**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 7**
11201 Renner Boulevard
Lenexa, Kansas 66219

August 7, 2020

**VIA EMAIL**

Mark W. Schneider
Perkins Coie LLP
1201 Third Avenue, Suite 4900
Seattle, Washington 98101-3099
mwschneider@perkinscoie.com

Sturla Olsen
The Boeing Company
P.O. Box 516, MC-5100-3340
St. Louis, Missouri 63166-0516
Sturla.olsen@boeing.com

Lauren S. McAndrews
Allegheny Technologies Incorporated
1000 Six PPG Place
Pittsburgh, Pennsylvania 15222
Lauren.mcandrews@atimetals.com

Re: Pools Prairie Superfund Site Operable Unit 7, Neosho, Missouri - EPA ID No. MO0000958835

Dear Mr. Schneider, Mr. Olsen, and Ms. McAndrews:

Pursuant to The Boeing Company's August 3, 2020 request, enclosed is a Unilateral Administrative Order issued pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9606(a), pertaining to the above-referenced Site. The U.S. Environmental Protection Agency has determined that there may be an imminent and substantial endangerment to human health, welfare, or the environment because of an actual or threatened release of hazardous substances at and/or from this Site. This Order requires The Boeing Company and TDY Industries, LLC, to prepare and perform a Phase II remedial investigation/feasibility study at the Site in accordance with the requirements of the Order.

In accordance with Section VII of the Order, no later than ten days after the Order is signed by the director of the EPA Region 7's Superfund and Emergency Management Division or her delegatee, Respondents may, in writing, a) request a conference with the EPA to discuss the Order, including its applicability, the factual findings and determinations upon which it is based, the appropriateness of any actions Respondents are ordered to take, or any other relevant and material issues or contentions that Respondents may have regarding the Order, or b) notify the EPA that they intend to submit written comments or a statement of position in lieu of requesting a conference. Any such conference shall be held no later than five days after the conference is requested. Any written comments or statements of position on any matter pertinent to the Order must be submitted no later than five days after the conference or ten days after the Order is signed if Respondents do not request a conference.

If you have any questions, please contact Catherine Chiccine, the attorney assigned to this case, at (913) 551-7917 or chiccine.catherine@epa.gov.

Sincerely,

MARY PETERSON
Digitally signed by MARY PETERSON
Date: 2020.08.07 12:40:56 -05'00'

Mary P. Peterson
Director
Superfund and Emergency Management Division

Enclosures

cc: Mihai Lefticariu, Project Manager, Missouri Department of Natural Resources

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 7

IN THE MATTER OF:

POOLS PRAIRIE SITE
SITE-WIDE GROUNDWATER
OPERABLE UNIT 7
Neosho, Missouri
MO0000958835

THE BOEING COMPANY

and

TDY INDUSTRIES, LLC

Respondents.

Proceeding under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9606(a).

EPA Docket No.
CERCLA- 07-2020-0171

**UNILATERAL ADMINISTRATIVE ORDER FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

## TABLE OF CONTENTS

## I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order (Order) is issued under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), and further delegated to the Regional Administrators by EPA Delegation Nos. 14-14A and 14-14B. This authority was further redelegated by the Regional Administrator of the EPA Region 7 to the Director of the Superfund and Emergency Management Division by the EPA Region 7 Delegation Nos. R7-14-14A (revised 04/01/2019) and R7-14-14B (revised 04/01/2019).

2. This Order pertains to the Pools Prairie Superfund Site generally located south of Neosho, Missouri, in rural Newton County, Missouri (the Site). This Order requires Respondents to prepare and perform a Phase II remedial investigation/feasibility study (Phase II RI/FS) to: (a) determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site; and (b) identify and evaluate remedial alternatives to prevent, mitigate, or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, in order to abate an imminent and substantial endangerment to the public health or welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

3. EPA has notified the State of Missouri (the State) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

## II. PARTIES BOUND

4. This Order applies to and is binding upon Respondents and their successors and assigns. Any change in ownership or control of the Site or change in the corporate or partnership status of a Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondents' responsibilities under this Order.

5. Respondents are jointly and severally liable for implementing all activities required by this Order. Compliance or noncompliance by any Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent. No Respondent shall interfere in any way with performance of the Work in accordance with this Order by any other Respondent. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.

6. Respondents shall provide a copy of this Order to each contractor hired to perform the Work required by this Order and to each person representing any Respondent with respect to the Site or the Work and shall condition all contracts entered into under this Order upon performance of the Work in conformity with the terms of this Order. Respondents or their contractors shall provide written notice of the Order to all subcontractors hired to perform any

portion of the Work required by this Order. Respondents shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work in accordance with the terms of this Order.

## III. DEFINITIONS

7. Unless otherwise expressly provided in this Order, terms used in this Order that are defined in CERCLA or in regulations promulgated under CERCLA will have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in appendices to or documents incorporated by reference into this Order, the following definitions apply:

a. "Affected Property" means all real property at the Site and any other real property where EPA determines, at any time, that access, land, water, or other resource use restrictions are needed to implement the Phase II RI/FS.

b. "Camp Crowder Training Site" means the Camp Crowder training site located in Newton County in southwestern Missouri, the location of which is shown on the Site Map attached hereto as Appendix A. The Camp Crowder Training Site consists of the remaining approximately 4,358-acre portion of the original 43,000-acre installation which is still owned by the federal government. It includes the firing range and magazine areas and the Engine Test Area (ETA) of former Air Force Plant No. 65. Camp Crowder is owned by the United States, under the accountability of the Department of the Army and licensed to the Missouri Army National Guard (MoARNG). A portion of the installation is within the city limits of Neosho, Missouri.

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

d. "Components Test Area" or "CTA" means that portion of former Air Force Plant 65 that was used to test rocket engine components, and jet engines, the location of which is shown on the Site Map attached hereto as Appendix A.

e. "Contaminants of Potential Concern" or "COPCs" means the following Site-related volatile organic compounds (VOCs): trichloroethylene (TCE), 1,2-dichloroethylene (1,2-DCE), 1,1-dichloroethylene (1,1-DCE), tetrachloroethylene (PCE) and vinyl chloride.

f. "Day" or "day" means a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

g. "Document" means any object that records, stores, or presents information and includes writings, drawings, graphs, charts, photographs, phone records, and other data compilations from which information can be obtained, translated, if necessary, through detection devices into reasonably useable form, and (a) every copy of each document which is not an exact duplicate of a document which is produced, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.

h. "DOD" means the United States Department of Defense as described in 10 U.S.C. §111 and its successor departments, agencies, or instrumentalities.

i. "Effective Date" means the effective date of this Order as provided in Section VIII.

j. "Engine Test Area" or "ETA" means the portion of former Air Force Plant 65 that was used to test-fire liquid propelled rocket engines, the location of which is shown on the Site Map attached hereto as Appendix A. The ETA is owned by the United States and licensed to the MoARNG.

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

l. "EPA" means the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

m. "EPA Hazardous Substance Superfund" means the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

n. "Hazardous Substance" means hazardous substance as that term is defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

o. "Institutional Controls" or "ICs" means Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, or other resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, or other resource use to implement, ensure non-interference with, or ensure the protectiveness of the response action pursuant to this Order; and/or (c) provide information intended to modify or guide human behavior at or in connection with the Site.

p. "Investigation Area" means the areas of the Site identified as the "Proposed Boundary of RI/FS" as shown on the Site Map attached hereto as Appendix A.

q. "MDNR" means the Missouri Department of Natural Resources and any successor departments or agencies of the State.

r. "MPA" means the Manufacturing Plant Area, consisting of the manufacturing plant and immediate area located at 3551 Doniphan Drive, Neosho, Missouri, which was part of former Air Force Plant 65 and was used to manufacture rocket engines and related components, and was later used to manufacture and overhaul jet engines and related components; the location of which is shown on the Site Map attached hereto as Appendix A.

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

t. “Non-Respondent Owner” means any person, other than a Respondent, that owns or controls any Affected Property. The clause “Non-Respondent Owner’s Affected Property” means Affected Property owned or controlled by Non-Respondent Owner.

u. “Operable Unit 7” or “OU 7” means the Pools Prairie Superfund Site operable unit for Site-wide groundwater.

v. “Order” means this Unilateral Administrative Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.

w. “Owner Respondent” means any Respondent that owns or controls any Affected Property, including Boeing and TDY. The clause “Owner Respondent’s Affected Property” means Affected Property owned or controlled by Owner Respondent.

x. “Paragraph” means a portion of this Order identified by an Arabic numeral or an upper or lower case letter.

y. “Parties” means EPA and Respondents.

z. “Phase II RI/FS” or “RI/FS” means the Phase II Remedial Investigation/Feasibility Study to be prepared pursuant to the Statement of Work (SOW).

aa. “Pollutant or Contaminant” means pollutant or contaminant as that term is defined by Section 101(33) of CERCLA, 42 U.S.C. § 9601(33).

bb. “Proprietary Controls” means easements or covenants running with the land that (a) limit land, water, or other resource use and/or provide access rights and (b) are created pursuant to common law or statutory law by an instrument that is recorded in the appropriate land records office.

cc. “Quince Road Area” or “QRA” means that portion of former Air Force Plant 65 that includes “Building 900” or “900 Building,” the location of which is shown on the Site Map attached hereto as Appendix A. “Building 900” or “900 Building” was first used as a laundry for Camp Crowder, but was then converted for use as a warehouse and was later used for jet engine overhaul and manufacturing purposes.

dd. “RCRA” means the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992, as amended (also known as the Resource Conservation and Recovery Act).

ee. “Respondents” means The Boeing Company (Boeing) and TDY Industries, LLC (TDY).

ff. "Section" means a portion of this Order identified by a Roman numeral.

gg. "Site" means the MPA, ETA, CTA, and QRA, and all areas where Waste Materials released from the MPA, ETA, CTA, and QRA have come to be located. The Site is located in Newton County, Missouri, and its general location is depicted on the map attached hereto as Appendix A.

hh. "State" means the State of Missouri.

ii. "Statement of Work" or "SOW" means the document describing the activities Respondents must perform to develop the Phase II RI/FS for the Site, as set forth in Appendix B to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order, as are any modifications made thereto in accordance with this Order.

jj. "Transfer" means to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

kk. "United States" means the United States of America and each department, agency, and instrumentality of the United States, including EPA.

ll. "Waste Material" means: (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (c) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

mm. "Work" means all activities and obligations Respondents are required to perform under this Order, except those required by Section XVI (Record Retention).

## IV. FINDINGS OF FACT

8. The Site is located in Newton County, Missouri, in the general vicinity of the City of Neosho, Missouri. Investigations conducted since 1997 have identified groundwater contamination at the Site. VOCs, in particular, TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride have been found in groundwater at the Site. TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride are each listed as a hazardous substance pursuant to 40 C.F.R. § 302.4.

9. The Site is in a region of karst topography, characterized by sinkholes, losing streams, caves, and springs, due to subsurface weathering of carbonate rock, although few sinkholes and little cave development has been noted at the Site. The Site is located in the Ozark Plateau's aquifer system, which extends over most of southern Missouri. The Ozark Plateau's system consists of three aquifers that are separated by two confining units. The two uppermost aquifers—the Springfield Plateau aquifer and the Ozark aquifer—are currently utilized for public and domestic drinking water supply wells and were the focus of the investigation pursuant to the Administrative Settlement Agreement and Order on Consent Docket No. CERCLA-07-2011-0014 and are part of the investigation pursuant to this Order.

10. In the 1940s, the United States acquired approximately 43,000 acres of agricultural and residential land in Newton County, Missouri, for construction and operation of Camp Crowder. As part of that installation, a building was constructed near what is now the intersection of Highway 71 and Quince Road, which was used for the Camp Crowder laundry. This building was originally referred to as the 1900 Building, but it has also been referred to as Building 900 or the 900 Building. Beginning in 1942, the United States Army used Camp Crowder to train Signal Corp soldiers. In 1943, the Army opened a prisoner-of-war internment center at Camp Crowder. The Army deactivated Camp Crowder in 1946, but it was reactivated in 1951 during the Korean conflict as an Army Reception Center. From 1953 to 1958, Camp Crowder was used as a Branch Disciplinary Barracks.

11. In approximately 1956 or 1957, the Army transferred a portion of Camp Crowder to the United States Air Force for construction and operation of rocket engine manufacturing plant. This installation was known as Air Force Plant No. 65 (Plant 65). From its initial construction until approximately 1980, Plant 65 was a government-owned, contractor-operated facility. Construction of Plant 65 began in approximately 1956, and manufacturing operations began in approximately 1956 or 1957.

12. Plant 65 included, *inter alia*, the MPA, ETA, CTA, and QRA.

13. The MPA, ETA, CTA, and QRA are depicted generally on the Site Map attached hereto as Appendix A.

14. From 1957 to 1968, North American Aviation, Inc. (NAAI), via its Rocketdyne division, was the contract operator of Plant 65. NAAI manufactured and tested rocket engines and related components for the Air Force at the MPA, ETA, and CTA; the QRA was used as a warehouse during this time. TCE was commonly used in NAAI's manufacturing and testing processes at Plant 65. 1,2-DCE and vinyl chloride are degradation products of TCE.

15. Boeing is the corporate successor to the Rocketdyne division of NAAI with respect to the Site.

16. From 1968 to 1980, Continental Aviation and Engineering (CAE) and its corporate successors, Teledyne Neosho and Teledyne Industries, Inc., were the contract operators of Plant 65. CAE and its successors were engaged in the refurbishing and testing of jet engines for the Air Force at the MPA, CTA, and QRA. In 1980, the United States sold the MPA and QRA to Teledyne Industries, Inc., which continued to operate the MPA and QRA for refurbishing and testing of jet engines. TCE was commonly used in CAE's and its successors' manufacturing and testing processes at the MPA, CTA, and QRA. 1,2-DCE and vinyl chloride are degradation products of TCE.

17. TDY is the corporate successor to CAE, Teledyne Neosho, and Teledyne Industries, Inc. with respect to the Site.

18. In 1975, the United States Air Force transferred custody and control of the ETA back to the Department of the Army. The MoARNG has been the non-exclusive license holder of the Camp Crowder Training Site, including the ETA, since 1975. At various times, the MoARNG conducted training exercises at the CTA, and in approximately 1981, the MoARNG demolished the dikes surrounding the hazardous waste pit and ponds at the CTA and ETA.

19. In 1976, the United States sold the CTA to the Water and Wastewater Technical School, Inc. (WWTS). The WWTS has been the owner and operator of the CTA since 1976.

20. In 1992, Teledyne Industries, Inc. sold the MPA and QRA to Sabreliner Corporation, which refurbished jet airplane and helicopter engines at the MPA and QRA. In 2003, Sabreliner Corporation sold the MPA and QRA to Dallas Airmotive, Inc. At some time after 2005, the QRA was sold to an individual, Mr. Durward Brewer. In 2018 the MPA property was sold to Omega Mod Group, Inc.

21. The United States is the current owner of the ETA. The WWTS is the current owner of the CTA. Omega Mod Group, Inc. is the current owner of the MPA. Durward Brewer is the current owner of the QRA.

22. The Site was listed on the National Priorities List (NPL) pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, by publication in the Federal Register on September 17, 1999, 64 Fed. Reg. 50459.

23. Respondents performed work under an Administrative Settlement and Order on Consent, Docket No. CERCLA-07-2011-0014. A Phase I RI Completion Report detailing the work was completed in 2016. It consisted of a Phase I Remedial Investigation to study groundwater flow and contaminant distribution at the Site. The Phase I RI Completion Report indicated that the primary COPC at the Site is TCE in groundwater, and additional COPCs are 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride.

24. The Phase I RI Completion Report indicated concentrations of TCE above the maximum contaminant level (MCL) of 5 µg/L (micrograms per liter) in private water wells that were sampled, although all wells where sampling indicated TCE concentrations greater than 5 µg/L are within areas that are connected to or have been offered connection to the Neosho public water supply. Currently, approximately 20 residences that have been offered connection to the Neosho public water supply have declined to connect.

25. Source area sampling during the Phase I RI showed TCE concentrations ranging from 0 µg/L to 24,000 µg/L in the QRA and ETA, where removal action activities have been completed. While such TCE concentrations were consistent with or lower than prior sampling events, many TCE concentrations within the QRA and ETA are significantly higher than the MCL of 5 µg/L.

26. In the CTA, the Phase I RI indicated TCE concentrations ranging from 200 µg/L to 26,000 µg/L, significantly higher than the MCL of 5 µg/L. For several sampling locations within the CTA that were outside the areas where past removal actions were completed, TCE

concentrations were detected at levels higher than had been previously detected in prior sampling events. For example, well CTA-MW029 indicated an increase in TCE concentrations from 15,000 µg/L to 24,000 µg/L between 2007 and 2013, and well CTA-MW019 indicated an increase in TCE concentrations from 20,000 µg/L to 26,000 µg/L between 2007 and 2013.

27. In the MPA, the Phase I RI showed TCE concentrations ranging from 5 µg/L to 960 µg/L. The MPA also contained TCE concentrations that were detected at levels slightly higher than were previously detected at prior sampling events. For example, well MPA-MW008 indicated an increase in TCE concentrations from 79 µg/L to 93 µg/L between 2006 and 2013, and well MPA-MW019 indicated an increase in TCE concentrations from 13 µg/L to 25 µg/L between 2006 and 2013. This sampling data was collected before the removal action on the MPA began in 2015; no sampling events have occurred since the removal action on the MPA began.

28. The Phase I RI Completion Report recommended, *inter alia*, a human health risk assessment to evaluate potential exposure to VOCs in surface water and indoor air (from vapor intrusion), and potential exposure to VOCs with the current use of wells with elevated levels of TCE. The SOW for the Phase II RI/FS includes completion of a Baseline Human Health Risk Assessment and Ecological Risk Assessment.

29. A limited investigation was completed as an addendum to the Phase I RI to assess indoor air quality with respect to Site-related contaminants of concern (COCs). Results of this limited sampling identified no detections of Site-related COCs; however, the vapor intrusion pathway will be thoroughly assessed during the Phase II RI/FS to ensure no unacceptable exposure exists.

30. The Work for a Phase II RI/FS under this Order is in part a continuation of the Phase I RI. The Phase II RI/FS will assess plume stability, including the potential migration of COPCs. Groundwater sampling last occurred between 2013 and 2015 during the Phase I RI. The delayed initiation of the Phase II RI/FS has resulted in a lack of groundwater data for this Site for an extended period. This lack of data makes it difficult to determine if Site conditions have changed. Routine sampling of groundwater is needed to evaluate the effectiveness of the prior removal actions and ensure contamination is not continuing to migrate.

31. TCE, PCE, and vinyl chloride are carcinogenic to humans by all routes of exposure. Exposure to TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride can also potentially affect the developing fetus. Acute and prolonged exposure to 1,2 DCE and 1,1-DCE can also affect the functioning of the liver and kidneys. Prolonged exposure to TCE has been associated with effects in the liver, kidneys, blood, immune system, and central nervous system. Prolonged exposure to PCE may cause adverse effects in the kidneys, liver, central nervous system, immune system, and hematologic system. Prolonged exposure to vinyl chloride has resulted in damage to the liver, kidneys, and central nervous system.

32. Groundwater contamination from the Site has migrated outside of the source areas and is present in residential wells and nearby springs and streams. Neighboring properties include commercial, residential, and agricultural uses. Residents in these areas have been connected to public drinking water supply, with the exception of those which declined

connection. Completion of the Baseline Human Health Risk Assessment and Ecological Risk Assessment as part of the Phase II RI/FS will further evaluate populations at risk.

## V. CONCLUSIONS OF LAW AND DETERMINATIONS

33. Based on the Findings of Fact set forth above and the administrative record, EPA has determined that:

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

b. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

c. Each Respondent is a liable party under one or more provisions of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

(1) Respondents were the "owners" and/or "operators" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

d. The TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

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

f. The conditions at the Site may constitute a threat to public health or welfare or the environment, based on the factors set forth in Section 300.415(b)(2) of the NCP, 40 C.F.R. § 300.415(b)(2). These factors include, but are not limited to, the following:

(1) actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances; this factor is present at the Site due to the existence of TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride; and

(2) actual or potential contamination of drinking water supplies or sensitive ecosystems; this factor is present at the Site due to the existence of TCE, 1,2-DCE, 1,1-DCE, PCE, and vinyl chloride.

g. The conditions at the Site may constitute an imminent and substantial endangerment to public health or welfare or the environment.

h. The actions required by this Order are necessary to protect the public health, welfare, or the environment.

## VI. ORDER

34. Based upon the Findings of Fact, Conclusions of Law and Determinations set forth above, and the administrative record, Respondents are hereby ordered to comply with all provisions of this Order and any modifications to this Order, including all appendices to this Order and all documents incorporated by reference into this Order.

## VII. OPPORTUNITY TO CONFER

35. No later than 10 days after this Order is signed by the Director of EPA Region 7's Superfund and Emergency Management Division or her delegatee, Respondents may, in writing, a) request a conference with EPA to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondents are ordered to take, or any other relevant and material issues or contentions that Respondents may have regarding this Order, or b) notify EPA that they intend to submit written comments or a statement of position in lieu of requesting a conference.

36. If a conference is requested, Respondents may appear in person or by an attorney or other representative. Any such conference shall be held no later than five days after the conference is requested. Any written comments or statements of position on any matter pertinent to this Order must be submitted no later than five days after the conference or 10 days after this Order is signed if Respondents do not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondents a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to:

Cathie Chiccine, Office of Regional Counsel
U.S. Environmental Protection Agency Region 7
11201 Renner Boulevard, Lenexa, Kansas 66219
(913) 551-7917
Chiccine.catherine@epa.gov

## VIII. EFFECTIVE DATE

37. This Order shall be effective 10 days after the Order is signed by the Director of EPA Region 7's Superfund and Emergency Management Division or her delegatee unless a conference is requested or notice is given that written materials will be submitted in lieu of a conference in accordance with Section VII (Opportunity to Confer). If a conference is requested or such notice is submitted, this Order shall be effective on the 10$^{th}$ day after the conference, or if no conference is requested, the 10$^{th}$ day after written materials, if any, are submitted, unless EPA determines that the Order should be modified based on the conference or written materials. In such event, EPA shall notify Respondents, within the applicable 10-day period, that EPA intends to modify the Order. The modified Order shall be effective five days after it is signed by the Director of EPA Region 7's Superfund and Emergency Management Division or her delegatee.

## IX. NOTICE OF INTENT TO COMPLY

38. On or before the Effective Date, each Respondent must notify EPA in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to EPA as provided in Paragraph 36. Each Respondent's written notice must describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defense(s) asserted by such Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be acceptance of any Respondent's assertions. Failure of any Respondent to provide such written notice within this period will, as of the Effective Date, be treated as a violation of this Order by such Respondent.

## X. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

39. **Selection of Contractors, Personnel**. All Work performed under this Order must be under the direction and supervision of qualified personnel. Within 120 days after the Effective Date, and before the Work outlined below begins, Respondents must notify EPA in writing of the names, titles, addresses, telephone numbers, email addresses, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such Work. If, after the commencement of Work, Respondents retain additional contractors or subcontractors, Respondents must notify EPA of the names, titles, contact information, and qualifications of such contractors or subcontractors retained to perform the Work at least 10 days prior to commencement of Work by such additional contractors or subcontractors. EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Respondents. If EPA disapproves of a selected contractor or subcontractor, Respondents must retain a different contractor or subcontractor and must notify EPA of that contractor's or subcontractor's name, title, contact information, and qualifications within 30 days after EPA's disapproval. With respect to any proposed contractor, Respondents must demonstrate that the proposed contractor demonstrates compliance with ASQ/ANSI E4:2014 "Quality management systems for environmental information and technology programs – Requirements with guidance for use" (American Society for Quality, February 2014), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," EPA/240/B-01/002 (Reissued May 2006) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents are subject to EPA's review for verification based on objective assessment criteria (e.g., experience, capacity, technical expertise) and that they do not have a conflict of interest with respect to the project.

40. Within 30 days after the Effective Date, Respondents must designate a Project Coordinator who will be responsible for administration of the Work required by this Order and must submit to EPA the designated Project Coordinator's name, title, address, telephone number, email address, and qualifications. To the greatest extent possible, the Project Coordinator will be present on-Site or readily available during the Work. EPA retains the right to disapprove of a designated Project Coordinator who does not meet the requirements of Paragraph 39 (Selection of Contractors, Personnel). If EPA disapproves of the designated Project Coordinator, Respondents must retain a different Project Coordinator and must notify EPA of that person's name, title, contact information, and qualifications within 30 days following EPA's disapproval.

Respondents have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents must notify EPA 10 days before such a change is made. The initial notification may be made orally but must be promptly followed by a written notification. Communications between Respondents and EPA, and all documents concerning the activities performed pursuant to this Order, must be directed to the Project Coordinator. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Order will constitute receipt by all Respondents.

41. EPA has designated Tonya Howell of the Superfund and Emergency Management Division, Region 7, as its Remedial Project Manager (RPM). EPA will notify Respondents of a change of its designated RPM. Communications between Respondents and EPA, and all documents concerning the activities performed pursuant to this Order, must be directed to the EPA RPM in accordance with Paragraph 48.a.

42. EPA's RPM will have the authority the NCP has lawfully vested in an RPM and On-Scene Coordinator. In addition, EPA's RPM will have the authority, consistent with the NCP, to halt, conduct, or direct any Work required by this Order, or to direct any other response action when she determines that conditions at the Site constitute an emergency situation or may present a threat to public health or welfare or the environment. Absence of the EPA RPM from the area under study pursuant to this Order shall not be cause for stoppage or delay of Work.

## XI. WORK TO BE PERFORMED

43. For any regulation or guidance referenced in the Order, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondents receive notification from EPA of the modification, amendment, or replacement.

44. **Activities and Deliverables**

a. Respondents must conduct activities and submit all deliverables as provided by the SOW, for the development of the Phase II RI/FS. All such Work must be conducted in accordance with the provisions of this Order, the attached SOW, CERCLA, the NCP, and EPA guidance, including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (RI/FS Guidance), OSWER Directive No. 9355.3-01 (October 1988), available at http://semspub.epa.gov/src/document/11/128301, "Guidance for Data Useability in Risk Assessment (Part A), Final", OSWER Directive No. 9285.7-09A, PB 92-963356 (April 1992), available at http://semspub.epa.gov/src/document/11/156756, and guidance referenced therein, and guidance referenced in the SOW. The Remedial Investigation (RI) will consist of collecting data to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study (FS) will determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate, or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The general activities that Respondents are

required to perform are identified below, followed by a list of deliverables. The tasks that Respondents must perform are described more fully in the SOW and guidance. The activities and deliverables identified below shall be developed as provided in the Phase II RI/FS Work Plan and Sampling and Analysis Plan and must be submitted to EPA as provided therein. All Work performed under this Order must be in accordance with the schedules in this Order or established in the SOW, and in full accordance with the standards, specifications, and other requirements of the Phase II RI/FS Work Plan and Sampling and Analysis Plan, as initially approved or modified by EPA, and as may be amended or modified by EPA from time to time.

b. All written documents prepared by Respondents pursuant to this Order must be submitted by Respondents in accordance with Section XII (Submission and Approval of Deliverables). With the exception of progress reports and the Health and Safety Plan, all such submittals will be reviewed and approved by EPA in accordance with Section XII (Submission and Approval of Deliverables). Respondents must implement all EPA-approved, conditionally approved, or modified deliverables.

c. **Scoping**. EPA will determine the Site-specific objectives of the Phase II RI/FS and devise a general management approach for the Site, as stated in the SOW. Respondents must conduct the remainder of scoping activities as described in the SOW and referenced guidance. At the conclusion of the project planning phase, as referenced in Chapter 2.2 of the RI/FS Guidance, Respondents must provide EPA with the following deliverables:

(1) **Phase II RI/FS Work Plan.** Within 120 days after notice of contractor approval, Respondents must submit a Phase II RI/FS Work Plan to EPA for review and approval. Upon its approval by EPA pursuant to Section XII (Submission and Approval of Deliverables), the Phase II RI/FS Work Plan will be incorporated into and become enforceable under this Order. The items to be included in the Phase II RI/FS Work Plan are specified in Task 1 of the SOW.

(2) **Sampling and Analysis Plan**. Within 120 days after notice of contractor approval, Respondents must submit a Sampling and Analysis Plan to EPA for review and approval pursuant to Section XII (Submission and Approval of Deliverables). This plan must consist of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP), as described in the SOW, that is consistent with the NCP, "Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/240/R-02/009 (December 2002), "EPA Requirements for Quality Assurance Project Plans (QA/R-5)," EPA 240/B-01/003 (March 2001, reissued May 2006), and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3," EPA/505/B-04/900A-900C (March 2005). Upon its approval by EPA pursuant to Section XII (Submission and Approval of Deliverables), the Sampling and Analysis Plan will be incorporated into and become enforceable under this Order.

(3) **Health and Safety Plan.** Within 120 days after notice of contractor approval, Respondents must submit for EPA review and comment a Health and Safety Plan that ensures the protection of on-site workers and the public during performance of on-site Work under this Order. This plan must be prepared in accordance with "OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities," Pub. 9285.0-OlC (Nov. 2002), available on the NSCEP database at https://www.epa.gov/nscep/index.html, and "EPA's Emergency Responder Health and Safety Manual," OSWER Directive 9285.3-12 (July 2005 and updates), available at https://www.epaosc.org/_HealthSafetyManual/manual-index.htm. In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan must also include contingency planning. Respondents must incorporate all changes to the plan provided by EPA and must implement the plan during the pendency of the Phase II RI/FS.

d. **Site Characterization**. Following EPA approval or modification of the Phase II RI/FS Work Plan and Sampling and Analysis Plan, Respondents must implement the provisions of these plans to characterize the Site. Respondents must complete Site characterization and submit all deliverables in accordance with the schedules and deadlines established in this Order, the attached SOW, and/or the EPA-approved Phase II RI/FS Work Plan and Sampling and Analysis Plan.

e. **Baseline Human Health Risk Assessment and Ecological Risk Assessment**. Within 120 days after the collection of the last field sample required by the approved Sampling and Analysis Plan and completion of data validation by the Respondents, Respondents must perform and submit to EPA the Baseline Human Health Risk Assessment and Ecological Risk Assessment ("Risk Assessments") in accordance with the SOW, Phase II RI/FS Work Plan, and applicable EPA guidance, including but not limited to: "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A)," RAGS, EPA-540-1-89-002, OSWER Directive 9285.7-01A (December 1989); "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)," RAGS, EPA 540-R-97-033, OSWER Directive 9285.7-01D (January 1998); and "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments," ERAGS, EPA-540-R-97-006, OSWER Directive 9285.7-25 (June 1997). Within 60 days of receiving comments from EPA or some other time as specified by EPA, Respondents must submit to EPA their final Risk Assessments.

f. **Draft Remedial Investigation Report**. Within 120 days after the collection of the last field sample required by the approved Sampling and Analysis Plan and completion of data validation by the Respondents, Respondents must submit to EPA for review and approval pursuant to Section XII (Submission and Approval of Deliverables), a draft

Remedial Investigation Report (RI Report) consistent with the SOW, Phase II RI/FS Work Plan, and Sampling and Analysis Plan. Within 60 days of receiving comments from EPA or some other time as specified by EPA, Respondents must submit to EPA their final RI Report.

g. **Treatability Studies**. Respondents must conduct treatability studies, except where Respondents can demonstrate to EPA's satisfaction that they are not needed. The major components of the treatability studies are described in the SOW. In accordance with the schedules or deadlines established in this Order, the attached SOW, and/or the EPA-approved Phase II RI/FS Work Plan, Respondents must provide EPA with the following deliverables for review and approval pursuant to Section XII (Submission and Approval of Deliverables):

(1) **Identification of Candidate Technologies**. Candidate technologies must be identified for a treatability study program.

(2) **Treatability Study Work Plan**. If EPA determines that treatability testing is required after review of the draft RI Report, within 60 days thereafter or as specified by EPA, Respondents must submit a Treatability Study Work Plan, including a schedule.

(3) **Treatability Study Sampling and Analysis Plan**. Within 60 days after identification of the need for a separate or revised QAPP or FSP, Respondents must submit a Treatability Study Sampling and Analysis Plan.

(4) **Treatability Study Evaluation Report**. Within 120 days after completion of any treatability testing, Respondents must submit a draft treatability study evaluation report as provided in the SOW and Phase II RI/FS Work Plan. Within 60 days after receipt of EPA comments on the draft, or notification of direction to modify pursuant to Section XII (Submission and Approval of Deliverables), the final treatability study evaluation report must be submitted.

h. **Treatability Study Health and Safety Plan**. Within 60 days after the identification of the need for a revised Health and Safety Plan, Respondents must submit a Treatability Study Health and Safety Plan.

i. **Development and Screening of Alternatives**. Respondents must develop an appropriate range of waste management options that will be evaluated through the development and screening of alternatives, as provided in the SOW and Phase II RI/FS Work Plan. In accordance with the schedules or deadlines established in this Order, the attached SOW, and/or the EPA-approved Phase II RI/FS Work Plan, Respondents must provide EPA with the following as part of the FS process for review and approval pursuant to Section XII (Submission and Approval of Deliverables):

(1) **Remedial Action Objectives**. This will include remedial action objectives for Engineering Controls as well as for Institutional Controls.

(2) **Alternatives Screening**. This will include a summary of the development and screening of remedial alternatives.

j. **Detailed Analysis of Alternatives**. Respondents must conduct a detailed analysis of remedial alternatives, as described in the SOW and Phase II RI/FS Work Plan. In accordance with the deadlines or schedules established in this Order, the attached SOW, and/or the EPA-approved Phase II RI/FS Work Plan, Respondents must include the following in the FS submittals to EPA for review and approval pursuant to Section XII (Submission and Approval of Deliverables):

(1) **Individual Analysis of Alternatives**. Respondents must include in the Feasibility Study Report (FS Report) an assessment of individual alternatives against each of the nine evaluation criteria, as described in the SOW.

(2) **Comparative Analysis of Alternatives**. Respondents must include in the FS Report a comparative analysis of alternatives to evaluate the relative performance of each alternative in relation to the nine evaluation criteria, as described in the SOW.

(3) **Alternatives Analysis for Institutional Controls and Screening**. Respondents must include in the FS Report an evaluation of Institutional Controls (ICs). The Alternatives Analysis for ICs and Screening must (i) describe the restrictions needed on land, water, or other resources and their relationship to the remedial action objectives; (ii) determine the specific types of ICs that can be used to address and implement the land, water, or other resource use restrictions; (iii) investigate when the ICs need to be implemented and how long they must remain in place; (iv) research, discuss, and document any agreement or other arrangements with the proper entities (e.g., state, local government, local landowners, conservation organizations, property owners) on exactly who will be responsible for implementing, maintaining, and enforcing the ICs. The Alternatives Analysis for ICs and Screening must also evaluate the identified ICs against the nine evaluation criteria outlined in the NCP (40 C.F.R. § 300.430(e)(9)(iii)) for CERCLA cleanups, including but not limited to costs to implement, maintain, and/or enforce the ICs.

k. **Draft FS Report**. Within 120 days of EPA approval of the final RI Report or Final Treatability Study Report, whichever is later, Respondents must submit to EPA a draft FS Report for review and approval pursuant to Section XII (Submission and Approval of Deliverables). Respondents must refer to Table 6-5 of the RI/FS Guidance for report content and format. The draft FS Report as amended, and the administrative record, will provide the basis for the proposed plan under Sections 113(k) and 117(a) of CERCLA, 42 U.S.C. §§ 9613(k) and 9617(a), by EPA, and will document the development and analysis of remedial alternatives.

l. **Final FS Report.** Upon receipt of the draft FS Report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the cost, implementability, and long-term effectiveness of any proposed ICs for that alternative. Within 60 days after receipt of the EPA's comments on the draft FS Report, or such other time as specified by EPA, Respondents must submit the final FS Report.

45. **Modification of the Phase II RI/FS Work Plan**

a. If at any time during the Phase II RI/FS process, Respondents identify a need for additional data, Respondents must submit a memorandum documenting the need for additional data to EPA's RPM within 30 days after identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into plans, reports, and other deliverables.

b. In the event of an immediate threat or unanticipated or changed circumstances at the Site, Respondents must notify EPA's RPM by telephone within 24 hours of discovery of the immediate threat or unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or unanticipated or changed circumstances warrant changes in the Phase II RI/FS Work Plan, EPA will modify the Phase II RI/FS Work Plan in writing accordingly or direct Respondents to modify or amend and submit the modified Phase II RI/FS Work Plan to EPA for approval. Respondents must perform the Phase II RI/FS Work Plan as modified or amended.

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

d. Respondents must complete the additional work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Phase II RI/FS Work Plan or written Phase II RI/FS Work Plan supplement. EPA reserves the right to conduct the work itself, to seek reimbursement from Respondents for the costs incurred in performing the work, and/or to seek any other appropriate relief.

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

46. **Off-Site Shipments**

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

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

c. Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the SOW. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

47. **Progress Reports**. In addition to the plans, report, and other deliverables set forth in this Order, Respondents must provide to the EPA and MDNR monthly progress reports by the 15th day of the following month, starting the first full month after EPA approval of the Phase II RI/FS Workplan and ending when the Respondents have submitted the Final FS Report to EPA. At a minimum, with respect to the preceding month, these progress reports must:

a. describe the actions that have been taken to comply with this Order;

b. include all results of sampling and tests and all other data received by Respondents;

c. describe Work planned for the next two months with schedules relating such Work to the overall project schedule for Phase II RI/FS completion; and

d. describe all problems encountered in complying with the requirements of this Order and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

## XII. SUBMISSION AND APPROVAL OF DELIVERABLES

48. **Submission of Deliverables**

a. **General Requirements for Deliverables**

(1) Except as otherwise provided in this Order, Respondents must direct all submissions required by this Order to (1) EPA's RPM, Tonya Howell, at 11201 Renner Boulevard, Lenexa, Kansas, 66219, by First Class Mail or by email to Howell.tonya@epa.gov

and (2) Mihai Lefticariu, the Project Manager at the Missouri Department of Natural Resources, at Hazardous Waste Program, MDNR, P.O. Box 176 Jefferson City, Missouri 65102 by First Class Mail or by email to mihai.lefticariu@dnr.mo.gov with a copy of the submission to be sent to Eric Gramlich, Missouri Hazardous Waste Program, MDNR, P.O. Box 176, Jefferson City, Missouri 65102 by First Class Mail or by email to eric.gramlich@dnr.mo.gov. Respondents must submit all deliverables required by this Order, the attached SOW, or any approved work plan in accordance with the schedule set forth in such plan.

(2) Respondents must submit all deliverables in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in Paragraph 48.b. All other deliverables must be submitted in the electronic form specified by EPA's RPM. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5 x 11 inches, Respondents must also provide paper copies of such exhibits.

b. **Technical Specifications for Deliverables**

(1) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.

(2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (i) in the ESRI File Geodatabase format; and (ii) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at https://www.epa.gov/geospatial/epa-metadata-editor.

(3) Each file must include an attribute name for each site unit or sub-unit submitted. Consult https://www.epa.gov/geospatial/geospatial-policies-and-standards for any further available guidance on attribute identification and naming.

(4) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

49. **Approval of Deliverables**

a. **Initial Submissions**

(1) After review of any plan, report, or other deliverable that is required to be submitted for EPA approval under this Order or the attached SOW, EPA will: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission; or (iv) any combination of the foregoing.

(2) EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

b. **Resubmissions**. Upon receipt of a notice of disapproval under Paragraph 49.a(1) (Initial Submissions), or if required by a notice of approval upon specified conditions under Paragraph 49.a(1), Respondents must, within 60 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may: (a) approve, in whole or in part, the resubmission; (b) approve the resubmission upon specified conditions; (c) modify the resubmission; (d) disapprove, in whole or in part, the resubmission, requiring Respondents to correct the deficiencies; or (e) any combination of the foregoing.

c. **Implementation**. Upon approval, approval upon conditions, or modification by EPA under Paragraph 49.a (Initial Submissions) or Paragraph 49.b (Resubmissions), of any deliverable, or any portion thereof: (i) such deliverable, or portion thereof, will be incorporated into and enforceable under the Order; and (ii) Respondents must take any action required by such deliverable, or portion thereof. Implementation of any non-deficient portion of a submission will not relieve Respondents of any liability for penalties under Section XIX (Enforcement/Work Takeover) for violations of this Order.

50. Notwithstanding the receipt of a notice of disapproval, Respondents must proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA.

51. In the event that EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents must incorporate and integrate information supplied by EPA into those reports.

52. Respondents must not proceed with any activities or tasks dependent on the following deliverables until receiving EPA approval, approval on condition, or modification of such deliverables: Phase II RI/FS Work Plan and Sampling and Analysis Plan; draft RI Report and Treatability Study Work Plan, and Sampling and Analysis Plan; and draft FS Report. While awaiting EPA approval, approval on condition, or modification of these deliverables, Respondents must proceed with all other tasks and activities that may be conducted independently of these deliverables, in accordance with the schedule set forth under this Order.

53. For all remaining deliverables not listed in Paragraph 52, Respondents must proceed with all subsequent tasks, activities, and deliverables without awaiting EPA approval of the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity, or deliverable at any point during the Work.

54. **Material Defects**. If an initially submitted or resubmitted plan, report, or other deliverable contains a material defect, and the plan, report, or other deliverable is disapproved or modified by EPA under Paragraph 49.a (Initial Submissions) or 49.b (Resubmissions) due to such material defect, Respondents will be deemed in violation of this Order for failure to submit such plan, report, or other deliverable timely and adequately. Respondents may be subject to penalties for such violation as provided in Section XIX (Enforcement/Work Takeover).

55. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified period, nor the absence of comments, will be construed as approval by EPA.

## XIII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

56. Respondents must use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)," EPA/240/B-01/003, March 2001 (reissued May 2006), "Guidance for Quality Assurance Project Plans (QA/G-5)," EPA/240/R-02/009 (December 2002), and "Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3," EPA/505/B-04/900A-900C (March 2005).

57. **Laboratories**

a. Respondents must ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents pursuant to this Order. In addition, Respondents must ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with the Agency's "EPA QA Field Activities Procedure" CIO 2105-P-02.1 (9/23/2014), available at https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures. Respondents must ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Order meet the competency requirements set forth in EPA's "Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions," available at https://www.epa.gov/measurements/documents-

about-measurement-competency-under-acquisition-agreements, and that the laboratories perform all analyses using EPA-accepted methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program (https://www.epa.gov/superfund/programs/clp/), SW 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (https://www.epa.gov/hw-sw846), "Standard Methods for the Examination of Water and Wastewater" (http://www.standardmethods.org/), and 40 C.F.R. Part 136, "Air Toxics - Monitoring Methods" (https://www.epa.gov/ttnamti1/airtox.html).

b. Upon approval by EPA, Respondents may use other appropriate analytical methods, as long as (i) quality assurance/quality control (QA/QC) criteria are contained in the methods and the methods are included in the QAPP, (ii) the analytical methods are at least as stringent as the methods listed above, and (iii) the methods have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc.

c. Respondents must ensure that all laboratories they use for analysis of samples taken pursuant to this Order have a documented Quality System that complies with ASQ/ANSI E4:2014 "Quality Management Systems for Environmental Information and Technology Programs – Requirements With Guidance for Use" (American Society for Quality, February 2014), and "EPA Requirements for Quality Management Plans (QA/R-2)" EPA/240/B-01/002 (March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs as meeting the Quality System requirements.

d. Respondents must ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the approved QAPP.

58. **Sampling**

a. Upon request, Respondents must provide split or duplicate samples to EPA and MDNR or their authorized representatives. Respondents shall notify EPA not less than 10 days in advance of any sample collection activity. In addition, EPA and MDNR have the right to take any additional samples that EPA or MDNR deem necessary. Upon request, EPA and MDNR will provide to Respondents split or duplicate samples of any samples they take as part of EPA's oversight of Respondents' implementation of the Work, and any such samples shall be analyzed in accordance with the approved QAPP.

b. Respondents must submit to EPA and MDNR in the next monthly progress report as described in Paragraph 47 (Progress Reports) the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondents with respect to the Site and/or the implementation of this Order.

## XIV. PROPERTY REQUIREMENTS

59. **Access Agreements**. Respondents must, with respect to any Non-Respondent Owner's Affected Property, use best efforts to secure from such Non-Respondent Owner access agreements, enforceable by Respondents, providing that such Non-Respondent Owner provide Respondents, and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the performance of the Work, including those listed, as applicable, in Paragraph 59.a (Access Requirements). Respondents must provide a copy of such access agreement(s) to EPA and MDNR. Any Owner Respondent, with respect to such Owner Respondent's Affected Property, must also comply with the above.

a. **Access Requirements**. The following is a list of activities for which access is required regarding the Affected Property:

(1) Monitoring the Work;

(2) Verifying any data or information submitted to EPA;

(3) Conducting investigations regarding contamination at or near the Site;

(4) Obtaining samples;

(5) Conducting treatability studies;

(6) Assessing the need for, planning, implementing, or monitoring response actions;

(7) Assessing implementation of quality assurance and quality control practices as defined in the approved QAPP;

(8) Implementing the Work pursuant to the conditions set forth in Paragraph 73 (Enforcement/Work Takeover);

(9) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondents or their agents, consistent with Section XV (Access to Information); and

(10) Assessing Respondents' compliance with the Order.

60. **Best Efforts**. As used in this Section, "best efforts" means the efforts that a reasonable person in the position of Respondents would use to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If, within 120 days after the Effective Date, Respondents are unable to accomplish what is required through "best efforts," they shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondents, or take

independent action, in obtaining such access and/or use restrictions, and in performing Work. EPA reserves the right to seek payment from Respondents for all costs, including cost of attorneys' time, incurred by the United States in obtaining such agreements or in performing Work.

## XV. ACCESS TO INFORMATION

61. Respondents must provide to EPA, upon request, copies of all records, reports, documents, and other information, including records, reports, documents, and other information in electronic form (Records) within each Respondent's possession or control, or that of their contractors or agents, relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondents must also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

62. **Privileged and Protected Claims**

a. Respondents may assert that all or part of a Record requested by EPA is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondents comply with Paragraph 62.b, and except as provided in Paragraph 62.b.

b. If Respondents assert a claim of privilege or protection, they must provide EPA with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondents must provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondents must retain all Records that they claim to be privileged or protected until EPA or a court determines that such Record is privileged or protected.

c. Respondents may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Order.

63. **Business Confidential Claims**. Respondents may assert that all or part of a Record provided to EPA under this Section or Section XVI (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondents will segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondents assert business confidentiality claims. Records claimed as confidential business information will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA, or if EPA has notified Respondents that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2,

Subpart B, the public may be given access to such Records without further notice to Respondents.

64. Notwithstanding any provision of this Order, EPA retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

## XVI. RECORD RETENTION

65. During the pendency of this Order and for a minimum of 10 years after Respondents' receipt of EPA's notification pursuant to Section XXVI (Notice of Completion of Work), each Respondent must preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with respect to the Site, provided, however, that Respondents who are potentially liable as owners or operators of the Site must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. Each Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above, all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that each Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

66. At the conclusion of this document retention period, Respondents must notify EPA at least 90 days prior to the destruction of any such Records, and, upon request by EPA, and except as provided in Paragraph 62 (Privileged and Protected Claims), Respondents must deliver any such Records to EPA.

67. Within 60 days after the Effective Date, each Respondent must submit a written certification to EPA's RPM that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification by the United States or the State, and that it has fully complied with any and all EPA and State requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law. Any Respondent unable to so certify must submit a modified certification that explains in detail why it is unable to certify in full with regard to all Records.

## XVII. COMPLIANCE WITH OTHER LAWS

68. Nothing in this Order limits Respondents' obligations to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Order must, to the extent practicable, as determined by EPA, considering the exigencies of the

situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws.

69. No local, state, or federal permit will be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondents must submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and must not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

## XVIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

70. **Emergency Response**. If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents must immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondents must take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan. Respondents must also immediately notify EPA's RPM or, in the event of his/her unavailability, the Regional Duty Officer, Emergency Planning and Response Branch, EPA Region 7, at (913) 281-0991, of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, EPA reserves the right to pursue cost recovery.

71. **Release Reporting**. Upon the occurrence of any event during performance of the Work that Respondents are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-To-Know Act (EPCRA), 42 U.S.C. § 11004, Respondents must immediately orally notify EPA's RPM, or, in the event of his/her unavailability, the Regional Duty Officer at (913) 281-0991, and the National Response Center at (800) 424-8802. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004.

72. For any event covered under this Section, Respondents must submit a written report to EPA within 7 days after the onset of such event, setting forth the action or event that occurred and the measures taken, and to be taken, to mitigate any release or threat of release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release or threat of release.

## XIX. ENFORCEMENT/WORK TAKEOVER

73. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondents to civil penalties of up to $58,328 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 84 Fed. Reg. 2056, 40 C.F.R. Part 19.4. This maximum

amount may increase in the future, as EPA amends its civil penalty amounts through rulemaking pursuant to the 1990 Federal Civil Penalties Inflation Adjustment Act (Public Law 101-410, codified at 28 U.S.C. § 2461), as amended by the 2015 Federal Civil Penalties Inflation Adjustment Act Improvement Act (Section 701 of Public Law 114-74)). The maximum amount to be applied to this violation will be set as the most recent maximum amount set forth in 40 CFR section 19.4 as of the date that the U.S. District Court assesses any such penalty. In the event of such willful violation, or failure or refusal to comply, EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Respondents may also be subject to punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

## XX. RESERVATIONS OF RIGHTS BY EPA

74. Nothing in this Order limits the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Order prevents EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves the right to bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site.

## XXI. OTHER CLAIMS

75. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA will not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

76. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

77. Nothing in this Order is deemed to constitute preauthorization of a claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), or 40 C.F.R. § 300.700(d).

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

## XXII. INSURANCE

79. No later than 14 days before commencing any on-site Work, Respondents must secure, and shall maintain for the duration of this Order, commercial general liability insurance, automobile liability insurance, and umbrella liability insurance, all with limits of liability acceptable to EPA, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Order. Within the same period, Respondents must provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents must submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondents must satisfy, or must ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondents need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Respondents must ensure that all submittals to EPA under this Paragraph identify the Pools Prairie Site, Neosho, Missouri, and the EPA docket number for this action.

## XXIII. FINANCIAL ASSURANCE

80. In order to ensure completion of the Work, Respondents shall secure financial assurance, initially in the amount of $2.7 million ("Estimated Cost of the Work"). The financial assurance must be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA or under the "Financial Assurance - Orders" category on the Cleanup Enforcement Model Language and Sample Documents Database at https://cfpub.epa.gov/compliance/models/, and satisfactory to EPA. Respondents may use multiple mechanisms if they are limited to trust funds, surety bonds guaranteeing payment, and/or letters of credit.

a. A trust fund: (1) established to ensure that funds will be available as and when needed for performance of the Work; (2) administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency; and (3) governed by an agreement that requires the trustee to make payments from the fund only when the Director of the Superfund and Emergency Management Division, Region 7, or her designee, advises the trustee in writing that: (i) payments are necessary to fulfill the affected Respondents' obligations under the Order; or (ii) funds held in trust are in excess of the funds that are necessary to complete the performance of Work in accordance with this Order;

b. A surety bond, issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury, guaranteeing payment or performance in accordance with Paragraph 86 (Access to Financial Assurance);

c. An irrevocable letter of credit, issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency, guaranteeing payment in accordance with Paragraph 86 (Access to Financial Assurance);

d. A demonstration by a Respondent that it meets the relevant financial test criteria of Paragraph 83; or

e. A guarantee to fund or perform the Work executed by a company (1) that is a direct or indirect parent company of a Respondent or has a "substantial business relationship" (as defined in 40 C.F.R. § 264.141(h)) with a Respondent; and (2) can demonstrate to EPA's satisfaction that it meets the financial test criteria of Paragraph 83.

81. **Standby Trust**. If Respondents seek to establish financial assurance by using a surety bond, a letter of credit, or a corporate guarantee, Respondents shall at the same time establish and thereafter maintain a standby trust fund, which must meet the requirements specified in Paragraph 80.a, and into which payments from the other financial assurance mechanism can be deposited if the financial assurance provider is directed to do so by EPA pursuant to Paragraph 86 (Access to Financial Assurance). An originally signed duplicate of the standby trust agreement must be submitted, with the other financial mechanism, to EPA in accordance with Paragraph 82. Until the standby trust fund is funded pursuant to Paragraph 86 (Access to Financial Assurance), neither payments into the standby trust fund nor annual valuations are required.

82. Within 30 days after the Effective Date, Respondents shall submit to EPA proposed financial assurance mechanisms in draft form in accordance with Paragraph 80 for EPA's review. Within 90 days after the Effective Date, or 30 days after EPA's approval of the form and substance of Respondents' financial assurance, whichever is later, Respondents shall secure all executed and/or otherwise finalized mechanisms or other documents consistent with the EPA-approved form of financial assurance and shall submit such mechanisms and documents to EPA's RPM, Tonya Howell.

83. Respondents seeking to provide financial assurance by means of a demonstration or guarantee under Paragraph 80.d or 80.e must, within 30 days of the Effective Date:

a. Demonstrate that:

(1) the affected Respondent or guarantor has:

i. Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

ii. Net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal

environmental obligations financially assured through the use of a financial test or guarantee; and

iii. Tangible net worth of at least $10 million; and

iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or

(2) The affected Respondent or guarantor has:

i. A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

ii. Tangible net worth at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

iii. Tangible net worth of at least $10 million; and

iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

b. Submit to EPA for the affected Respondent or guarantor: (1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and (2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA or under the "Financial Assurance – Orders" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at https://cfpub.epa.gov/compliance/models/.

84. Respondents providing financial assurance by means of a demonstration or guarantee under Paragraph 80.d or 80.e must also:

a. Annually resubmit the documents described in Paragraph 83.b within 90 days after the close of the affected Respondent's or guarantor's fiscal year;

b. Notify EPA within 30 days after the affected Respondent or guarantor determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and

c. Provide to EPA, within 30 days of EPA's request, reports of the financial condition of the affected Respondent or guarantor in addition to those specified in Paragraph 83.b; EPA may make such a request at any time based on a belief that the affected Respondent or guarantor may no longer meet the financial test requirements of this Section.

85. Respondents shall diligently monitor the adequacy of the financial assurance. If any Respondent becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, such Respondent shall notify EPA of such information within 30 days. If EPA determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, EPA will notify the affected Respondent of such determination. Respondents shall, within 30 days after notifying EPA or receiving notice from EPA under this Paragraph, secure and submit to EPA for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. Respondents shall follow the procedures of Paragraph 87 in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Respondents' inability to secure financial assurance in accordance with this Section does not excuse performance of any other obligation under this Order.

86. **Access to Financial Assurance**

a. If EPA determines that Respondents (1) have ceased implementation of any portion of the Work, (2) are seriously or repeatedly deficient or late in their performance of the Work, or (3) are implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice ("Performance Failure Notice") to both Respondents and the financial assurance provider regarding the affected Respondents' failure to perform. Any Performance Failure Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Respondents a period of 10 days within which to remedy the circumstances giving rise to EPA's issuance of such notice. If, after expiration of the 10-day period specified in this Paragraph, Respondents have not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Performance Failure Notice, then, in accordance with any applicable financial assurance mechanism, EPA may at any time thereafter direct the financial assurance provider to immediately: (i) deposit any funds assured pursuant to this Section into the standby trust fund; or (ii) arrange for performance of the Work in accordance with this Order.

b. If EPA is notified by the provider of a financial assurance mechanism that it intends to cancel the mechanism, and the affected Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, EPA may, prior to cancellation, direct the financial assurance provider to deposit any funds guaranteed under such mechanism into the standby trust fund for use consistent with this Section.

87. **Modification of Amount, Form, or Terms of Financial Assurance**. Respondents may submit, on any anniversary of the Effective Date or following Respondents' request for, and EPA's approval of, another date, a request to reduce the amount, or change the form or terms, of the financial assurance mechanism. Any such request must be submitted to the EPA individual(s) referenced in Paragraph 82, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, a description of the proposed changes, if any, to the form or terms of the financial assurance, and any newly proposed financial assurance documentation in accordance with the requirements of Paragraphs 80 and 81 (Standby Trust). EPA will notify Respondents of its decision to approve or disapprove a requested reduction or change. Respondents may reduce the amount or change the form or terms of the financial assurance mechanism only in accordance with EPA's approval. Within 30 days after receipt of EPA's approval of the requested modifications pursuant to this Paragraph, Respondents shall submit to the EPA individual(s) referenced in Paragraph 82 all executed and/or otherwise finalized documentation relating to the amended, reduced, or alternative financial assurance mechanism. Upon EPA's approval, the Estimated Cost of the Work shall be deemed to be the estimate of the cost of the remaining Work in the approved proposal.

88. **Release, Cancellation, or Discontinuation of Financial Assurance**. Respondents may release, cancel, or discontinue any financial assurance provided under this Section only: (a) after receipt of documentation issued by EPA certifying completion of the Work; or (b) in accordance with EPA's written approval of such release, cancellation, or discontinuation.

## XXIV. MODIFICATION

89. EPA's RPM may modify any plan or schedule or the SOW in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but will have as its effective date the date of EPA's RPM's oral direction. Any other requirements of this Order may be modified in writing by signature of the director of the Superfund and Emergency Management Division, EPA Region 7, or her designee.

90. If Respondents seek permission to deviate from any approved Work Plan or schedule or the SOW, Respondents' Project Coordinator must submit a written request to EPA for approval outlining the proposed modification and its basis. Respondents may not proceed with the requested deviation until receiving approval from the EPA RPM pursuant to Paragraph 89.

91. No informal advice, guidance, suggestion, or comment by EPA's RPM or other EPA representatives regarding any deliverables submitted by Respondents will relieve Respondents of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

## XXV. DELAY IN PERFORMANCE

92. Respondents must notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the EPA RPM within 48 hours after Respondents first knew or should have known that a delay might

occur. Respondents must adopt all reasonable measures to avoid or minimize any such delay. Within 7 days after notifying EPA by telephone and email, Respondents must provide to EPA written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

93. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of Paragraph 92 will be considered a violation of this Order. Any delay in performance of this Order will not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

## XXVI. NOTICE OF COMPLETION OF WORK

94. When EPA determines that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, such as record retention, EPA will provide written notice to Respondents. If EPA determines that any Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the Phase II RI/FS Work Plan, if appropriate, in order to correct such deficiencies within 30 days after receipt of the EPA notice. The modified Phase II RI/FS Work Plan must include a schedule for correcting such deficiencies. Within 30 days after receipt of written approval of the modified Phase II RI/FS Work Plan, Respondents must implement the modified and approved Phase II RI/FS Work Plan and must submit a modified draft RI Report and/or FS Report in accordance with the EPA notice. Failure by Respondents to implement the approved modified Phase II RI/FS Work Plan will be a violation of this Order.

## XXVII. ADMINISTRATIVE RECORD

95. EPA has established an administrative record that contains the documents that form the basis for the issuance of this Order. It is available for public review at EPA's regional office at 11201 Renner Boulevard in Lenexa, Kansas, and online at https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.ars&id=0702918&doc=Y&colid=63748&region=07&type=AR.

96. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents must submit to EPA documents developed during the course of the Phase II RI/FS upon which selection of the remedial action may be based. Upon request of EPA, Respondents must provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports. Upon request of EPA, Respondents must additionally submit any previous studies conducted under state, local, or other federal authorities that may relate to selection of the remedial action, and all communications between Respondents and state, local, or other federal authorities concerning selection of the remedial action.

## XXVIII. SEVERABILITY

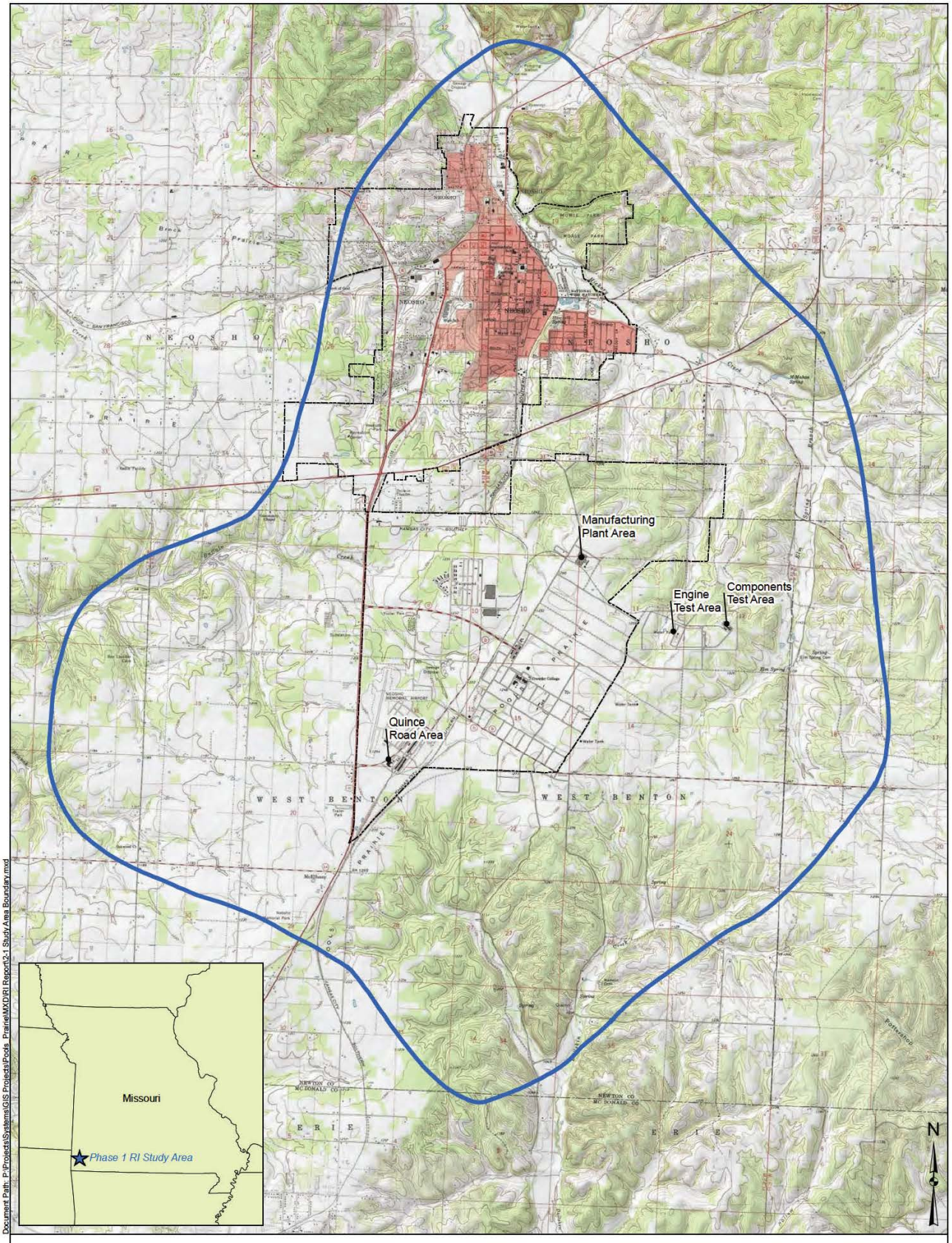
97. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents will remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

It is so ORDERED.

BY: MARY PETERSON Digitally signed by MARY PETERSON Date: 2020.08.07 12:43:14 -05'00' _____
Mary P. Peterson
Director, Superfund and Emergency Management Division
U.S. Environmental Protection Agency Region 7

EFFECTIVE DATE: ___August 7___, 2020

# Appendix A




Phase 1 RI Study Area

Neosho City Limits

0 2,250 4,500 9,000 Feet

| | |
|---|---|
| Pools Prairie Superfund Site<br>Newton County, Missouri | PROJECT NO.<br>60419811 |
| Study Area Boundary | |
| DRN. BY: IJP<br>CHKD. BY: HB<br>12/1/2015 | AECOM |

Data Source:
1. RI Phase 1 Investigation Boundary and Source Areas delineated in Administrative Settlement Agreement and Order on Consent, Docket No. CERCLA-07-2011-0014, Figure 1.

Document Path: P:\Projects\Systems\GIS Projects\Pools_Prairie\MXD\RI Report\2-1 Study Area Boundary.mxd

**APPENDIX B**
**STATEMENT OF WORK**
**PHASE II REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS)**

POOLS PRAIRIE SITE, OU7
NEOSHO, NEWTON COUNTY, MISSOURI
SSID: 07WT

## INTRODUCTION

This Statement of Work (SOW) sets forth the requirements for completing the Phase II Remedial Investigation and Feasibility Study (RI/FS) for the Pools Prairie Site, OU7 (Site-Wide Groundwater). Pursuant to the attached Unilateral Administrative Order (Order), EPA Docket No. CERCLA-07-2019-0238, Respondents will conduct a RI/FS to investigate the nature and extent of off-site migration of hazardous substances, pollutants, or contaminants from the Site, assess the potential risk to human health and the environment caused by such migration, and develop and evaluate remedial alternatives.

Respondents will conduct the RI/FS and produce a draft and final RI/FS Report that is in accordance with this SOW, the Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (OSWER Directive # 9355.3-01, EPA/540/G-89/004, October 1988) (RI/FS Guidance), and any other guidance documents that the U.S. Environmental Protection Agency (EPA) uses in conducting or submitting deliverables for a RI/FS, as well as any additional requirements in the Order. Respondents will furnish all personnel, materials, and services necessary for, or incidental to, performing the RI/FS, except as otherwise specified in the Order. As specified in CERCLA Section 104(a)(1) as amended, EPA will provide oversight of Respondents' activities throughout the RI/FS.

At the completion of the RI/FS, EPA will be responsible for the selection of the appropriate site remedy and will document this selection in a Record of Decision (ROD). The remedial action alternative selected by EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of state and federal laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the extent practicable, and will address the statutory preference for treatment as a principal element. The Final RI/FS Report and the administrative record file will form the basis for EPA's selection of the Site's remedy and will provide the information necessary to support the development of the ROD.

## TASK 1 PROJECT PLANNING AND SUPPORT

Respondents have already compiled existing site information during the Phase I Remedial Investigation and that information has been summarized in the Phase I Remedial Investigation Report dated May 31, 2016.

Respondents will meet with EPA to discuss the following:

1) The proposed scope of the project and the specific investigative and analytical activities that will be required.

2) Preliminary remedial action objectives and general response actions.

3) Potential remedial technologies and the need for treatability studies.

4) Potential Applicable or Relevant and Appropriate Requirements (ARARs) associated with the location and contaminants of the site and the potential response actions being contemplated.

In accordance with the Schedule of Deliverables/Milestones set forth in this SOW, Respondents shall submit the RI/FS planning documents listed below. Respondents shall prepare the RI/FS planning documents as described in the RI/FS Guidance.

**RI/FS Work Plan** – Respondents will develop (1) the specific work plan to meet the objectives of the RI/FS and (2) initiate contractor procurement. The RI/FS Work Plan provides a project description and outlines the technical approach to perform the tasks in this SOW, complete with corresponding personnel requirements, activity schedules, deliverable due dates for key deliverables, and includes a sampling and analysis plan (SAP) (composed of the field sampling plan (FSP) and the quality assurance project plan (QAPP)) and a health and safety plan (HSP). The RI/FS Work Plan shall incorporate the Phase I Remedial Investigation Report, and provide supplemental information as necessary, to provide: (1) an analysis and summary of the site background and the physical setting; (2) an analysis and summary of previous response actions; (3) presentation of the conceptual site model which includes an analysis and summary of the nature and extent of contamination and a preliminary assessment of the human health and environmental impacts; and (4) the preliminary identification of general response actions and alternatives and the data needed for the evaluation of the alternatives.

**Sampling and Analysis Plan (SAP)** – Respondents will prepare a SAP to conduct sample collection and analytical activities in accordance with technically acceptable protocols and ensure that the data meet data quality objectives (DQOs). The SAP will consist of the following:

***Field Sampling Plan (FSP)*** – The FSP should specify and outline activities to obtain additional site data. It should contain an evaluation explaining what additional data are required to adequately characterize the site, conduct a baseline risk assessment (human health and ecological), and support the evaluation of remedial technologies in the FS. The FSP should clearly state sampling objectives, sampling equipment and procedures, sample types, locations, and frequency, sample handling and analysis analyses of interest; and a schedule stating when events will take place and when deliverables will be submitted. All sampling and analysis performed shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation and chain of custody procedures.

***Quality Assurance Project Plan (QAPP)*** – The QAPP should address types of planned investigations and shall be prepared in accordance with "Guidance for Quality Assurance Project Plans (QA/G-5), U.S. EPA, December 2002." The QAPP shall include the following discussions:

1. A project description (should be duplicated from the work plan).

2. A project organization chart illustrating the lines of responsibility of key personnel involved in the sampling phase of the project.

3. DQOs for data, such as the required precision and accuracy, completeness of data, representativeness of data, comparability of data, and the intended use of collected data.

4. Sample custody procedures during sample collection, in the laboratory, and as part of the final evidence files.

5. The type and frequency of calibration procedures for field and laboratory instruments, internal quality control checks, and quality assurance performance audits and system audits.

6. Preventative maintenance procedures, and schedule and corrective action procedures for field and laboratory instruments.

7. Specific procedures to assess data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters.

8. Data documentation and tracking procedures.

***Health and Safety Plan (HSP)*** – Respondents will develop a HSP on the basis of site conditions to protect personnel involved in site activities and the surrounding community during site activities. The plan should address applicable regulatory requirements contained in 20 CFR 1910.120(i)(2) – Occupational Health and Safety Administration, Hazardous Waste Operations and Emergency Response, Interim Rule, December 19, 1986; U.S. EPA Order 1440.2 – Health and Safety Requirements for Employees Engaged in Field Activities; U.S. EPA Order 1440.3 – Respiratory Protection; U.S. EPA Occupational Health and Safety Manual; and U.S. EPA Interim Standard Operating Procedures (September, 1982). The plan should provide a site background discussion and describe personnel responsibilities, protective equipment, health and safety procedures and protocols, decontamination procedures, personnel training, and type and extent of medical surveillance. The plan should identify problems or hazards that may be encountered and how these are to be addressed. Procedures for protecting third parties during site activities, such as visitors or the surrounding community, should also be provided. EPA reviews but does not "approve" the HSP, but rather EPA reviews it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

## TASK 2 FIELD INVESTIGATION

Respondents will implement the RI/FS Work Plan to further characterize the Site and to evaluate the actual or potential risk to human health and the environment posed by the Site. Investigation activities will focus on problem definition and result in data of adequate technical content to evaluate potential risks and to support the development and evaluation of remedial alternatives during the FS. The aerial extent of investigation will be finalized during the RI. Site investigation activities will follow the RI/FS Work Plan developed in Task 1. Strict chain-of-custody procedures will be followed, and sample locations will be identified on a site map. Respondents will provide management and quality control review of activities conducted under this task. There are four source areas for investigation, the CTA, ETA, MPA and QRA, as defined in paragraph 7 of the Order. At a minimum, activities anticipated for this Site are as follows:

1) Characterizing the extent of shallow soil/groundwater contaminants that remain at the source areas (CTA, ETA, MPA and QRA) to facilitate evaluation of additional, limited source area remediation. This includes additional soil sampling at the CTA and ETA, and additional groundwater sampling at the CTA, ETA and MPA.

2) Characterizing the vertical extent of groundwater at the source areas to understand the extent of the contaminants in the Springfield Aquifer.

3) Characterizing groundwater conditions in the Ozark Aquifer to understand the potential for impacts to the deeper aquifer. This includes sampling and/or gauging existing Ozark Aquifer wells and installing additional Ozark Aquifer wells.

4) Conducting sitewide groundwater sampling to facilitate the evaluation of potential remedial actions, including monitored natural attenuation. Sampling will include private wells, monitoring wells installed during the Phase 1 RI, source area monitoring wells, and new RI/FS wells.

5) Conducting vapor intrusion sampling in private homes and businesses to evaluate if unacceptable exposures to indoor air vapors exist in buildings over TCE contaminated groundwater plumes.

6) Sampling key spring locations.

7) Sampling key stream locations.

Based on work completed and discussions during the Phase 1 RI, it is expected that the above scope would include installation of several additional Ozark Aquifer and RI/FS wells, and sampling of private wells, existing monitoring wells, and key spring and stream locations. Respondents will incorporate information from this task into the RI/FS report.

**TASK 3 SAMPLE ANALYSIS**

Respondents will develop a data management system including field logs, sample management and tracking procedures, and document control and inventory procedures for both laboratory data and field measurements to ensure that the data collected during the investigation are of adequate quality and quantity to support the risk assessment and the FS. Collected data should be validated at the appropriate field or laboratory quality control level to determine whether it is appropriate for its intended use. Task management and quality controls will be provided by Respondents. Respondents will incorporate information from this task into the RI/FS report appendices.

**TASK 4 DATA EVALUATION**

Respondents will analyze site investigation data and present the results of the analyses in an organized manner indicating the relationships between site investigation results for each medium. Respondents will prepare a summary that describes (1) the quantities and concentrations of specific chemicals at the Site and the ambient levels surrounding the Site; (2) the number, locations, and types of nearby populations and activities; and (3) the potential transport mechanism and the expected fate of the contaminant in the environment.

**TASK 5 RISK ASSESSMENT**

A Baseline Risk Assessment and the necessary risk assessment documents will be prepared by Respondents. Data shall be of acceptable quantity and quality so that the Baseline Risk Assessment may be prepared in accordance with EPA guidance. The objective of the Baseline Risk Assessment is to characterize and quantify, where appropriate, the current and potential human health and environmental risks that would prevail if no further remedial action is taken.

The Baseline Risk Assessment will have two components: the Human Health Risk Assessment and the Ecological Risk Assessment. The Human Health Risk Assessment will address the following:

- Hazard identification;
- Dose response assessment;
- Exposure assessment;
- Toxicity assessment;
- Risk characterization; and
- Limitations/uncertainties.

The Ecological Risk Assessment will address the following:

- Definition of objectives;
- Characterization of Site and potential receptors;
- Selection of chemicals, species, and end points for risk evaluation;
- Exposure assessment;
- Toxicity assessment;
- Risk characterization; and
- Limitations/uncertainties.

The risk assessment shall be submitted to EPA with the RI Report as a separate deliverable.

## TASK 6 RI REPORT(S)

The RI Report shall provide information to assess risks to human health and the environment and to support the development, evaluation, and selection of appropriate response alternatives. The task includes all draft and final reports. The RI report shall be written in accordance with the RI/FS Guidance and "Guidance for Data Usability in Risk Assessment (Part A), Final" (OSWER Directive #9285.7-09A, PB 92-963356 (April 1992). The typical components of the RI report include, but are not limited to, the following:

- Site Background
- Investigation
    - Field Investigation and technical approach
    - Chemical analyses and analytical methods
    - Field methodologies (biological, surface water, sediment, soil boring, soil sampling, monitoring well installation, groundwater sampling, hydrogeological assessment)
- Site Characteristics
    - Geology
    - Hydrogeology
    - Meteorology
    - Demographics and land use
    - Reuse assessment
    - Ecological assessment

- Nature and Extent of Contamination
    - Contaminant sources
    - Contaminant distribution and trends
- Fate and Transport
    - Contaminant characteristics
    - Transport processes
    - Contaminant migration trends
- Risk Assessment (Human Health and Ecological)
- Summary and Conclusions

## TASK 7 TREATABILITY STUDY/PILOT TESTING

If EPA or Respondents determine that treatability testing is necessary, Respondents shall conduct treatability studies as described in this section of the SOW. In addition, if applicable, Respondents shall use the testing results and operating conditions in the detailed design of the selected remedial technology.

### Identification of Candidate Technologies

Respondents shall identify candidate technologies for a treatability studies program no later than at the time of submittal of the draft RI Report. The list of candidate technologies shall cover the range of technologies required for alternatives analysis. Respondents shall determine and refine the specific data requirements for the testing program during site characterization and the development and screening of remedial alternatives.

During identification of candidate technologies, Respondents shall conduct a literature survey to gather information on the performance, relative costs, applicability, removal efficiencies, operation and maintenance (O&M) requirements, and implementability of candidate technologies. Respondents shall conduct treatability studies to assist evaluation of relevant technologies except where Respondents can demonstrate to EPA's satisfaction that they are not needed.

### Treatability Testing and Deliverables

- ***Treatability Testing Work Plan and Sampling and Analysis Plan (SAP)***

  If EPA or Respondents determine that treatability testing is necessary, Respondents will determine the type of treatability testing to use (e.g., bench versus pilot), subject to EPA approval. The Treatability Testing Work Plan and a SAP will describe the site background, the remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety, residual waste management, and a schedule. Respondents shall document the DQOs for treatability testing as well. If pilot scale treatability testing is to be performed, the Treatability Study Work Plan shall describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a health and safety plan. If testing is to be performed off-site, the plans shall address all permitting requirements.

- ***Treatability Study Health and Safety Plan***

  If the HSP is not adequate for defining the activities to be performed during the treatability tests, Respondents shall submit a separate or second amended HSP consistent with Paragraph 44.h of the Order. The EPA reviews, but does not "approve" the Treatability Study Health and Safety Plan.

- ***Treatability Study Evaluation Report***

  Following the completion of the treatability testing, Respondents shall analyze and interpret the testing results in a technical report. Respondents shall submit the treatability study report according to the schedule in the Treatability Study Work Plan. This report may be part of the RI Report or submitted as a separate deliverable. The Treatability Study Evaluation Report shall evaluate each technology's effectiveness, implementability, cost, and actual results as compared with expected results, the report shall also evaluate full-scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

## TASK 8 REMEDIAL ALTERNATIVE DEVELOPMENT AND SCREENING

As part of the FS process, work will be performed to develop appropriate remedial alternatives to undergo full evaluation. The alternatives are to encompass a range of appropriate waste management options, including innovative treatment technologies consistent with the regulations outlined in the National Contingency Plan (NCP), 40 CFR Part 300, and applicable EPA guidance, procedures and directives, including "Considerations in Ground Water Remediation at Superfund Sites", OSWER Directive #9355.4-03, October 18, 1989 and "Considerations in Ground Water Remediation at Superfund Sites –Update", OSWER Directive #9283.1-06 (May 27, 1992). The analysis will include institutional controls (ICs) to the extent appropriate. This task will include identification of the remedial action objectives and screening of alternatives. Activities required during the FS include, but are not limited to the following:

### Remedial Action Objectives

Based on existing information in the baseline human health risk assessment, Respondents shall provide site-specific remedial action objectives for each chemical in each medium. The remedial action objectives shall specify the contaminant(s) and media of concern, the exposure route(s) and receptor(s), and an acceptable contaminant level or range of levels for each exposure route (i.e., preliminary remediation goals). Preliminary remediation goals should be established based on readily available information (e.g., Rfds) or chemical-specific ARARs (e.g., MCLs). The remedial action objectives shall be developed by considering the factors set forth in 40 C.F.R. § 300.430(e)(2)(i). Respondents shall incorporate EPA's comments on the Remedial Action Objectives in the FS.

### Alternatives Screening

The Screening of Alternatives shall include an alternatives array summary and shall document the methods, the rationale, and the results of the alternatives screening process. If required by EPA, Respondents shall modify the alternatives array to assure that the array identifies a complete and appropriate range of viable alternatives to be considered in the detailed analysis.

The screening of alternatives shall include the components listed below and shall incorporate EPA's comments.

- ***Develop General Response Actions***

  General response actions shall be developed that include containment, treatment, excavation, pumping, or other actions, singly or in combination, to satisfy the EPA-approved remedial action objectives.

- ***Identify Areas or Volumes of Media***

  Areas or volumes of media shall be identified as to which the general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives. Respondents shall also take into account the chemical and physical characterization of the site.

- ***Identify, Screen and Document Remedial Technologies***

  Technologies applicable to each response action shall be identified and evaluated to eliminate those that cannot be implemented. Respondents shall refine applicable general response actions to specify remedial technology types. Respondents shall identify technology process options for each of the technology types concurrently with the identification of such technology types or following the screening of considered technology types. Respondents shall evaluate process options on the basis of effectiveness, implementability, and cost factors to select and retain one or, if necessary, more representative processes for each relevant technology type. Respondents shall summarize and include the technology types and process options. Whenever practicable, the alternatives shall also consider the CERCLA preference for treatment over conventional containment or land disposal approaches.

  A preliminary list of alternatives shall be provided to address the contamination that shall include those listed in 40 C.F.R. § 300.430(e)(1)-(7). Respondents shall specify the reasons for eliminating any alternatives. Respondents shall prepare a summary of the assembled alternatives and their related ARARs.

- ***Conduct and Document Screening Evaluation of Each Alternative***

  Respondents may perform a final screening process based on short- and long-term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for a detailed analysis. If necessary, Respondents shall conduct the screening of alternatives to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis. As appropriate, the screening shall preserve the range of treatment and containment alternatives that were initially developed. The range of remaining alternatives shall include options that use treatment technologies and permanent solutions to the maximum extent practicable. The Screening of Alternatives shall summarize the results and reasoning employed

in screening arrays, the alternatives that remain after screening, and identify the action-specific ARARs for the alternatives that remain after screening.

## TASK 9 FEASIBILITY STUDY

This task includes efforts associated with the assessment of individual alternatives against each of the nine evaluation criteria and a comparative analysis of all options against the evaluation criteria. The analysis is to be consistent with the NCP, 40 CFR Part 300, and is to consider the RI/FS Guidance, Guide to Developing and Documenting Cost Estimates During the Feasibility Study (OSWER Directive 9355.0-75), and other pertinent OSWER guidance. The analysis will include ICs to the extent appropriate. This task will include, an individual and comparative analysis of alternatives. EPA will make the determination regarding final selection of the remedial alternative. Activities required under this task include, but are not limited to the following:

### Apply Nine Criteria and Document Analysis

Respondents shall apply the nine evaluation criteria to each of the assembled remedial alternatives to ensure that the selected remedial alternative will protect human health and the environment and meet remedial action objectives; will comply with or include a waiver of ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element. The evaluation criteria shall include:

- Overall protection of human health and the environment
- Compliance with ARARs
- Long-term effectiveness and permanence
- Reduction in toxicity, mobility or volume through treatment
- Short-term effectiveness
- Implementability - technical and administrative
- Cost
- State acceptance
- Community acceptance

### Individual and Comparative Analysis of Alternatives

Respondents shall perform a comparative analysis between the remedial alternatives. That is, Respondents shall compare each alternative against the other alternatives using the evaluation criteria as a basis of comparison. EPA will identify and select the preferred alternative. The individual and comparative analysis of alternatives will summarize the results of the analyses and fully and satisfactorily address and incorporate EPA's comments.

### Alternative Analysis for ICs and Screening

For any alternative that relies on ICs, Respondents shall include in the FS report(s) an evaluation of the following: (1) the restrictions needed on land, water, or other resources and their relationship to the remedial action objectives; (2) determine the specific types of ICs that can be used to address and

implement the land, water, or other resource use restrictions; (3) investigate when the ICs need to be implemented and how long they must remain in place; (4) research, discuss, and document any agreement or other arrangements with the proper entities (e.g., state, local government, local landowners, conservation organizations) on exactly who will be responsible for implementing, maintaining and enforcing the ICs. The Alternative Analysis for ICs and Screening shall also evaluate the identified ICs against the nine criteria outlined in the NCP (40 C.F.R. § 300.430(e)(9)(iii)) for CERCLA cleanups, including but not limited to costs to implement, maintain, and/or enforce the ICs. The Alternatives Analysis for ICs and Screening shall be submitted as an appendix to the Draft Feasibility Study.

## TASK 10 FS REPORT(S)

This task includes work efforts related to the preparation of findings once remedial alternatives have been screened and evaluated. The task includes preparation of all draft and final reports. The FS Report shall summarize the development and screening of the remedial alternatives and present the detailed analysis of remedial alternatives as outlined in Task 9. The Feasibility Study Report shall include, but is not limited to a discussion of the following:

- Feasibility Study Objectives
- Remedial Objectives
- General Response Actions
- Identification and screening of Remedial Technologies
- Remedial Alternatives Description
- Detailed Analysis of Remedial Alternatives (individual and comparative)
- Summary and Conclusions

## TASK 11 COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA. The critical community relations planning steps performed by EPA include conducting community interviews and developing a community relations plan. Although the implementation of the community relations plan is the responsibility of EPA, Respondents may assist by providing information regarding the site's history, participating in public meetings, or by preparing fact sheets for distribution to the general public. In addition, Respondents may establish a community information repository, at or near the site, to house one copy of the administrative record. The extent of potentially responsible party (PRP) involvement in community relations activities is left to the discretion of EPA. All PRP-conducted community relations activities will be subject of oversight by EPA.

**SCHEDULE OF DELIVERABLES/MILESTONES**

| DELIVERABLE | DUE DATE |
|---|---|
| Draft RI/FS Work Plan and Sampling and Analysis Plan (FSP/QAPP/HASP) | Within 120 days after EPA approval of Contractor. |
| Final RI/FS Work Plan and Sampling and Analysis Plan (FSP/QAPP/HASP) | Within 60 days of receiving EPA comments or other time as specified by the EPA. |
| Draft Baseline Human Health Risk Assessment | Within 120 days after collection of last field sample required by the approved Sampling and Analysis Plan and confirmation of validated data. |
| Draft RI Report | Within 120 days after collection of last field sample required by the approved Sampling and Analysis Plan. |
| Final Baseline Human Health Risk Assessment | Within 60 days of receiving EPA comments or other time as specified by the EPA. |
| Final RI Report | Within 60 days of receiving EPA comments or other time as specified by the EPA. |
| Draft Treatability Study Work Plan and SAP or Amendment to the Original RI/FS Work Plan, FSP and/or QAPP | Within 60 days of request of the EPA, if needed. |
| Final Treatability Study Work Plan and SAP or Amendment to the Original RI/FS Work Plan, FSP and/or QAPP | Within 60 days after receipt of EPA's comments or notification of direction to modify pursuant to Section IX of the Order. |
| Draft Treatability Study Health and Safety Plan or Amendment to the Original Health and Safety Plan | Within 60 days of request of EPA, if needed. |
| Final Treatability Study Health and Safety Plan or Amendment to the Original Health and Safety Plan | Within 60 days after receipt of EPA's comments or notification of direction to modify pursuant to Section IX of the Order. |
| Draft Treatability Study Evaluation Report | Within 120 days after completion of any treatability testing. |
| Final Treatability Study Evaluation Report | Within 60 days after receipt of EPA's comments or notification of direction to modify pursuant to Section XII of the Order. |
| Draft FS Report | Within 120 days of EPA approval of Final RI Report or Final Treatability Study Report, whichever is later. |
| Final FS Report | Within 60 days of receipt of EPA's comments or such other time as specified by the EPA. |
| Progress Reports | On the 15$^{th}$ day of each month after EPA approval of the RI/FS Work Plan. |
| Certificates of insurance and copy of insurance policies | Within 14 days of start of field work. |