Appendix B: Statement of Work (SOW)

REMEDIAL DESIGN/REMEDIAL ACTION

STATEMENT OF WORK

OPERABLE UNIT 3 – DENSE NON-AQUEOUS PHASE LIQUID (DNAPL)

MONTROSE CHEMICAL CORP. SUPERFUND SITE

Los Angeles County, California

EPA Region 9

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1. INTRODUCTION

1.1 Purpose of the Statement of Work. On September 30, 2020, the United States Environmental Protection Agency (EPA) issued the Record of Decision for the DNAPL Operable Unit of the Montrose Chemical Corp. Superfund Site (ROD). The ROD selected the remedial action (RA) for cleanup of the mobile dense non-aqueous phase liquids (DNAPL) to the extent practicable at the Montrose Chemical Corp. Superfund Site in Los Angeles, California (the "Site"). The ROD presents EPA's basis for selecting the RA, and specifies the standards, requirements, remedial action objectives (RAOs), and other specifications that shall be attained during the design and implementation of the RA selected by the ROD.

This Statement of Work (SOW) sets forth those activities, collectively referred to as the "Work," to be performed by the Settling Defendants (SDs) pursuant to the Consent Decree (hereafter, CD) for the DNAPL Operable Unit of the Site. SDs shall furnish all necessary and appropriate personnel, materials, and services needed for, or incidental to, performing and completing the Work.

1.2 Structure of the SOW.

- Section 2 (Community Involvement) sets forth EPA's and SDs' responsibilities for community involvement.
- Section 3 (Remedial Design/ Remedial Action) sets forth the process and requirements for developing the Remedial Design (RD) and implementing the RA, which includes the submission of specified primary deliverables.
- Section 4 (Reporting) sets forth SDs' reporting obligations.
- Section 5 (Deliverables) describes the content of the supporting deliverables and the general requirements regarding SDs' submission of, and EPA's review of, approval of, comment on, and/or modification of, the deliverables.

- Section 6 (Schedules) sets forth the schedule for submitting the primary deliverables, specifies the supporting deliverables that must accompany each primary deliverable, and sets forth the schedule of milestones regarding the completion of the RA.
- Section 7 (State Participation) addresses State participation.
- Section 8 (References) provides a list of references, including URLs.

1.3 The Scope of the Remedy includes the actions described in the ROD, including the following:

- In-Situ Thermal Treatment: Implement Electrical Resistance Heating (ERH) within the saturated Upper Bellflower Aquitard (UBA) over the Focused Treatment Area[1], to reduce mobile DNAPL mass to the extent practicable. Implement and operate a vapor extraction and treatment system. Three soil vapor treatment options are set forth in the ROD to treat the vapors from extraction system, including disposable Granular Activated Carbon (GAC)/resin, steam-regenerable GAC/resin, and thermal oxidation with acid-gas scrubbing. GAC/resin and steam-regenerable GAC/resin are the preferred technologies, but thermal oxidation with acid-gas scrubbing is permitted, if necessary. Treatment system shall comply with all Applicable or Relevant and Appropriate Requirements (ARARs).

- Unsaturated Zone Soil Vapor Extraction (SVE): Operate the SVE in the unsaturated zone between approximately 10 and 60 feet below ground surface (bgs) but above the water table throughout the Focused Treatment Area. Soil vapors will be conveyed to and addressed by the vapor treatment system, as described above, until Performance Criteria as defined in ¶ 3.1(l) have been met.

- DNAPL at CMW002: Monitor DNAPL at well CMW002 and, if EPA determines necessary, additional characterization and monitoring wells shall be installed. If EPA determines it is necessary to address mobile DNAPL at well CMW002, the SDs shall conduct an evaluation of DNAPL remedial technologies potentially applicable to the specific circumstances, including ERH. EPA shall determine the final technology for the SDs to implement.

- Land Use Covenant and Institutional Controls: A land use covenant to restrict future activities at the Montrose Plant Property shall be recorded as described in ¶ 19 of the CD. Engineering controls to restrict access are required as well and must be included in the land use covenant.

1.4 The terms used in this SOW that are defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), in regulations promulgated under CERCLA, or in the CD, have the meanings assigned to them in CERCLA, in such

[1] As defined in the 2020 ROD, page 5.

regulations, or in the CD, except that the term "Paragraph" or "¶" means a paragraph of the SOW, and the term "Section" means a section of the SOW, unless otherwise stated.

1.5 Background. The approach to DNAPL at the Site has been well-studied. In addition to the evaluation of a large number of technologies, as described in the DNAPL Feasibility Study and the Proposed Plan, a pilot test of the selected ERH technology was completed in 2019, followed by a vapor barrier pilot test. These tests will form the basis for the RD and RA:

- AECOM, 2013. *Final DNAPL Feasibility Study* including a compendium of pre-ERH pilot test reference documents provided in Appendix L. September 27. This feasibility study was approved by EPA in a letter dated January 13, 2014.
- Group Delta, 2020. Technical Memorandum to Yarissa Martinez, EPA Region 9, *Recommended Path Forward for MBFC Well CMW002*. January 14. This memorandum was approved by EPA via email on August 21, 2020.
- TRS Group, Inc., 2020. *Final Electrical Resistance Heating (ERH) Pilot Test Report*. March 18. This report was approved by EPA via email on April 28, 2020.

The SDs are conducting a vapor barrier pilot test—that work is described in the following plans:

- TRS Group, Inc., 2020. *Revised Vapor Barrier Pilot Test Work Plan and Operations and Maintenance Manual*. January 14. This plan was approved by EPA in a letter dated February 20, 2020.
- TRS Group, Inc., 2020. *Vapor Barrier Pilot Test Design Package*. January 23.
- TRS Group, Inc., 2020. *Vapor Barrier Pilot Test Health and Safety Plan*. January 14.

The SDs conducted boundary confirmation sampling to define the extent of mobile DNAPL in the focused treatment area. EPA approved this report on August 21, 2020.

- TRS Group, 2020. *Focused Treatment Area Boundary Confirmation Sampling Event Results*. June 15.

2. COMMUNITY INVOLVEMENT

2.1 Community Involvement Responsibilities.

(a) EPA shall be the lead for developing and implementing community involvement activities at the Site. Pursuant to 40 C.F.R. § 300.435(c), EPA issued the Montrose and Del Amo Superfund Sites Community Involvement Plan in June 2020. The DTSC may support EPA with community involvement activities, at the request of EPA.

(b) If requested by EPA, SDs shall assist EPA in implementing community involvement activities, including the following: (1) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification; (2) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site; (3) providing access to initial submissions and updates of deliverables to Community Advisory Groups, Technical Assistance Grant recipients and their advisors, and other entities, to provide them with a reasonable opportunity for review and comment; (4) providing support to EPA to maintain, update and refresh public information repositories; and (5) implementing any responsibilities for responsible parties described in EPA's Community Involvement Plan. All community involvement activities conducted by SDs at EPA's request are subject to EPA's oversight. Upon EPA's request, the SDs shall support EPA in establishing a community information repository that is accessible to the local community and key stakeholders. Due to safety concerns, the repository will not be located at the former Montrose Plant Property.

3. REMEDIAL DESIGN / REMEDIAL ACTION

3.1 Remedial Design, Remedial Action Work Plan. SDs shall submit a Remedial Design, Remedial Action Work Plan ("RDRAWP") for EPA approval and a revised version of that Plan any time Site conditions warrant a revision or if requested by EPA. Upon EPA's approval of the RDRAWP, SDs shall implement the RDRAWP. SDs shall develop the RDRAWP in accordance with applicable guidance. The RDRAWP shall include the following, either in full or incorporated by reference from a previously approved deliverable:

(a) Plans for implementing all activities identified in this SOW, or required by EPA to be conducted to complete the Work;

(b) A description of the overall management strategy for performing the Work, including a proposal for phasing of design and construction, if applicable;

(c) A description of the proposed general approach to contracting, design, construction, operation, maintenance, and monitoring of the RD/RA as necessary to implement the Work;

(d) A description of the responsibility and authority of all organizations and key personnel involved with the development of the RD/RA;

(e) Descriptions of any areas requiring clarification and/or anticipated problems (e.g., data gaps);

(f) Proposed content and location of operational update information;

(g) Assessment of power needs and power availability;

(h) ERH design, drawings and supporting analysis;

(i) SVE design, drawings and supporting analysis;

(j) Mobilization and Site Preparation, including utilities, permits, and site security;

(k) Demobilization and site restoration;

(l) As part of the RDRAWP, a Performance Monitoring and Verification program, as per ROD section 2.9.1, will be presented and include the following for EPA approval:

(1) A submittal of the Performance Criteria to demonstrate the SVE and ERH systems will meet the RAOs and ARARs, and will operate as required by the 2020 DNAPL ROD;

(2) An analysis demonstrating how the designs described in ¶ 3.1(h) and ¶ 3.1(i) will meet the Performance Criteria; and

(3) A description of monitoring and control measures to demonstrate the SVE and ERH system is operating as intended, meets ARARs, protects human health and the environment, maintains hydraulic and pneumatic control, and meets air discharge criteria and water criteria for discharge to the groundwater treatment plant.

(m) Outline of the Contents of the Final ERH/SVE report including performance monitoring and verification results;

(n) Descriptions of any applicable permitting requirements and other regulatory requirements;

(o) A proposed schedule; and

(p) The following supporting deliverables described in ¶ 5.7: Health and Safety Plan, Field Sampling Plan, Quality Assurance Project Plan (including Construction QA/QC), Transportation and Off-Site Disposal Plan, and Emergency Response Plan.

3.2 DNAPL Monitoring and Contingent Action Plan. Dense Non-Aqueous Phase Liquid (DNAPL) was detected at Well CMW002 on April 11, 2017. The SDs submitted the *Recommended Path Forward for MBFC Well CMW002 Montrose Superfund Site* on January 14, 2020. This document is considered a deliverable pursuant to Section 5 and was approved by EPA via email on August 21, 2020. If necessary, EPA shall require SDs to supplement, or amend, the approved DNAPL Monitoring Contingent Action Plan. SDs shall include summary of DNAPL removed and analytical results, if analyzed, in the Monitoring and Aquifer Compliance Reports per the 2020 Chlorobenzene Plume Remedy Operation and Maintenance Consent Decree.

3.3 **Predesign Data Collection Work Plan and Report**. The purpose of the Predesign Data Collection is to address data gaps by conducting additional field investigations. As part of the pre-design work effort, the SDs conducted several predesign data collection activities, under the authority of the Administrative Order on Consent, as amended, U.S. EPA Docket No, 85-04. SDs completed a pilot test of the selected electrical resistance heating (ERH) technology in 2019, followed by a vapor barrier pilot test. To support the Vapor Barrier Pilot Test, the SDs submitted the following documents:

- TRS Group, Inc., 2020. *Revised Vapor Barrier Pilot Test Work Plan and Operations and Maintenance Manual*. January 14. This plan was approved by EPA in a letter dated February 20, 2020.
- TRS Group, Inc., 2020. *Vapor Barrier Pilot Test Design Package*. January 23.
- TRS Group, Inc., 2020. *Vapor Barrier Pilot Test Health and Safety Plan*. January 14.
- TRS Group, Inc., Pending, *Vapor Barrier Pilot Test Work Plan Addendum for SVE Operations*.

The SDs conducted boundary confirmation sampling to define the extent of mobile DNAPL in the focused treatment area as documented in the *Focused Treatment Area Boundary Confirmation Sampling Event Results* from TRS dated June 15, 2020. This report was approved by EPA via email on August 21, 2020.

At the time this CD was signed, EPA determined that all known pre-design work had been completed. If EPA determines necessary, SDs shall supplement, or amend, the approved Work Plans noted above and/or perform additional pre-design studies. Relevant supporting deliverables described in ¶ 5.7 shall be updated for this work, as needed.

3.4 **ERH and Unsaturated Zone SVE O&M Plan/Manual**. The *ERH and Unsaturated Zone SVE O&M Plan/Manual* serves as a guide to the purpose and function of the equipment and systems that make up the remedy. SDs shall develop the *ERH and Unsaturated Zone SVE O&M Plan/Manual* in accordance with *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017), for EPA review and approval. The *ERH and Unsaturated Zone SVE O&M Plan/Manual* must include the following additional requirements:

(a) Unsaturated Zone SVE and ERH System installation, start-up requirements and operation requirements;

(b) Vapor and liquid treatment systems operation and waste management;

(c) Description of activities to be performed to determine that air emissions criteria, and water discharge criteria to groundwater treatment system and ARARs are met;

(d) Description of records and reports that will be generated during O&M, such as operating logs, laboratory records, records of operating costs, reports regarding

emergencies, personnel and maintenance records, monitoring reports, updates and reports to EPA and DTSC;

(e) Description of corrective action in case of systems failure, including: (i) alternative procedures to prevent the release or threatened release of Waste Material which may endanger public health and the environment or may cause a failure to achieve RAOs; (ii) analysis of vulnerability and additional resource requirements should a failure occur; (iii) notification and reporting requirements should O&M systems fail or be in danger of imminent failure; and (iv) community notification requirements;

(f) Describe the activities to be performed: (i) to provide confidence that RAOs will be met; and (ii) to determine whether RAOs have been met; and

(g) Description of corrective action to be implemented in the event that Performance Criteria are not achieved; and a schedule for implementing these corrective actions.

3.5 Independent Quality Assurance Team. SDs shall notify EPA of SD's designated Independent Quality Assurance Team (IQAT) to provide an independent review for Work such as, but not limited to, major redesigns, persistent O&M issues, or inability to meet ROD requirements. The IQAT will be independent of the Supervising Contractor. SDs may hire a third party for this purpose. Notice must include the names, titles, contact information, and qualifications of the members of the IQAT. The IQAT will have the responsibility to determine whether Work is of expected quality and conforms to applicable plans and specifications. The IQAT will have the responsibilities as described in ¶ 2.1.3 of the *Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties*, EPA/540/G-90/001 (Apr. 1990).

3.6 Meetings and Inspections.

(a) **Preconstruction Conference**. SDs shall hold a preconstruction conference with EPA and others as directed or approved by EPA and as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995). SDs shall prepare minutes of the conference and shall distribute the minutes to all Parties.

(b) **Periodic Meetings**. SDs shall meet regularly with EPA, DTSC, and others as directed by EPA, and least annually, and on an as-needed basis as directed by EPA. These meetings may be in-person, by telephone or webinar conferences in order to discuss the progress of the Work. SDs shall distribute an agenda and list of attendees to all attendees at least seven (7) Days prior to each meeting. SDs shall prepare minutes of the meetings and shall distribute the minutes to EPA for review and approval.

SDs shall conduct regularly scheduled telephone calls with EPA as specified in the RDRAWP, to discuss status of the Work and schedule.

(c) **Inspections.** EPA or its representative shall conduct periodic inspections of the Work. EPA will advise DTSC in advance of these inspections, and DTSC may join at its election. At EPA's request, the Supervising Contractor or other designee shall accompany EPA or its representative during inspections.

Upon notification by EPA of any deficiencies in the Work, SDs shall take all necessary steps to correct the deficiencies and/or bring the Work into compliance with any approved design changes and/or the approved RDRAWP. If applicable, SDs shall comply with any schedule provided by EPA in its notice of deficiency.

(d) **Technical Coordination Meetings and Documentation.** SDs shall consult with EPA as appropriate. Any critical decisions, as identified by EPA, that are made in meetings or conversations with EPA representatives shall be documented in writing by SDs and submitted to EPA, within seven (7) Days of the discussion, as directed by EPA. The submittal shall document the decision and the rationale for the decision.

EPA, DTSC and SDs shall hold regular technical coordination meetings in accordance with the approved RDRAWP to ensure effective communication between the parties, to allow EPA and DTSC to monitor and ensure progress, to resolve technical and schedule issues, to facilitate EPA and DTSC ability to oversee the work of SDs, and to encourage discussion of any matters related to compliance with this SOW and CD.

3.7 Emergency Response and Reporting.

(a) **Emergency Response and Reporting**. 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 and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, SDs shall: (1) immediately take all appropriate action to prevent, abate, or minimize such release or threat of release; (2) immediately notify the authorized EPA officer (as specified in ¶ 3.7(c)) orally; and (3) take such actions in consultation with the authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plan, the Emergency Response Plan, and any other deliverable approved by EPA under the SOW.

(b) **Release Reporting**. Upon the occurrence of any event during performance of the Work that SDs 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, SDs shall immediately notify the authorized EPA officer orally.

(c) The "authorized EPA officer" for purposes of immediate oral notifications and consultations under ¶ 3.7(a) and ¶ 3.7(b) is the EPA Project Coordinator, the EPA Alternate Project Coordinator (if the EPA Project Coordinator is unavailable), or

the EPA's Emergency Response, Planning and Preparedness Branch, Region 9 (if neither EPA Project Coordinator is available).

(d) For any event covered by ¶ 3.7(a) and ¶ 3.7(b), SDs shall: (1) within fourteen (14) Days after the onset of such event, submit a report to EPA describing the actions or events that occurred and the measures taken, and to be taken, in response thereto; and (2) within thirty (30) Days after the conclusion of such event, submit a report to EPA describing all actions taken in response to such event.

(e) The reporting requirements under ¶ 3.7 are in addition to the reporting required by CERCLA § 103 or EPCRA § 304.

(f) If air emission standards exceed Southern California Air Quality Management District (SCAQMD) standards, SDs shall notify EPA's Project Coordinator in accordance with the approved *ERH and Unsaturated Zone SVE O&M Plan/Manual*. If requested by EPA, SDs shall submit for EPA's approval a revision to the *ERH and Unsaturated Zone SVE O&M Plan/Manua*l set forth in ¶ 3.4 to ensure compliance.

3.8 Off-Site Shipments. SDs 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. SDs will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if SDs 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).

(a) SDs may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide notice to the receiving facility and to the EPA Project Coordinator (who will in turn notify the facility's regional EPA contact and request the facility's State representative be notified). This notice requirement will not apply to any off-site shipments when the total quantity of all such shipments does not exceed 10 cubic yards. The 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. SDs also shall notify the state environmental official referenced above and the EPA Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. SDs shall provide the notice after the award of the contract for the Work and before the Waste Material is shipped.

(b) SDs 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 ROD. 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.

3.9 Certification of RA Completion. The discrete tasks for achievement of RA Completion in this CD are the attainment of the RAOs for the ERH and the SVE components of the ROD, and the completion of any contingency tasks including additional characterization and/or treatment at CMW002 as required in the ROD, if necessary. If at the time of Certification of RA Completion for the ERH and SVE, EPA and SDs have entered into a subsequent consent decree (e.g., for the Soils remedy) incorporating potential future remedial action or monitoring required for DNAPL at CMW002, then EPA may certify RA Completion for this action and transfer the RA requirements for CMW002 to the future consent decree as provided therein.

(a) **RA Completion Inspection**. The RA is "Complete" for purposes of this ¶ 3.9 when it has been fully performed and the RAOs have been achieved. SDs shall schedule an inspection for the purpose of obtaining EPA's Certification of RA Completion. The inspection must be attended by SDs and EPA and/or their representatives.

(b) **RA Report**. Following the inspection, SDs shall submit a RA Report to EPA, requesting EPA's Certification of RA Completion. The report must: (1) include certifications by a registered professional engineer and by SDs' Project Coordinator that the RA is Complete; (2) be prepared in accordance with Chapter 2 (Remedial Action Completion) of EPA's *Close Out Procedures for NPL Sites* guidance (May 2011), as supplemented by *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017); (3) contain monitoring data to demonstrate that RAOs have been achieved; and (4) be certified in accordance with ¶ 5.5 (Certification).

(c) If EPA concludes, after a reasonable opportunity for review and comment by DTSC, that the RA is not Complete, EPA shall so notify SDs. EPA's notice must include a description of any deficiencies. EPA's notice may include a schedule for addressing such deficiencies or may require SDs to submit a schedule for EPA approval. SDs shall perform all activities described in the notice in accordance with the schedule.

(d) If EPA concludes, based on the initial or any subsequent RA Report requesting Certification of RA Completion, that the RA is Complete, EPA shall so certify to SDs. This certification will constitute the Certification of RA Completion for purposes of the CD, including Section XIX of the CD (Covenants by Plaintiffs). Certification of RA Completion will not affect SDs' remaining obligations under the CD.

3.10 Certification of Work Completion. The Work includes, in addition to the RA Completion Work, O&M activities after RAOs have been met. The post-RA Certification Work under this CD include the monitoring and reporting of DNAPL at CMW002 , the ICIAP, and payment of Future EPA and DTSC Response Costs.

(a) EPA may transfer the post-RA Certification Work and certify Work Completion for this CD under the following conditions:

(1) The DNAPL at CMW002 monitoring and reporting requirements in the CD are met by revising the Monitoring and Aquifer Compliance Plan of the 2020 Chlorobenzene Plume Remedy Operation and Maintenance Consent Decree to formally incorporate these requirements.

(2) EPA and SDs have entered into a subsequent consent decree (e.g. for the Soils remedy), which incorporates the institutional control requirements in the DNAPL ROD into the future ICIAP pursuant to the future consent decree.

(b) **Work Completion Report**. SDs shall submit a report to EPA, and DTSC, requesting EPA's Certification of Work Completion. The report must: (1) include certifications by a registered professional engineer and by SDs' Project Coordinator that the Work, including all O&M activities, is complete; and (2) be certified in accordance with ¶ 5.5 (Certification). If the RA Report submitted under ¶ 3.9(b) includes all elements required under this ¶ 3.10(b), then the RA report suffices to satisfy all requirements under this ¶ 3.10(b).

(c) If EPA, after a reasonable opportunity for review and comment by DTSC, concludes that the Work is not complete, EPA shall so notify SDs. EPA's notice must include a description of the activities that SDs must perform to complete the Work. EPA's notice must include specifications and a schedule for such activities or must require SDs to submit specifications and a schedule for EPA approval. SDs shall perform all activities described in the notice or in the EPA-approved specifications and schedule.

(d) If EPA concludes, based on the initial or any subsequent report requesting Certification of Work Completion, that the Work is complete, EPA shall so certify in writing to SDs. Issuance of the Certification of Work Completion does not affect the following continuing obligations: (1) obligations under Sections VIII (Access), XXII (Access to Information), and XXIII (Retention of Records) of the CD; and (3) reimbursement of EPA Future Response Costs under Section XIV (Payments for Response Costs) of the CD.

4. REPORTING

4.1 **Progress Reports**. Commencing with the quarter following lodging of the CD and until EPA approves the Work Completion Report, SDs shall submit the following progress reports.

(a) **Progress Reports**. SDs shall submit quarterly progress reports to EPA. If required by EPA, based on the status of current activities, the Progress Report frequency may be increased by EPA to either bi-monthly or monthly. The reports

must cover all activities that took place during the prior reporting period, including:

(1) The actions that have been taken toward achieving compliance with the CD;

(2) A summary of all results of sampling, tests, and all other data received or generated by SDs;

(3) A description of all deliverables that SDs submitted to EPA;

(4) A document/deliverable tracking spreadsheet, and an updated schedule for work to be performed over the next quarter;

(5) An updated schedule, together with information regarding percentage of completion, delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; and

(6) A description of any modifications to the work plans or other schedules that SDs have proposed or that have been approved by EPA.

4.2 **Operational Updates**. SDs shall provide EPA and DTSC with access to operational data during Unsaturated Zone SVE and ERH operations in accordance with the RDRAWP. Updates will be presented using an online dashboard/database/document repository.

4.3 **Notice of Progress Report Schedule Changes**. If the schedule for any activity described in the Progress Reports, including activities required to be described under ¶ 4.1, changes, SDs shall notify EPA of such change at least 7 Days before performance of the activity.

5. DELIVERABLES

5.1 **Applicability**. SDs shall submit deliverables for EPA approval or for EPA comment as specified in the SOW. If neither is specified, the deliverable does not require EPA's approval or comment. Paragraphs 5.2 (In Writing) through 5.4 (Technical Specifications) apply to all deliverables. Paragraph 5.5 (Certification) applies to any deliverable that is required to be certified. Paragraph 5.6 (Approval of Deliverables) applies to any deliverable that is required to be submitted for EPA approval.

5.2 **In Writing**. As provided in ¶ 98 of the CD, all deliverables under this SOW must be in writing unless otherwise specified.

5.3 General Requirements for Deliverables.

(a) Except as otherwise provided in this CD and SOW, SDs shall direct all deliverables required by this CD and SOW to the EPA Project Coordinator.

(b) All deliverables shall be provided to DTSC in accordance with Section 7.

(c) All deliverables must be submitted by the deadlines in the RDRAWP schedule, as applicable. SDs shall submit all deliverables to EPA in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in ¶ 5.4. All other deliverables shall be submitted to EPA in the electronic form specified by the EPA Project Coordinator, unless a hard copy is requested. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", SDs shall also provide EPA with paper copies of such exhibits, upon request.

5.4 Technical Specifications.

The SDs shall maintain a single database accessible to EPA and DTSC for the DNAPL ROD related data. The SDs shall provide EPA and DTSC with access to the database. In the event that sampling and monitoring data is required to be submitted to EPA, the data submission shall comply with the Technical Specifications described below:

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

(b) If requested, spatial data, including spatially referenced data and geospatial data, should be submitted: (1) in the ESRI File Geodatabase; and (2) 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.

(c) If requested, 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.

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

(e) Final deliverables are required to be compliant with Section 508 requirements. The Environmental Protection Agency policy for 508 compliance can be found on the Agency's Directive System identified in section (d) of this clause under policy number CIO 2130.0, Accessible Electronic and Information Technology. Additional information on Section 508, including EPA's 508 policy can be found at www.epa.gov/accessibility.

5.5 Certification. All deliverables that require compliance with this ¶ 5.5 must be signed by the SDs' Project Coordinator, or other responsible official of SDs, and must contain the following statement:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5.6 Approval of Deliverables.

(a) **Initial Submissions**. After review of any deliverable that is required to be submitted for EPA approval under the CD or the SOW, EPA shall: (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.

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 ¶ 5.6(a) (Initial Submissions), or if required by a notice of approval upon specified conditions under ¶ 5.6(a), SDs shall, within 21 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: (1) approve, in whole or in part, the resubmission; (2) approve the resubmission upon specified conditions; (3) modify the resubmission; (4) disapprove, in whole or in part, the resubmission, requiring SDs to correct the deficiencies; or (5) any combination of the foregoing.

(c) **Implementation**. Upon approval, approval upon conditions, or modification by EPA under ¶ 5.6(a) (Initial Submissions) or ¶ 5.6(b) (Resubmissions), of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under the CD; and (2) SDs shall take any action required by such deliverable, or portion thereof. The implementation of any non-deficient portion of a deliverable submitted or resubmitted under ¶ 5.6(a) or ¶ 5.6(b) does not relieve SDs of any liability for stipulated penalties under Section XVIII (Stipulated Penalties) of the CD.

5.7 Supporting Deliverables. SDs shall submit each of the following supporting deliverables for EPA approval, except as specifically provided. SDs shall develop the deliverables in accordance with all applicable regulations, guidances, and policies (see Section 8 (References)). SDs shall update each of these supporting deliverables as necessary or appropriate during the course of the Work, and/or as requested by EPA.

(a) **Health and Safety Plan**. The Health and Safety Plan (HASP) describes all activities to be performed to protect on site personnel and area residents from physical, chemical, and all other hazards posed by the Work. SDs shall develop the HASP in accordance with EPA's Emergency Responder Health and Safety and Occupational Safety and Health Administration (OSHA) requirements under 29 C.F.R. §§ 1910 and 1926. The HASP should cover RD activities and should be, as appropriate, updated to cover activities during the RA and updated to cover activities after RA completion. EPA does not approve the HASP but will review it to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment.

(b) **Emergency Response Plan**. The Emergency Response Plan (ERP) must describe procedures to be used in the event of an accident or emergency at the Site (for example, power outages, water impoundment failure, treatment plant failure, etc.). The ERP will be an appendix to the HASP. The ERP must include:

(1) Name of the person or entity responsible for responding in the event of an emergency incident;

(2) Plan and date(s) for meeting(s) with the local community, including local, State, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals;

(3) Spill Prevention, Control, and Countermeasures (SPCC) Plan (if applicable), consistent with the regulations under 40 C.F.R. Part 112, describing measures to prevent, and contingency plans for, spills and discharges;

(4) Notification activities in accordance with ¶ 3.7(b) (Release Reporting) in the event of a release of hazardous substances requiring reporting under 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; and

(5) A description of all necessary actions to ensure compliance with Paragraph 39 (Emergency Response) of the CD in the event of an occurrence during the performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency or may present an immediate threat to public health or welfare or the environment.

(c) **Field Sampling Plan**. The Field Sampling Plan (FSP) addresses all sample collection activities. The FSP must be written so that a field sampling team unfamiliar with the project would be able to gather the samples and field information required. SDs shall develop the FSP in accordance with *Guidance for Conducting Remedial Investigations and Feasibility Studies*, EPA/540/G 89/004 (Oct. 1988).

(d) **Quality Assurance Project Plan**. The Quality Assurance Project Plan (QAPP) augments the FSP and addresses sample analysis and data handling regarding the Work. The QAPP must include a detailed explanation of SDs' quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. SDs shall develop the QAPP in accordance with *EPA Requirements for Quality Assurance Project Plans*, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006); *Guidance for Quality Assurance Project Plans*, QA/G-5, EPA/240/R 02/009 (Dec. 2002); and *Uniform Federal Policy for Quality Assurance Project Plans*, Parts 1-3, EPA/505/B-04/900A though 900C (Mar. 2005). The QAPP also must include procedures:

(1) To ensure that EPA and its authorized representative have reasonable access to laboratories used by SDs in implementing the CD (SDs' Labs);

(2) To ensure that SDs' Labs analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring;

(3) To ensure that SDs' Labs perform all analyses using EPA-accepted methods (i.e., the methods documented in *USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis*, ILM05.4 (Dec. 2006); *USEPA Contract Laboratory Program Statement of Work for Organic Analysis*, SOM01.2 (amended Apr. 2007); and *USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods*

(Multi-Media, Multi-Concentration), ISM01.2 (Jan. 2010)) or other methods acceptable to EPA;

(4) To ensure that SDs' Labs participate in an EPA-accepted QA/QC program or other program QA/QC acceptable to EPA;

(5) For SDs to provide EPA with notice at least 7 Days prior to any sample collection activity;

(6) For SDs to provide split samples and/or duplicate samples to EPA upon request;

(7) For EPA to take any additional samples that it deems necessary;

(8) For EPA to provide to SDs, upon request, split samples and/or duplicate samples in connection with EPA's oversight sampling; and

(9) For SDs to submit to EPA all sampling and tests results and other data in connection with the implementation of the CD.

(10) As part of the QAPP, Construction Quality Assurance/Quality Control (CQA/QC) will be presented. The purpose of the CQA/QC is to describe planned and systemic activities that provide confidence that the RA construction will satisfy all plans, specifications, and related requirements, including quality objectives. The CQA/QC shall:

i. Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQA/QC;

ii. Describe industry standards and technical specifications used in implementing the CQA/QC;

iii. Describe procedures for tracking construction deficiencies from identification through corrective action;

iv. Describe procedures for documenting all CQA/QC activities; and

v. Describe procedures for retention of documents and for final storage of documents.

(e) **Transportation and Off-Site Disposal Plan.** The Transportation and Off-Site Disposal Plan (TODP) describes plans to ensure compliance with ¶ 3.8 (Off-Site Shipments). The TODP must include:

(1) Proposed routes for off-site shipment of Waste Material;

(2) Identification of communities affected by shipment of Waste Material; and

(3) Description of plans to minimize impacts on affected communities.

(f) **Institutional Controls Implementation and Assurance Plan**. The Institutional Controls Implementation and Assurance Plan ("ICIAP") describes plans to implement, maintain, and enforce the Institutional Controls at the Site. SDs shall develop the ICIAP in accordance with *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites*, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012), and *Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites*, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012). The ICIAP must include the following additional requirements:

(1) Locations of recorded real property interests (e.g., easements, liens) and resource interests in the property that may affect Institutional Controls (e.g., surface, mineral, and water rights) including accurate mapping and geographic information system ("GIS") coordinates of such interests; and

(2) Legal descriptions and survey maps that are prepared according to current American Land Title Association Survey guidelines and certified by a licensed surveyor.

6. SCHEDULES

6.1 Applicability and Revisions. All deliverables and tasks required under this SOW must be submitted or completed by the deadlines or within the time durations listed in the RD/RA schedule set forth below. SDs may submit proposed revised RD/RA schedule(s) for EPA approval. Upon EPA's approval, the revised RD/RA schedule(s) supersede the RD/RA schedule set forth below, and any previously approved RD/RA schedule.

6.2 RD/RA Schedule.

Description of Deliverable, Task	**¶ Ref.**	**Deadline**
RDRAWP	3.1	Thirty (30) Days after Effective Date of CD
Final ERH and SVE Report	3.1	As specified in the approved RDRAWP
Revisions to DNAPL Monitoring and Contingent Action Plan	3.2	As requested by EPA
Revisions to Predesign Data Collection Work Plan and Report	3.3	As requested by EPA

Description of Deliverable, Task	¶ Ref.	Deadline
ERH and Unsaturated Zone SVE O&M Plan/Manual.	3.4	Sixty (60) Days after EPA approval of RDRAWP.
RA Report.	3.9(b)	30 Days after RA Completion Inspection
Work Completion Report	3.10(b)	30 Days after Work Completion determination
Progress Reports	4.1(a)	20th Day of each quarter (January, April, July, October), following Effective Date of CD
Health and Safety Plan	5.7(a)	Attached to the RDRAWP
Emergency Response Plan	5.7(b)	Attached to the RDRAWP
Field Sampling Plan	5.7(c)	Attached to the RDRAWP
Quality Assurance Project Plan	5.7(d)	Attached to the RDRAWP
Transportation and Off-Site Disposal Plan	5.7(e)	Attached to the RDRAWP
Institutional Controls Implementation and Assurance Plan	5.7(f)	Sixty (60) Days after requested by EPA

7. STATE PARTICIPATION

7.1 **Copies**. SDs shall, at any time they send a deliverable to EPA, send an electronic copy of such deliverable to DTSC. EPA shall, at any time it sends a notice, authorization, approval, disapproval, or certification to SDs, send a copy of such document to the DTSC.

7.2 **Review and Comment**. DTSC will have a reasonable opportunity for review and comment prior to any EPA approval or disapproval under ¶ 5.6 of any deliverables that are required to be submitted for EPA approval.

8. REFERENCES

8.1 The following regulations and guidance documents, among others, apply to the Work. Any item for which a specific URL is not provided below is available on one of the two EPA Web pages listed in ¶ 8.2:

(a) A Compendium of Superfund Field Operations Methods, OSWER 9355.0-14, EPA/540/P-87/001a (Aug. 1987).

(b) *American National Standards Practices for Respiratory Protection.* American National Standards Institute Z88.2-1980, March 11, 1981.

(c) CERCLA Compliance with Other Laws Manual, Part I: Interim Final, OSWER 9234.1-01, EPA/540/G-89/006 (Aug. 1988).

(d) *Construction Quality Assurance for Hazardous Waste Land Disposal Facilities*, EPA, 1986.

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

(f) *Draft: Region 9 Superfund Data Evaluation/Validation Guidance*, EPA, Quality Assurance Office, R9QA/006.1, December 2001.

(g) Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, EPA Region IV, Environmental Services Division November 1, 2001 (revised periodically).

(h) Montrose and Del Amo Community Involvement Plan, EPA Region 9, June 2020.

(i) *EPA Region 9, Superfund Record of Decision: Montrose Chemical Site, OU 3 DNAPL*, September 2020.

(j) *General Methods for Remedial Operation Performance Evaluations*, EPA/600/R-92/002, January 1992.

(k) Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER 9355.3-01, EPA/540/G-89/004 (Oct. 1988).

(l) *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017), available at https://www.epa.gov/superfund/superfund-post-construction-completion.

(m) *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4, 2006).

(n) *Guidance for Quality Assurance Project Plans*, EPA QA/G-5, December 2002.

(o) *Guidance on Expediting Remedial Design and Remedial Actions*, EPA/540/G-90/006, August 1990.

(p) *Guide to Management of Investigation-Derived Wastes*, EPA, Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.

(q) *Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements*, EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

(r) *Measure and Calculations for Volume of Contaminated Medium Addressed with Respect to the Superfund and RCRA Corrective Action Programs,* As Tracked by the Office of Enforcement and Compliance Assurance, November 2003.

(s) National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.

(t) *NIOSH Manual of Analytical Methods*, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.

(u) *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, National Institute of Occupational Safety and Health/Occupational Safety and Health Administration/United States Coast Guard/Environmental Protection Agency, October 1985.

(v) *Operation and Maintenance in the Superfund Program*, EPA, May 2001, OSWER 9200.1-37FS (EPA 540-F-01-004).

(w) *Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions*, February 19, 1992, OSWER Directive 9355.7-03.

(x) *Preparation of a Region 9 Field Sampling Plan for Private and State-Led Superfund Projects* (EPA QAMS DCN 9QA-06-93, 1993).

(y) *Quality Assurance and Quality Control for Waste Contaminated Facilities*, EPA/600/R-93/182, 1993.

(z) *Remedial Design/Remedial Action (RD/RA) Handbook*, EPA, Office of Solid Waste and Emergency Response (OSWER), 9355.0-04B, EPA 540/R-95/059, June 1995.

(aa) *Requirements for Quality Assurance Project Plans for Environmental Data Operations*, EPA, EPA/240/B-01/003, March 2001, Reissued May 2006.

(bb) *Standards for the Construction Industry*, Code of Federal Regulations, Title 29, Part 1926, Occupational Safety and Health Administration.

(cc) *Standards for General Industry*, Code of Federal Regulations, Title 29, Part 1910, Occupational Safety and Health Administration.

(dd) *Superfund Community Involvement Handbook*, EPA, Office of Solid Waste and Emergency Response, April 2005, EPA-540-K-05-003.

(ee) *Superfund Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties*, OSWER 9355.5-01, EPA/540/G-90/001 (Apr.1990).

(ff) Guidance on Expediting Remedial Design and Remedial Actions, OSWER 9355.5-02, EPA/540/G-90/006 (Aug. 1990).

(gg) *EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods* for Data Analysis, QA/G-9, EPA/600/R-96/084 (July 2000).

(hh) Comprehensive Five-year Review Guidance, OSWER 9355.7-03B-P, 540-R-01-007 (June 2001).

(ii) *Uniform Federal Policy for Quality Assurance Project Plans*, Parts 1-3, EPA/505/B-04/900A though 900C, March 2005.

(jj) Superfund Community Involvement Handbook, SEMS 100000070 (January 2016), https://www.epa.gov/superfund/community-involvement-tools-and-resources.

(kk) EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, QA/G-4, EPA/240/B-06/001 (Feb. 2006).

(ll) EPA Requirements for Quality Assurance Project Plans, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006).

(mm) EPA Requirements for Quality Management Plans, QA/R-2, EPA/240/B-01/002 (Mar. 2001, reissued May 2006).

(nn) USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, ILM05.4 (Dec. 2006).

(oo) USEPA Contract Laboratory Program Statement of Work for Organic Analysis, SOM01.2 (amended Apr. 2007).

(pp) EPA National Geospatial Data Policy, CIO Policy Transmittal 05-002 (Aug. 2008),

(qq) USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods (Multi-Media, Multi-Concentration), ISM01.2 (Jan. 2010).

(rr) Recommended Evaluation of Institutional Controls: Supplement to the "Comprehensive Five-Year Review Guidance," OSWER 9355.7-18 (Sep. 2011).

(ss) Updated Superfund Response and Settlement Approach for Sites Using the Superfund Alternative Approach, OSWER 9200.2-125 (Sep. 2012).

(tt) Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012).

(uu) Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012).

(vv) EPA's Emergency Responder Health and Safety Manual, OSWER 9285.3-12 (July 2005 and updates).

8.2 A more complete list may be found on the following EPA Web pages:

Laws, Policy, and Guidance: https://www.epa.gov/superfund/superfund-policy-guidance-and-laws

Test Methods Collections: https://www.epa.gov/measurements/collection-methods

8.3 For any regulation or guidance referenced in this CD or SOW, 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 SDs receive notification from EPA of the modification, amendment, or replacement; in the case of guidance, modifications, amendments, or replacements apply to the Work only if determined necessary by EPA and after SDs receive notification from EPA.