

# **APPENDIX C**

## **NON-TIME CRITICAL REMOVAL ACTION FOR GROUNDWATER STATEMENT OF WORK**

**NUCLEAR METALS, INC. SUPERFUND SITE**

**Concord, Middlesex County, Massachusetts**

**EPA Region 1**

**2016**

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## 1. INTRODUCTION

- 1.1 Purpose of the SOW.** This Statement of Work (SOW) sets forth the procedures and requirements for implementing the Work required in the Administrative Order on Consent (AOC) for Non-Time Critical Removal Action (NTCRA) to address 1,4-dioxane and volatile organic compounds (VOCs) in groundwater.
- 1.2 Structure of the SOW.** Section 2-Community Involvement (CI) sets forth EPA's and Respondents' responsibilities for community involvement. Section 3-Removal Design (RD) sets forth the process for developing the RD, which includes the submission of specified primary deliverables. Section 4-Removal Action (RA) sets forth requirements regarding the completion of the RA, including primary deliverables related to completion of the RA. Section 5-Reporting sets forth Respondents' reporting obligations. Section 6-Deliverables describes the content of the supporting deliverables and the general requirements regarding Respondents' submission of, and EPA's review of, approval of, comment on, and/or modification of, the deliverables. Section 7-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 8-State Participation addresses State participation, and Section 9-References provides a list of references, including URLs.
- 1.3** The scope of the NTCRA includes the actions described in Section VI of the Action Memorandum. The Action Memorandum accelerates a portion of the full groundwater remedy outlined in Section L.2. of the Record of Decision (ROD), and includes extraction of overburden and bedrock groundwater with *ex-situ* treatment for VOCs and 1,4-dioxane, and discharge to surface water, underground injection or to the publicly owned treatment works (POTW) until cleanup levels designated in the ROD are met. The portion of the remedy being accelerated under this NTCRA includes design and construction of the groundwater treatment system, and up to four years of monitoring, operation, and maintenance of the treatment system. Delineation of the nature and extent of exceedances of the ROD cleanup levels for 1,4-dioxane (0.46 ug/l), 1,1-dichloroethane (2.7 ug/l), tetrachloroethene (5 ug/l), trichloroethene (5 ug/l), and vinyl chloride (2 ug/l) is in progress pursuant to the Groundwater Investigation Work Plan (GIWP) approved by EPA on August 27, 2015. In addition, if not conducted as part of the GWIP, aquifer tests shall be conducted to support the appropriate design of the groundwater extraction system. The design will also determine the appropriate location and method for discharge of extracted water, with both re-injection and discharge to surface water or to the POTW being evaluated. EPA, consistent with ARARs in the ROD, will establish discharge limits for the extracted water, considering the discharge location. The pump test water quality, design extraction flow rates, and the EPA-established discharge limits will determine the need for and extent of treatability studies necessary for treatment system design. The Respondents shall operate the groundwater treatment system for either four years from the date of EPA approval of the RA Construction Completion Report or until the ROD cleanup standards are met, whichever occurs earliest.

- 1.4** The terms used in this SOW that are defined in CERCLA, in regulations promulgated under CERCLA, or in the AOC, have the meanings assigned to them in CERCLA, in such regulations, or in the AOC, except that the term “Paragraph” or “¶” means a paragraph of the SOW, unless otherwise stated.

## **2. COMMUNITY INVOLVEMENT**

### **2.1 Community Involvement Responsibilities**

- (a) EPA has the lead responsibility for developing and implementing community involvement activities at the Site. Previously, during the Remedial Investigation/Feasibility Study (RI/FS) and Building NTCRA phases of work, EPA developed a Community Involvement Plan (CIP) for the Site. Pursuant to 40 C.F.R. § 300.435(c), EPA may revise the existing CIP to describe further public involvement activities that should occur during the Work that are not already addressed or provided for in the existing CIP, including continuation of the existing Technical Assistance Grant (TAG), and involvement of the Acton Water District.
- (b) If requested by EPA, Respondents shall support EPA’s community involvement activities. This may include participation in: (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; and (3) providing online access to initial submissions and updates of deliverables to (a) Community Advisory Groups, (b) Technical Assistance Grant recipients and their advisors, (c) town advisory committees, (d) Acton Water District, and (e) other entities to provide them with a reasonable opportunity for review and comment. EPA may describe in its CIP Respondents’ responsibilities for community involvement activities. All community involvement activities conducted by Respondents at EPA’s request are subject to EPA’s oversight.

## **3. REMOVAL DESIGN**

### **3.1 RD Work Plan.** Respondents shall submit a Removal Design (RD) Work Plan (RDWP) for EPA approval. The RDWP must include:

- (a) Plans for implementing all RD activities identified in this SOW, in the RDWP, or required by EPA to be conducted to develop the RD;
- (b) A description of the overall management strategy for performing the RD, including a proposal for phasing of design and construction, if applicable;
- (c) A description of the proposed general approach to contracting, construction, operation, maintenance, and monitoring of the Removal Action (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 and implementation of the RD;
- (e) GIWP results and findings, including, at a minimum a recommended overburden extraction well design and, if needed, bedrock extraction well design;
- (f) Descriptions of any areas requiring clarification and/or anticipated problems (e.g., data gaps);
- (g) Description of any proposed pre-design investigation;
- (h) Description of any proposed treatability studies;
- (i) Descriptions of any applicable permitting requirements and other regulatory requirements, which will include, but not be limited to establishing effluent limits, discharge options, and how the treatment system discharge will meet effluent limits;
- (j) Descriptions of how hydraulic capture will be determined, measured, and demonstrated;
- (k) Description of plans for obtaining access in connection with the Work, such as property acquisition, property leases, and/or easements;
- (l) All supporting deliverables required to accompany the RDWP as specified in the RD Schedule set forth in ¶ 7.2 (RD Schedule); and
- (m) Identification of ARARs applicable to the RA and how such ARARs will be attained.

**3.2** Respondents shall meet regularly with EPA to discuss design issues as necessary, as directed or determined by EPA.

**3.3 Pre-Design Investigation.** The purpose of the Pre-Design Investigation (PDI), should it be necessary, is to address data gaps by conducting additional field investigations.

- (a) **PDI Work Plan.** If additional investigations are needed, EPA shall request Respondents describe them in the PDI Work Plan (PDIWP) to be submitted for EPA approval. The PDIWP must include:
  - (1) A purpose and goal;
  - (2) An evaluation and summary of existing data and description of data gaps;
  - (3) A mechanism to expand the initial monitoring network, if additional monitoring locations are needed to adequately define the nature and extent of site-related 1,4-dioxane and VOCs in the overburden and bedrock aquifers;

- (4) A sampling plan including media to be sampled, contaminants or parameters for which sampling will be conducted, location (areal extent and depths), and number and frequency of samples;
  - (5) An aquifer pump test work plan, if not conducted pursuant to the GWIP, including locations and depths of proposed pumping well(s) and any additional monitoring wells needed to be installed to monitor the aquifer test(s). This aquifer test plan shall specify the planned duration, pumping rate, monitoring approach, and sampling plan for the test. The aquifer test plan shall also specify how the extracted water will be handled (e.g., treated on-site or disposed off-site); and
  - (6) Cross references to quality assurance/quality control (QA/QC) requirements set forth in the Quality Assurance Project Plan (QAPP) as described in ¶ 6.6(d).
- (b) Following the PDI(s), Respondents shall submit a PDI Evaluation Report, for EPA approval. This report must include:
- (1) Summary of the investigations performed;
  - (2) Summary of investigation results;
  - (3) Summary of validated data (i.e., tables and graphics);
  - (4) Data validation reports and laboratory data reports;
  - (5) Narrative interpretation of data and results;
  - (6) Results of statistical and modeling analyses;
  - (7) Photographs documenting the work conducted (if deemed necessary to understand the PDI results or interpret that data); and
  - (8) Conclusions and recommendations for RD, including design parameters and criteria.
- (c) EPA may require Respondents to supplement the PDI Evaluation Report and/or to perform additional pre-design studies.

### **3.4 Treatability Study**

- (a) Respondents shall perform a Treatability Study (TS) if needed to determine the appropriate treatment approach for the extracted groundwater.
- (b) Respondents shall submit a TS Work Plan (TSWP) for EPA approval. Respondents shall prepare the TSWP in accordance with EPA's *Guide for Conducting Treatability Studies under CERCLA, Final* (Oct. 1992), as

supplemented for RD by the *Remedial Design/Removal Action Handbook*, EPA 540/R-95/059 (June 1995).

- (c) Following completion of the TS, Respondents shall submit a TS Evaluation Report for EPA comment.
- (d) EPA may require Respondents to supplement the TS Evaluation Report and/or to perform additional treatability studies.

**3.5 Pre-Final (95%) RD.** Respondents shall submit the Pre-final (95%) RD for EPA approval. The Pre-final RD must incorporate findings of the TS Evaluation Report. The Pre-final RD will serve as the approved Final (100%) RD if EPA approves the Pre-final RD without comments. The Pre-final RD must include:

- (a) A design criteria report, as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995);
- (b) Final drawings and specifications;
- (c) Descriptions of permit equivalency requirements, as applicable;
- (d) Draft Operation and Maintenance (O&M) Plan;
- (e) A description of how the RA will be implemented in a manner that minimizes environmental impacts in accordance with EPA's *Principles for Greener Cleanups* (Aug. 2009);
- (f) A description of monitoring and control measures to protect human health and the environment, such as air monitoring and dust suppression, during the RA;
- (g) Any proposed revisions to the RA Schedule that is set forth in ¶ 7.3 (RA Schedule);
- (h) If proceeding as design/bid/build, a complete set of construction drawings and specifications that are: (1) certified by a registered professional engineer; (2) suitable for procurement; and (3) follow the Construction Specifications Institute's MasterFormat 2012. If proceeding as a design/build, sufficiently detailed drawings and performance specifications to demonstrate to EPA the adequacy of the design;
- (i) A survey and engineering drawings showing existing site features, such as elements, property borders, easements, and site conditions;
- (j) A specification for photographic documentation of the RA; and
- (k) Supporting deliverables as specified in the RD Schedule.

- 3.6 Final (100%) RD.** Respondents shall submit the Final (100%) RD for EPA approval. The Final RD must address EPA's comments on the Pre-final RD and must include final versions of all Pre-final deliverables.

#### **4. REMOVAL ACTION**

- 4.1 RA Work Plan.** Respondents shall submit a RA Work Plan (RAWP) for EPA approval that includes:

- (a) A proposed RA Construction Schedule in critical path method format;
- (b) An updated health and safety plan that covers activities during the RA;
- (c) Plans for satisfying substantive permit equivalency requirements;
- (d) Name of Project Coordinator; and
- (e) Name of Contractor.

#### **4.2 Meetings and Inspections**

- (a) **Periodic Meetings.** Before and during the construction portion of the RA (RA Construction), Respondents shall meet regularly with EPA, and others as directed or determined by EPA, to discuss construction issues. Respondents shall submit an agenda and list of attendees prior to each meeting. Respondents shall prepare and submit minutes of the meetings.
- (b) **Design Progress Meeting.** Respondents shall meet with EPA after completion of PDIs and Treatability Studies to present a conceptual design.
- (c) **Inspections**
  - (1) EPA will conduct periodic inspections of or have an on-site presence during the Work. At EPA's request, the Supervising Contractor or other designee shall accompany EPA during inspections.
  - (2) Respondents shall provide on-site office space for EPA personnel and its contractors to perform their oversight duties. The minimum office requirements are: a private office with at least 150 square feet of floor space, an office desk with chair, access to facsimile and reproduction equipment, wireless internet access, and sanitation facilities.
  - (3) Upon notification by EPA of any deficiencies in the RA Construction, Respondents shall take all necessary steps to correct the deficiencies and/or bring the RA Construction into compliance with the approved Final RD, any approved design changes, and/or the approved RAWP. If applicable, Respondents shall comply with any schedule provided by EPA in its notice of deficiency.

### 4.3 Removal Action Construction Completion

- (a) For purposes of this ¶ 4.3, “Removal Action Construction” comprises the construction of the groundwater treatment system and the performance of all activities necessary for the system to function properly and as designed.
- (b) **Inspection of Constructed NTCRA.** Respondents shall schedule an inspection to review the construction and operation of the system and to review whether the system is functioning properly and as designed. The inspection must be attended by Respondents and EPA and/or their representatives. A re-inspection must be conducted if requested by EPA.
- (c) **Shakedown Period.** There shall be a shakedown period of up to one year for EPA to review whether the NTCRA is functioning properly and performing as designed. Respondents shall provide such information as EPA requests for such review.
- (d) **RA Construction Completion Report.** Following the shakedown period, Respondents shall submit a “RA Construction Completion Report” requesting EPA’s determination that RA Construction has been completed. The RA Construction Completion Report must:
  - (1) include statements by a registered professional engineer and by Respondents’ Project Coordinator that construction of the system is complete and that the system is functioning properly and as designed;
  - (2) include a demonstration, and supporting documentation, that construction of the system is complete and that the system is functioning properly and as designed;
  - (3) include as-built drawings signed and stamped by a registered professional engineer; and
  - (4) provide the following certification signed by a responsible corporate official of a Respondent or Respondents’ Project Coordinator:

“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 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

- (e) If EPA determines that RA Construction is not complete, EPA will so notify Respondents. EPA's notice must include a description of, and schedule for, the activities that Respondents must perform to complete RA Construction. EPA's notice may include a schedule for completion of such activities or may require Respondents to submit a proposed schedule for EPA approval. Respondents shall perform all activities described in the EPA notice in accordance with the schedule.
- (f) If EPA determines, based on the initial or any subsequent RA Construction Completion Report, that RA Construction is complete, EPA will provide written notice to Respondents.

#### **4.4 Operation and Maintenance Phase**

- (a) After EPA approves the RA Construction Completion Report and determines that the RA construction is complete, the NTCRA will enter the operation and maintenance phase (O&M Phase). The O&M Phase shall continue for four years from the date that EPA approves the RA Construction Completion Report.

### **5. REPORTING**

**5.1 Progress Reports.** Commencing with the first month following the effective date of the AOC and until EPA approves the Final Report, Respondents shall submit progress reports to EPA on the 10<sup>th</sup> of each month, or as otherwise requested by EPA. The reports must cover all activities that took place during the prior reporting period, including:

- (a) The actions that have been taken toward achieving compliance with the AOC;
- (b) A summary of all results of sampling, tests, and all other data received or generated by Respondents;
- (c) A description of all deliverables that Respondents submitted to EPA;
- (d) A description of all activities that are scheduled for the next six weeks;
- (e) An updated RA Construction or O&M 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;
- (f) A description of any modifications to the work plans or other schedules that Respondents have proposed or that have been approved by EPA; and
- (g) A description of all activities undertaken in support of the Community Involvement Plan (CIP) during the reporting period and those to be undertaken in the next six weeks.

**5.2 Notice of Progress Report Schedule Changes.** If the schedule for any activity described in the Progress Reports, including activities required to be described under ¶ 5.1(d), changes, Respondents shall notify EPA of such change at least 7 days before performance of the activity.

## **6. DELIVERABLES**

**6.1 Applicability.** Respondents shall submit deliverables for EPA approval, unless otherwise specified in the SOW. If neither is specified, the deliverable does require EPA's approval. Paragraphs 6.2 (In Writing) through 6.4 (Technical Specifications) apply to all deliverables. Paragraph 6.5 (Approval of Deliverables) applies to any deliverable that is required to be submitted for EPA approval.

**6.2 In Writing.** As provided in Paragraph 40 of the AOC, all deliverables under this SOW must be in writing unless otherwise specified.

**6.3** All deliverables must be submitted by the deadlines in the RD Schedule or RA Schedule, as applicable. Respondents shall submit all deliverables to EPA in electronic form. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", Respondents shall also provide EPA with paper copies of such exhibits.

### **6.4 Technical Specifications**

- (a) If requested, 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.
- (b) 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://edg.epa.gov/EME/>.
- (c) Each file must include an attribute name for each site unit or sub-unit submitted. Consult <http://www.epa.gov/geospatial/policies.html> for any further available guidance on attribute identification and naming.
- (d) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

## 6.5 Approval of Deliverables

- (a) **Initial Submissions.** After review of any deliverable that is required to be submitted for EPA approval under the AOC or SOW, EPA will: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above.
- (b) **Resubmissions.** Upon receipt of a notice of disapproval under ¶ 6.5(a) (Initial Submissions), or if required by a notice of approval upon specified conditions under ¶ 6.5(a), Respondents 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 Respondents to correct the deficiencies; or (5) any combination of the foregoing.
- (c) **Implementation.** Upon approval, approval upon conditions, or modification by EPA under ¶ 6.5(a) (Initial Submissions) or ¶ 6.5(b) (Resubmissions), of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under the AOC; and (2) Respondents 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 ¶ 6.5(a) or ¶ 6.5(b) does not relieve Respondents of any liability for stipulated penalties under Section XVIII (Stipulated Penalties) of the AOC.

**6.6 Supporting Deliverables.** Respondents shall submit each of the following supporting deliverables for EPA approval, except as specifically provided. The deliverables must be submitted, for the first time, by the deadlines in the RD Schedule or the RA Schedule, or any other EPA-approved schedule, as applicable. Respondents shall develop the deliverables in accordance with all applicable regulations, guidances, and policies (see Section 9 (References)). These submittals will utilize and update existing supporting deliverables already approved under the RI/FS and/or building NTCRA. Respondents 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. Respondents 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, slope failure, etc.). 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;
  - (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 Paragraph 58 of the AOC (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 57 of the AOC (Emergency Response) 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) supplements the QAPP and 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. Respondents 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) addresses sample analysis and data handling regarding the Work. The QAPP must include a detailed explanation of Respondents' quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. Respondents 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 through 900C (Mar. 2005). The QAPP also must include procedures:

- (1) To ensure that EPA and their authorized representative have reasonable access to laboratories used by Respondents in implementing the AOC (Respondents' Labs);
  - (2) To ensure that Respondents' Labs analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring;
  - (3) To ensure that Respondents' 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 Respondents' Labs participate in an EPA-accepted QA/QC program or other program QA/QC acceptable to EPA;
  - (5) For Respondents to provide EPA and the State with notice at least 28 days prior to any sample collection activity;
  - (6) For Respondents to provide split samples and/or duplicate samples to EPA upon request;
  - (7) For EPA to take any additional samples that it deems necessary; and
  - (8) For Respondents to submit to EPA all sampling and tests results and other data in connection with the implementation of the AOC.
- (e) **Construction Quality Assurance/Quality Control Plan (CQA/QCP).** The purpose of the Construction Quality Assurance Plan (CQAP) 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 purpose of the Construction Quality Control Plan (CQCP) is to describe the activities to verify that RA construction has satisfied all plans, specifications, and related requirements, including quality objectives. The CQA/QCP must:
- (1) Identify, and describe the responsibilities of, the organizations and personnel implementing the CQA/QCP;
  - (2) Identify the Performance Standards (PS) set out in ROD and describe how the RA construction will be consistent with the ROD PS;

- (3) Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQA/QCP;
  - (4) Describe industry standards and technical specifications used in implementing the CQA/QCP;
  - (5) Describe procedures for tracking construction deficiencies from identification through corrective action;
  - (6) Describe procedures for documenting all CQA/QCP activities; and
  - (7) Describe procedures for retention of CQA/QCP documents and for final storage of documents.
- (f) **O&M Plan.** The O&M Plan describes the requirements for inspecting, operating, and maintaining the RA. Respondents shall develop the O&M Plan in accordance with *Operation and Maintenance in the Superfund Program*, OSWER 9200.1 37FS, EPA/540/F-01/004 (May 2001). The O&M Plan must include the following additional requirements:
- (1) Description of PS required to be met to be consistent with the ROD;
  - (2) Description of activities to be performed: (i) to provide confidence that PS will be met; and (ii) to determine whether PS have been met;
  - (3) **O&M Reporting.** Description of records and reports that will be generated during O&M, such as routine operating logs, laboratory records, records of operating costs, reports regarding emergencies, personnel and maintenance records, monitoring reports, and monthly and annual reports to EPA and State agencies;
  - (4) 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 PS; (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;
  - (5) Description of corrective action to be implemented in the event that PS are not being achieved by the treatment system; and a schedule for implementing these corrective actions; and
  - (6) **O&M Manual.** The O&M Manual serves as a guide to the purpose and function of the equipment and systems that make up the NTCRA. Respondents shall develop the O&M Manual in accordance with *Operation and Maintenance in the Superfund Program*, OSWER 9200.1 37FS, EPA/540/F-01/004 (May 2001).

## 7. SCHEDULES

**7.1 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 and RA Schedules set forth below. Respondents may submit proposed revised RD Schedules or RA Schedules for EPA approval. Upon EPA’s approval, the revised RD and/or RA Schedules supersede the RD and RA Schedules set forth below, and any previously-approved RD and/or RA Schedules.

### 7.2 RD Schedule

	<b>Description of Deliverable, Task</b>	<b>Included Supporting Deliverable</b>	<b>¶ Ref.</b>	<b>Deadline</b>
1	PDIWP	FSP, QAPP	3.3(a)	If requested by EPA, 45 days after the Effective Date of the AOC.
2	RDWP	HASP, ERP, TSWP	3.1	45 days after the Effective Date of the AOC or 45 days after EPA approval of the PDI Evaluation Report, if conducted.
3	Pre-final (90/95%) RD	Same as above	3.5	60 days after EPA approval of RDWP or 60 days after receipt of all data associated with treatability studies, if conducted.
4	Final (100%) RD	Same as above	3.5(k)	30 days after EPA approval of Pre-final RD.

### 7.3 RA Schedule

	<b>Description of Deliverable / Task</b>	<b>¶ Ref.</b>	<b>Deadline</b>
1	Award RA contract		30 days after EPA approval of 100% RD
2	RAWP	4.1	30 days after award of RA contract
3	Start of Construction		21 days after EPA approval of RAWP
4	Completion of Construction		
5	Inspection	4.3(b)	21 days after completion of construction
6	RA Construction Completion Report	4.3(d)	45 days after completion of Shakedown Period

## 8. STATE PARTICIPATION

**8.1 Copies.** Respondents shall, at any time they send a deliverable to EPA, send a copy of such deliverable to the State Site Manager, Garry Waldeck, Environmental Engineer, MassDEP-BWSC, 1 Winter Street, Boston, MA 02108; garry.waldeck@state.ma.us;~ 617-348-4017. EPA will, at any time it sends a notice, authorization, approval, disapproval, or certification to Respondents, send a copy of such document to the State.

- 8.2 Review and Comment.** The State will have a reasonable opportunity for review and comment prior to any EPA approval or disapproval under ¶ 6.5 (Approval of Deliverables) of any deliverables that are required to be submitted for EPA approval.

## 9. REFERENCES

- 9.1** 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 ¶ 9.2:

- (a) A Compendium of Superfund Field Operations Methods, OSWER 9355.0-14, EPA/540/P-87/001a (Aug. 1987).
- (b) CERCLA Compliance with Other Laws Manual, Part I: Interim Final, OSWER 9234.1-01, EPA/540/G-89/006 (Aug. 1988).
- (c) Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER 9355.3-01, EPA/540/G-89/004 (Oct. 1988).
- (d) CERCLA Compliance with Other Laws Manual, Part II, OSWER 9234.1-02, EPA/540/G-89/009 (Aug. 1989).
- (e) Guide to Management of Investigation-Derived Wastes, OSWER 9345.3-03FS (Jan. 1992).
- (f) Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, OSWER 9355.7-03 (Feb. 1992).
- (g) Guidance for Conducting Treatability Studies under CERCLA, OSWER 9380.3-10, EPA/540/R-92/071A (Nov. 1992).
- (h) National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, 40 C.F.R. Part 300 (Oct. 1994).
- (i) EPA Guidance for Data Quality Assessment, Practical Methods for Data Analysis, QA/G-9, EPA/600/R-96/084 (July 2000).
- (j) Operation and Maintenance in the Superfund Program, OSWER 9200.1-37FS, EPA/540/F-01/004 (May 2001).
- (k) Guidance for Quality Assurance Project Plans, QA/G-5, EPA/240/R-02/009 (Dec. 2002).
- (l) Quality Systems for Environmental Data and Technology Programs – Requirements with Guidance for Use, ANSI/ASQ E4-2004 (2004).
- (m) Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3, EPA/505/B-04/900A through 900C (Mar. 2005).

- (n) Superfund Community Involvement Handbook, EPA/540/K-05/003 (Apr. 2005).
- (o) EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, QA/G-4, EPA/240/B-06/001 (Feb. 2006).
- (p) EPA Requirements for Quality Assurance Project Plans, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006).
- (q) EPA Requirements for Quality Management Plans, QA/R-2, EPA/240/B-01/002 (Mar. 2001, reissued May 2006).
- (r) USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, ILM05.4 (Dec. 2006).
- (s) USEPA Contract Laboratory Program Statement of Work for Organic Analysis, SOM01.2 (amended Apr. 2007).
- (t) A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems, EPA 600/R-08/003, January 2008.
- (u) EPA National Geospatial Data Policy, CIO Policy Transmittal 05-002 (Aug. 2008), available at <http://www.epa.gov/geospatial/policies.html> and [http://www.epa.gov/geospatial/docs/National\\_Geospatial\\_Data\\_Policy.pdf](http://www.epa.gov/geospatial/docs/National_Geospatial_Data_Policy.pdf).
- (v) Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration, OSWER 9283.1-33 (June 2009).
- (w) Principles for Greener Cleanups (Aug. 2009), available at <http://www.epa.gov/oswer/greenercleanups/>.
- (x) USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods (Multi-Media, Multi-Concentration), ISM01.2 (Jan. 2010).
- (y) Close Out Procedures for National Priorities List Sites, OSWER Directive 9320.2-22, (May 2011).
- (z) Groundwater Road Map: Recommended Process for Restoring Contaminated Groundwater at Superfund Sites, OSWER 9283.1-34 (July 2011).
- (aa) Construction Specifications Institute's MasterFormat 2012, available from the Construction Specifications Institute, [www.csinet.org/masterformat](http://www.csinet.org/masterformat).
- (bb) Updated Superfund Response and Settlement Approach for Sites Using the Superfund Alternative Approach , OSWER 9200.2-125 (Sep. 2012)
- (cc) EPA's Emergency Responder Health and Safety Manual, OSWER 9285.3-12 (July 2005 and updates), [http://www.epaosc.org/\\_HealthSafetyManual/manual-index.htm](http://www.epaosc.org/_HealthSafetyManual/manual-index.htm).

- (dd) Guidance for Evaluating Completion of Groundwater Restoration Remedial Actions, OSWER 9355.0-129 (Nov. 2013).
- (ee) Groundwater Remedy Completion Strategy: Moving Forward with the End in Mind, OSWER 9200.2-144 (May 2014).

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

Laws, Policy, and Guidance <http://www.epa.gov/superfund/policy/index.htm>

Test Methods Collections <http://www.epa.gov/fem/methcollectns.htm>

**9.3** For any regulation or guidance referenced in the AOC 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 Respondents receive notification from EPA of the modification, amendment, or replacement.