Quality Objectives (DQO) for each data collection activity to ensure that data of known and appropriate quality are obtained and that data are sufficient to support their intended use(s). DQOs are performance and acceptance criteria that clarify study objectives, define the appropriate type of data, and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions. The DQOs shall be prepared consistent with EPA Guidance documents; "Guidance on Systematic Planning Using the Data Quality Objectives Process" EPA QA/G-4, EPA/240/B-06/001, February 2006; "Guidance for Developing Quality Systems for Environmental Programs" EPA QA/G-1, EPA/240/R-008, November 2002; and any subsequent revisions or editions.

The Facility shall monitor to ensure that high quality data is obtained by its consultant or contract laboratories. The Facility shall ensure that laboratory methods shall be in accordance with the latest approved edition of "Test Methods for Evaluating Solid Waste (SW-846)," the most current version of the Waste Management System; Testing and Monitoring Activities; Final Rule: Methods Innovation Rule, or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, the Facility shall specify all such protocols in the applicable Work Plan. EPA may reject any data that does not meet the requirements of the approved Work Plan and EPA analytical methods and may require re-sampling and additional analysis. The Facility shall ensure that all laboratories it uses for analyses participate in a quality assurance/quality control (QA/QC) program equivalent to the program that EPA follows.

C. Sampling and Analysis Plan (SAP)

The SAP shall outline the field investigation activities which will be conducted to determine current the nature and extent of contamination associated with the Facility, and fulfill the purpose and objectives of the RFI as described in Task II. The SAP shall be prepared in accordance with EPA *Guidance on Choosing a Sampling Design for Environmental Data Collection*, EPA QA/G-5S, EPA/240/R-02/005, December 2002. The SAP at a minimum should include the following:

1. A description of the site, its regulatory status;
2. Objectives for the sampling event;
3. A description of all SWMUs, AOCs and HWMUs, including details of previous environmental investigations and sampling performed to be used as part of defining the current nature and extent of contamination;
4. A discussion of sampling procedures which shall include: sampling locations, field quality assurance samples, analyses to be conducted including analytical method numbers, sample containers, sample preservation and shipment, and chain-of-custody procedures;

5. Monitoring well and soil boring locations, monitoring well construction details (installed depth, well screen interval, casing diameter, and top of casing elevations), installation, development and sampling procedures; and
6. The SAP shall detail the planned sampling approach for any sampling required to meet the requirements of Task II for characterization of the environmental setting, defining the sources of releases, and identifying potential receptors and human health and/or ecologic impacts.

TASK II: RCRA FACILITY INVESTIGATION (RFI)

Within the timeframes specified in the approved RFI Work Plan, the Respondent shall conduct investigations necessary to: characterize the facility (Environmental Setting); define the source(s) of contamination (Source Characterization); define the current nature and extent of contamination (Contamination Characterization); identify actual or potential receptors (Potential Receptor Identification), and determine the impact(s) of contamination on human health and/or ecological receptors (Risk Assessment). To the extent previous investigations provide credible and relevant data, the RFI need not include sampling or other investigative activities that would duplicate the data already available. The investigation should result in data of adequate technical quality to support the development and evaluation of the corrective measures alternative(s) during the Corrective Measures Study.

The site investigation activities shall follow the plans set forth in Task I. All sampling and analyses shall be conducted in accordance with the approved QAPP. All sampling locations shall be documented in a log and identified on a detailed site map. All results of sampling, testing, modeling or other data generated (including raw data if requested) by the Facility, or on the Facility's behalf, during implementation of this SOW shall be validated by the Facility and submitted to EPA in the next quarterly progress report. The data should be tabulated chronologically by media. Any deviations from the QAPP and chain of custody procedures in approved Work Plans must be approved by EPA prior to implementation; must be documented, including reasons for the deviations; and must be reported in the applicable report.

A. Environmental Setting

The Respondent shall collect information to supplement and verify existing information on the environmental setting at the facility. The Respondent shall characterize the following:

1. Hydrogeology - The Respondent shall conduct a program to evaluate hydrogeologic conditions at the facility. The following information, at a minimum, must be included in the RFI Report:
 - a. Description of the regional and facility-specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:
 - i) Regional and facility-specific stratigraphy;
 - ii) Structural geology: description of local and regional

- structural features (e.g., folding, faulting, jointing);
- iii) Depositional and erosional history;
 - iv) Identification and characterization of recharge and discharge areas;
 - v) Regional and facility-specific groundwater flow patterns for each hydrogeologic unit; and
 - vii) Characterization of seasonal variations in each groundwater flow regime.
- b. Analysis of any topographic features that might influence the groundwater flow system.
- c. Based on field data, tests, and cores, a representative and accurate classification and description of each hydrogeologic unit which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
- i) Hydraulic conductivity and porosity;
 - ii) Interpretation of hydraulic interconnections between saturated zones; and
 - iii) Attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).
- d. Based on field studies and cores, structural geology and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways, identify:
- i) Sand and gravel deposits in unconsolidated deposits;
 - ii) Zones of fracturing or channeling in unconsolidated deposits;
 - iii) Zones of high permeability or low permeability that might direct and/or restrict the flow of contaminants;
 - iv) The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and
 - v) Water-bearing zones above the first confining layer that may

serve as a pathway for contaminant migration, including perched zones of saturation.

- e. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source(s), a representative description of water level or fluid pressure monitoring, including:
 - i) Water-level contour and/or potentiometric maps;
 - ii) Hydrologic cross-sections showing vertical gradients;
 - iii) The flow system, including the vertical and horizontal components of flow; and
 - f. Description of man-made influences that may affect the hydrogeology of the site, identifying:
 - i) Active and inactive local water supply and production wells (including construction details) within a one (1) mile radius of the site, with an approximate schedule of pumping; and
 - ii) Man-made hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).
2. Soils - The Respondent shall conduct a program to fully characterize the soil and rock units at the site. The following information, at a minimum, must be collected and included in the RFI Report:
- a. Soil Conservation Service (SCS) soil classification;
 - b. Surface soil distribution;
 - c. Soil profile, including American Standard Test Method (ASTM) classification of soils;
 - d. Hydraulic conductivity;
 - e. Relative permeability;
 - f. Bulk density;
 - g. Porosity;
 - h. Depth of water table;
3. Surface Water and Sediment - The Respondent shall conduct a program to characterize the surface water bodies in the downgradient vicinity of the facility. The following information, at a minimum, must be included in the RFI Report:

- a. Description of the temporal and permanent surface water bodies.
 - b. Description of the chemistry of the natural surface water and sediments (e.g. pH, total organic carbon).
 - c. Description of sediment characteristics, including:
 - i) Deposition area(s);
 - ii) Thickness profile; and
 - iii) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH)
4. Air – The Respondent shall provide information reviewing the climate in the vicinity of the facility. The following information, at a minimum, must be included in the RFI Report:
- a. Description of the following parameters:
 - i) Annual and monthly rainfall averages;
 - ii) Monthly temperature averages and extremes;
 - iii) Prevailing wind direction.

B. Source Characterization

The Respondent shall collect analytical data to supplement and update the description prepared pursuant to Task I: A (Description of Current Conditions). The data shall characterize current and historical waste streams and the areas where wastes have been placed or released. This information shall include quantification of the following specific characteristics at each source area based on available records, and documentation of the procedures used to make the determinations.

1. Source Area Characteristics:
 - a. Location of unit/disposal or source area;
 - b. Type of unit/disposal area or cause of source/release;
 - c. Design features;
 - d. Operating practices (past and present);
 - e. Period of operation;
 - f. Age of unit/disposal area;
 - g. General physical condition; and

- h. Method used to close the unit/disposal area.
2. Waste Characteristics:
- a. Type of waste/product:
 - i) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing, or reducing agent);
 - ii) Quantity; and
 - iii) Chemical composition.
 - b. Physical and chemical characteristics:
 - i) Physical form and description (e.g., powder, oily sludge);
 - ii) pH;
 - iii) General chemical class (e.g., acid, base, solvent);
 - iv) Density;
 - v) Viscosity;
 - c. Migration and dispersal characteristics of the waste/product:
 - i) Sorption;
 - ii) Biodegradability, bioconcentration, biotransformation; and
 - iii) Chemical transformations.

C. Contamination Characterization

The Respondent shall collect analytical data on groundwater, soils, surface water, and sediment contamination at the facility. This data shall be sufficient to define the current extent, origin, direction, and rate of movement of contaminant plumes affecting all media. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Respondent shall address the following types of contamination at the facility:

- 1. Groundwater Contamination - The Respondent shall conduct a groundwater investigation to characterize all plumes of contamination originating at the facility and document the procedures used to characterize contaminant plume(s), (e.g., geophysics, modeling, pump tests, slug tests, nested piezometers). This investigation shall provide the following information:

- a. Specific origin (source) of each contaminant plume;
 - b. Description of the full horizontal and vertical extent of each immiscible or dissolved plume(s) originating from the facility;
 - c. Horizontal and vertical direction of contaminant movement;
 - d. Velocity of contaminant movement;
 - e. Horizontal and vertical concentration profiles of hazardous constituents; and
 - f. Evaluation of factors influencing the plume movement.
2. Soil Contamination - The Respondent shall conduct and document the procedures used to investigate and characterize the contamination of the soil in the vicinity of contaminant release(s). The investigation shall include the following information:
- a. Specific origin (source) of each soil contamination area;
 - b. Description of the full vertical and horizontal extent of soil contamination;
 - c. Description of contaminant and soil chemical properties within the contaminant source area and plume (e.g. contaminant solubility, adsorption, leachability) that might affect contaminant migration and transformation; and
 - d. Specific contaminant concentrations.
3. Surface Water and Sediment Contamination - The Respondent shall conduct and document the procedures used to investigate and characterize contamination in surface water bodies and sediments resulting from contaminant releases at the facility. The investigation shall include, but not be limited to, the following information:
- a. Specific origin (source) of each contaminant release to surface water and sediments;
 - b. Description of likely discharge locations of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in sediments and surface water;
 - c. Horizontal and vertical direction of contaminant movement;
 - d. Evaluation of the physical, biological, and chemical factors influencing contaminant movement; and
 - e. Description of the chemistry of the contaminated surface waters and sediments (e.g. pH, total dissolved solids, specific contaminant concentrations).

D. Potential Receptor Identification

The Respondent shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples may be required. Data on observable effects in ecosystems may also be required. The following characteristics shall be identified:

1. Local uses and possible future uses of groundwater within a one (1) mile radius of the facility:
 - a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and
 - b. Location of groundwater users, including wells and discharge areas.
2. Local uses and possible future uses of surface waters near the facility:
 - a. Type of use(s) (e.g. domestic municipal, recreational, agricultural) (e.g., potable, lawn/garden watering, fishing); and
 - b. Location of designated use area relative to the site and the contamination.
3. Current and potential human use of or access to the facility and adjacent lands, including, but not limited to:
 - a. Types of current and potential uses (e.g. residential, commercial, zoning/deed restrictions); and
 - b. Any use restrictions relative to the site and the contamination.
4. A description of the ecology overlying and in proximity to the facility, including, but not limited to:
 - a. Location and size of each identified habitat (e.g., streams, wetlands, forested areas).
 - b. Description and complete species listing of each habitat's plant and animal (both resident and transient) communities.
 - c. Non-jurisdictional delineation of any wetlands present.
 - d. Database searches for the potential presence of any federal or state listed threatened, endangered, or rare species.
5. An evaluation of the pollutant impacts on the ecosystems/populations potentially exposed to contamination. This evaluation may be accomplished through the use of toxicity test (acute and chronic) population surveys and literature reviews.

E. Data Analysis

The Respondent shall analyze all facility investigation data outlined in this Task and prepare a report. The objective of the data analysis section is to summarize the investigation and demonstrate that a sufficient amount of data in quality (e.g., quality assurance procedures have been followed) and quantity has been collected to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support the Corrective Measures Study. EPA will review and approve or modify this submittal in accordance with Article X of the Order.

F. Site Conceptual Model

Respondent shall synthesize data on environmental setting and contaminant distribution to produce a site conceptual model. EPA will review and approve or modify this submittal in accordance with Article X of the Order.

G. Risk Assessment (If required by EPA)

At the request of EPA, Respondent shall submit a work plan for conducting a site-wide Human Health and Screening Level Ecological Risk Assessment. The work plan shall outline the procedures and schedule for completing a risk assessment in accordance with EPA's *Risk Assessment Guidance for Superfund*, EPA/540/1-89/002, December 1989, and the *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments*, EPA-540-R-97-006, July 1997, and any subsequent updates, amendments or supplements. The Risk Assessment work plan must include:

1. A site-specific exposure conceptual model, which either graphically illustrates or states the impacted media and all the primary and secondary exposure pathways; and
2. A list of all contaminants of concern, standard exposure parameters, land use, methodologies for determining reasonable maximum exposure point concentrations, proxy determinations, and other statistical considerations.

Only information and environmental data that has been validated as representative of facility conditions may be used to describe the potential excess human health and/or ecological risk posed by the site.

In lieu of performing a site-specific Risk Assessment to evaluate risk and arrive at cleanup goals for this site, Respondent may elect, with the concurrence of the EPA project manager, to defer to EPA for development of cleanup goals.

Coordination with EPA is required throughout the risk characterization process.

H. Vapor Intrusion Investigation (If required by EPA)

At the request of EPA, the Facility shall prepare a Vapor Intrusion Characterization Work Plan (VIC Work Plan) to conduct and document procedures for use in investigating and characterizing the vapor intrusion pathway at the facility and any off site location, resulting from contaminant releases at the facility.

1. The Vapor Intrusion Characterization (VIC) Work Plan shall outline how the vapor intrusion pathway will be investigated both onsite and offsite. The VIC Work Plan shall be developed and performed in accordance with current EPA guidance including, but not limited to the following and all subsequent EPA approved guidance:
 - a. U.S. EPA 2002, *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)* Office of Solid Waste and Emergency Response, Washington, D.C.; and
 - b. ITRC (The Interstate Technology & Regulatory Council), 2007, *Vapor Intrusion Pathway: A Practical Guideline*; and ITRC, 2007, *Vapor Intrusion Pathway: A Practical Guideline* Vapor Intrusion Team, Washington, D.C.
2. The work plan/investigation should include indoor air and sub-slab vapor sampling at the Facility. Additional vapor sampling may be required based on the initial results and further understanding of contaminant nature and extent.
 - a. The risk-based screening criteria for indoor air exposure shall be based on the most recently published toxicity values in EPA's Integrated Risk Information System database (<http://cfpub.epa.gov/ncea/iris/index.cfm>) and/or other recognized sources of toxicity values consistent with OSWER Directive 9285.7-53. The risk-based screening criteria for both cancer and non-cancer values will be established in the EPA-approved VISAP as defined below.
 - b. An assessment of the indoor air in all commercial buildings and offices at the Facility in accordance with EPA-approved methodologies to confirm whether vapor intrusion at concentrations above human health risk-based levels is occurring in structures over or near the Site VOC plume(s). Specifically, concurrent and co-located indoor air and subslab vapor samples shall be collected from all potentially affected buildings. The following information shall be collected:
 - i. Indoor air surveys documenting the presence/absence and use of household products containing volatile organic compounds;
 - ii. Ambient outdoor levels of VOCs during sampling;
 - iii. Meteorological conditions during sampling; and,
 - iv. Documentation of physical characteristics of the commercial/industrial facility or home being sampled including, but not limited to the type of foundation and its integrity as well as utility corridors that may act as preferential pathways for contaminants of concern and/or associated vapors.
3. Definition of areas with groundwater contamination through implementation of the Groundwater Monitoring Sampling and Analysis Plan. If additional areas of groundwater

contamination are discovered, indoor air and sub-slab sampling in additional residences and/or commercial businesses shall be assessed as warranted. The Respondent may propose additional work or will conduct such work upon notification from EPA of the need to initiate additional indoor air monitoring.

4. The VIC Work Plan shall include, but not be limited to the following:
 - a. Vapor sampling methodologies and procedures including at least the following:
 - i. Collection of indoor air samples and sub-slab samples in all potentially affected areas/buildings. Locations and numbers of samples will be determined by site conditions;
 - ii. A minimum of two sampling events must be conducted to adequately evaluate the vapor intrusion pathway;
 - iii. Collection of each sample for an appropriate period of time, as recommended by current guidance. This monitoring period may change as vapor intrusion guidance continues to evolve;
 - iv. Analysis for VOCs should include those constituents, along with their associated breakdown products and co-constituents, that have historically been, or are currently being, used, as well as other Chemicals of Concern identified during the RFI that may pose an indoor air threat;
 - v. Current vapor intrusion guidance states that Method TO-15 as described in *Determination of Volatile Organic Compounds In Air Collected In Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, found in the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition ("Method TO-15") should be used. Alternate methodology may be employed as vapor intrusion guidance and assessment methods evolve; and,
 - vi. Attainment of a calculated method detection limit (MDL) of 120 parts per trillion or lower using the Method TO-15, based on current EPA screening levels. The required MDLs for the other COCs shall also be the same as those listed in Method TO-15. The MDL may change as toxicity data is continually revised.
 - b. The investigation shall include, but not be limited to, the following information:
 - i. Specific origin (source) of each contaminant release to soil or groundwater causing soil vapor contamination;
 - ii. Description of likely discharge locations of any plume(s) originating from the facility, resulting in soil vapor contamination and the extent of contamination;

- iii. Horizontal and vertical extent of vapor; and,
 - iv. Identification and quantification of vapor contaminants.
- c. If a single sampling event produces information that warrants more immediate remedial action, the Respondent may take immediate actions as necessary upon EPA approval;
 - d. The VIC Work Plan shall include the use of standards (as required by the method and/or laboratory) and audit samples to verify COC MDLs;
 - e. If applicable, a residential/commercial indoor air sampling communication strategy shall be included in the Public Participation Plan to inform residents and/or business owners of the need for sub-slab and indoor air monitoring, to gain approval for sampling access, and to communicate results; and
 - f. A QAPP including a Data Collection Quality Assurance Plan.
5. Vapor Intrusion Characterization Report - In accordance with the schedule in the EPA-approved VIC Work Plan, Respondent shall submit a VIC Report which provides the sample locations, sampling information, figures depicting sampling locations, and analysis of data resulting from the characterization of the potential for vapor intrusion. The VIC Report shall define the nature and extent of indoor air and subslab soil vapor contamination greater than human-health risk-based levels approved by EPA. The VIC Report shall be reviewed and approved by EPA in accordance with approval and/or modification procedures in Article X of the Order.

TASK III: REPORTS

At a minimum, Respondent shall prepare reports for the following submissions, except Progress Reports. These reports shall present the results of Tasks I and II. These reports and any others shall be submitted in accordance with the schedule contained in the Administrative Order and the RFI Work Plan, upon its approval:

- A. RFI Work Plan (Task I)
- B. RFI Report (Task II)
- C. Risk Assessment (Task II), (If required by EPA);
- D. Vapor Intrusion Characterization Work Plan (Task II), (If required by EPA);
- E. Vapor Intrusion Characterization Report (Task II), (If required by EPA);
- F. Progress Reports – The Respondent will, at a minimum, provide the implementing agency with signed quarterly progress reports. These progress reports must contain the following elements, at

a minimum:

1. A description and estimate of the percentage of the RFI completed;
2. Summaries of all findings in the reporting period, including results of any pilot studies;
3. Summaries of all changes made in the RFI during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or state government during the reporting period;
5. Summaries of all contacts made regarding access to property;
6. Summaries of all problems encountered during the reporting period;
7. Actions being taken to rectify problems;
8. Changes in relevant personnel during the reporting period;
9. Projected work for the next reporting period; and
10. Copies of reports; inspection reports, laboratory/monitoring data, etc.

CORRECTIVE MEASURES STUDY (CMS)

PURPOSE

Respondent shall conduct a Corrective Measures Study (CMS) that identifies and compares alternative potential remedies and recommends a preferred remedy(ies) to address the contamination at and/or originating from Respondent's Facility. The CMS shall provide sufficient information to support EPA's selection of an appropriate remedy and to support the implementation of corrective measures. This process shall conform to EPA's *RCRA Corrective Action Plan*, EPA/520-R-94-004, OSWER Directive 9902.3-2A, May 1994, and other applicable EPA guidance. Respondent is encouraged to coordinate early and often with the EPA project manager to obtain concurrence with the scope of the CMS and encourage Agency acceptance of the corrective measures alternative preferred by Respondent.

All reports and work plans shall be submitted with a copy. All documents submitted to EPA should be sent to:

Bruce Morrison
Project Manager
AWMD/WRAP/KNRP
US EPA, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219.

SCOPE

The CMS shall consist of the following tasks:

- TASK I: CMS WORK PLAN
- TASK II: CMS REPORT
- TASK III: PROGRESS REPORTS

TASK I: CMS WORK PLAN

Within the timeframes specified in the Order, the Respondent shall prepare a CMS Work Plan. EPA will review and approve or modify this submittal in accordance with Section X of the Order. The CMS Work Plan shall include the following elements:

1. A site-specific description of the overall purpose of the Corrective Measure Study;
2. A description of the corrective measure objectives, including proposed target media cleanup standards (e.g., promulgated federal and state standards, risk derived standards) and points of compliance or a description of how a risk assessment will be performed (e.g., guidance documents);

3. A description of the specific corrective measure technologies and/or corrective measure alternatives which will be studied (including Institutional and Engineering Controls);
4. A description of the general approach to investigating and evaluating potential corrective measures;
5. A detailed description of any proposed pilot, laboratory and/or bench scale treatability studies and/or pilot tests;
6. A proposed outline for the CMS Report including a description of how information will be presented; and
7. A schedule for completion of the CMS Report.

TASK II: CMS REPORT

Within the time frames specified in the Order, Respondent shall submit to EPA for approval a CMS Report. The CMS report shall address, without limitation, all items set forth in this section, below. EPA will review and approve or modify this submittal in accordance with Section X of the Order. Irrespective of an approved CMS Work Plan, EPA may require the Respondent to collect, present and/or analyze additional information beyond the scope of the approved CMS Work Plan and the following list to accomplish the purpose and objectives of the CMS. The following information must be included in the CMS Report:

1. Statement of Purpose - The CMS Report shall describe the purpose of the document and provide a summary description of the project;
2. Description of Current Conditions - The CMS Report shall include a brief discussion of any new information that has been developed since the RFI, particularly where that information could affect the evaluation and selection of the corrective measures alternative(s).
3. Corrective Action Objectives - The CMS Report shall describe and propose Respondent's corrective action objectives. Specifically, Respondent shall propose applicable media cleanup standards for each medium where Facility-related contamination poses an unacceptable risk to human health and the environment. The CMS Report shall explain how these objectives are protective of human health and the environment and are consistent with EPA guidance and the requirements of applicable federal statutes. Final corrective action objectives will be determined by the EPA when the final corrective action remedy is selected.
4. Potential Receptors - The CMS Report shall describe the human populations and environmental systems that currently or potentially are at risk of contaminant exposure from the Facility.

5. Identification, Screening, and Development of Corrective Measure Alternatives
 - a. The CMS Report shall list and describe potentially applicable technology, or technologies, for each affected media that may be used to achieve the corrective action objectives proposed by Respondent. The CMS Report shall include a table that summarizes the available technologies; and
 - b. Screening of Technologies - The CMS Report shall present a screening of corrective measures technologies to demonstrate why certain corrective measures technologies may not prove feasible to implement given existing waste and site-specific conditions. This screening process must use consistent, defensible, and quantitative evaluation criteria to the extent possible.
6. Corrective Measure Development
 - a. The CMS Report shall assemble the technologies that pass the screening step into specific alternatives that have the potential to meet the corrective action objectives for all contaminated environmental media; and
 - b. Each alternative proposed in the CMS Report shall consist of an individual technology or a combination of technologies used in parallel or in sequence (i.e., a treatment train). Different alternatives may be considered for separate areas of the Facility. The developed alternatives shall be carried forward for evaluation using the EPA's four Screening Criteria and five Balancing Criteria.
7. Screening Criteria - For each remedy which warrants a more detailed evaluation, the CMS Report shall provide detailed documentation of how the potential remedy will comply with each of the Screening Criteria listed below:
 - a. Protect human health and the environment;
 - b. Attain media cleanup standards set by the EPA;
 - c. Control the source(s) of releases so as to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment; and
 - d. Comply with any applicable standards for management of wastes.

Any corrective measure alternative proposed by Respondent in the CMS Report must satisfy the four Screening Criteria in order to be carried forward for evaluation using the Balancing Criteria. In evaluating the selected corrective measure alternative or alternatives, the Respondent shall prepare and submit information that documents that the specific remedy will meet the standards listed above. A detailed explanation of the Screening Criteria is set forth in the *RCRA Corrective Action Plan* guidance.

8. Balancing Criteria - Any remedy proposed by Respondent which meets the four Screening Criteria shall also be evaluated according to the five Balancing Criteria. These criteria

represent a combination of technical measures and management controls for addressing the environmental problems at the Facility. The five criteria are:

- a. Long-term reliability and effectiveness;
- b. Reduction in the toxicity, mobility or volume of wastes;
- c. Short-term effectiveness;
- d. Implementability; and
- e. Cost.

The CMS Report shall discuss and provide information on these criteria in the evaluation of corrective action alternatives. A detailed explanation of the Balancing Criteria is set forth in the *RCRA Corrective Action Plan*.

9. If the CMS Report proposes corrective measures that leave contamination on site at a level that does not allow for unrestricted use and unlimited exposure (where unrestricted use means that there are no limits or conditions placed on the use of a property, including use for residential purposes; and unlimited exposure means that any residual contaminant concentrations at or below the site surface are at or below concentrations EPA deems adequately protective for any site use scenario), Respondent shall include as a component of such corrective measures a plan to implement institutional and/or engineering controls to prevent unacceptable exposures to human health and the environment. Such a plan shall be consistent with EPA guidance including but not limited to “*Institutional Controls: A Site Manager’s Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*,” EPA 540-F-00-005, OSWER 9355.0-74FS-P, September 2000 and the draft “*Institutional Controls: A Guide to Implementing, Monitoring, and Enforcing Institutional Controls at Superfund, Brownfields, Federal Facility, UST and RCRA Corrective Action Cleanups*” February 2003.
10. Recommendation by Respondent for a Final Corrective Measure Alternative – In the CMS Report, the Respondent shall recommend a preferred remedial alternative for consideration by EPA. Such a recommendation should include a description and supporting rationale for the proposed remedy, consistent with the remedial standards and decision factors discussed above. Any alternative selected may, as practical, utilize sustainable and green remedial alternatives. The implementing agency still retains the role of remedy selection.

TASK III: PROGRESS REPORTS

The Respondent will, at a minimum, provide the implementing agency with signed quarterly progress reports. At a minimum, the progress reports must contain the following elements:

1. A description and estimate of the percentage of the CMS completed;

2. Summaries of all findings in the reporting period, including results of any pilot studies;
3. Summaries of all changes made in the CMS during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or state government during the reporting period;
5. Summaries of all contacts made regarding access to property;
6. Summaries of all problems or potential problems encountered during the reporting period;
7. Actions being taken to rectify problems;
8. Changes in relevant personnel during the reporting period;
9. Projected work for the next reporting period; and
10. Copies of daily reports; inspection reports, laboratory/monitoring data, etc.

Facility Submissions

CMS Work Plan

Draft CMS Report

Final CMS Report

Progress Reports