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September 4, 2020

Mr. Christopher Smith
Remedial Project Manager
EPA Region 1
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Mail Code OSRR 07-4
Boston, MA 02109-3912

Subject: Nuclear Metals, Inc. Superfund Site, Concord, Massachusetts
Remedial Design Work Plan
Responses to Comments and Revised Remedial Design Work Plan

Dear Mr. Smith:

Enclosed for your review and approval are Responses to Comments (RTC) received from EPA on the revised Remedial Design Work Plan (RDWP) dated August 31, 2020.

The final RDWP and accepted appendices have been uploaded to Project Portal. The remaining appendices will be finalized after approval of these RTC.

Final documents uploaded to Project Portal include:

RDWP

Appendices

C – PDI WP– Holding Basin Containment

F - Post Removal Site Control Plan (PRSCP)

G – Health and Safety Plan (HASP) (previously approved)

H – Emergency Response Plan

K – Site Wide Monitoring Plan (SWMP)

L - Community Relations Support Plan (CRSP) (previously approved)

Appendices to be finalized after approval of responses to comments:

A - PDI WP – Site-Wide Soils and Sediments

B –PDI WP – In-Situ Sequestration of Depleted Uranium and Uranium

D – PDI WP – 1,4-dioxane and VOCs in Bedrock Groundwater

E – TS WP – In-Situ Sequestration (accepted, waiting on further comments from USGS reviewer)

I - Sampling and Analysis Plan: Field Sampling Plan (FSP)

J - Sampling and Analysis Plan: Quality Assurance Project Plan (QAPP)

Please let me know if you have any questions.

Sincerely,

Bruce Thompson

Attachment – Responses to Comments

cc: Garry Waldeck, MassDEP
Settling Defendants
Mark Kelley, PE, Haley & Aldrich, Inc.
Carl Elder, PE, Geosyntec Consultants

Responses to Comments on Revised RDWP dated August 31, 2020

Remedial Design Work Plan (main text)

1. Section 2.7.5, last paragraph – Please update the dates for the Construction Completion Report and EPA's Approval and Notice of Completion of Work.

2. Section 5 – Please update the bullets concerning the Construction Completion Report and Notice of Completion of Work for the Groundwater NTCRA to show that both have been completed/issued.

Please address these comments and compile the revised RDWP for EPA approval.

Response: Comments addressed, document finalized, and uploaded to Project Portal.

Appendix A Sitewide Soil and Sediment

1. Attachment 1, Figure 1-2 – EPA notes there is minimal sampling proposed in the northeast area of AOI 4, between proposed sampling points 7 and 14. EPA recommends de maximis consider if additional points are needed in this area.

Response: This area was not proposed for remediation as the PCBs concentrations are less than clean up criteria and the uranium concentrations are consistent with surrounding data that do not pose unacceptable risk. Sampling is proposed north and south of this area, and if the sampling results to the north and south suggest that additional sampling step-outs and evaluation are necessary, then this area may be subject to additional sampling as described in Attachment 1.

2. Attachment 3, Section 4.2 – Revise the sampling depths listed here to match RTC #25, which stated samples would be collected in the missing depth intervals. The changes were made to the tables but not the text in this section.

Please address these comments and compile the revised Appendix A for EPA approval.

Response: The text will be updated accordingly.

Appendix B In-Situ Sequestration

1. For comments #8 & #10 (as well as comment #11 in Appendix D) regarding monitoring differences in concentration over time further clarification is required. The response indicates:

The samples collected after pumping will be used to evaluate whether the change in concentrations during pumping persist. Data will be plotted and a trendline will be fit to the data (e.g., in Microsoft Excel) to assess changes/trends in concentration over time

between the baseline concentrations and a time when natural gradients have returned following the pump test.

Table 3-3 shows that analysis for contaminants will be performed on samples at baseline, 3.5 days, 7 days, prior to shutdown, and then in recovery on day 1, 2 and 21. The footnote to the table states that:

Groundwater samples collected during active pumping and the 21-day samples will be analyzed first and if they are different by at least 20% then other samples will be analyzed to evaluate concentration versus time.

The holding time for 1,4-dioxane is 7 days. Questions: By the time the sample from 21-days is analyzed, all the samples from the pumping period will be outside of holding time. How, then could analysis of additional samples be performed? How is "different by at least 20%" determined? Would that be percent difference in concentration between two consecutive samples? Which samples will be analyzed if the difference is greater than 20% - all samples in between?

Please respond to these concerns. After the questions are adequately addressed, please compile and submit the revised Appendix B for EPA approval.

Response: The sampling program during pump testing described in Appendix B has been modified to include collection of groundwater samples at the following times after the start of pumping: 0, ½, 1, 2, 3, 4, 5, 7, and every other day until pumping ceases. To accommodate the hold-time for 1,4-dioxane, all samples will be analyzed for the same parameters listed in Table 3-3 of Appendix B which includes 1,4-dioxane. This change is reflected in section 3.5.4 and Table 3-3 of the work plan.

With all samples collected during pumping being analyzed, EPA's additional questions about hold time and how the assessment of change in concentrations will be calculated are no longer applicable.

Appendix C Holding Basin Containment

All responses and revisions acceptable, no further comments. Please compile the revised Appendix C for EPA approval.

Response: Comments addressed, document finalized, and uploaded to Project Portal.

Appendix D 1,4-Dioxane and VOCs in Bedrock

1. See Appendix B comment above.

Please respond to these concerns. After the questions are adequately addressed, please compile and submit the revised Appendix D for EPA approval.

Response: Please see the response to comment #1 on Appendix B. Groundwater sampling and analysis during pump tests described in Appendix D have been adjusted to match the changes implemented for pump testing described in Appendix B. These changes are reflected in section 6.2.5 and Table 3 of Appendix D.

Appendix E Treatability Study

EPA/AECOM find that all responses and revisions are acceptable. However, EPA has engaged a USGS expert who is completing a review of this appendix. Additional comments will be provided imminently. Lagging approval of this Appendix should not impact the ability to begin RD field work.

Response: Appendix E will be finalized after receipt of USGS comments.

Appendix F Post Removal Site Control Plan

All responses and revisions acceptable, no further comments. Please compile the revised Appendix F for EPA approval.

Response: Comments addressed, document finalized, and uploaded to Project Portal.

Appendix H Emergency Response Plan

All responses and revisions acceptable, no further comments. Please compile the revised Appendix H for EPA approval.

Response: Comments addressed, document finalized, and uploaded to Project Portal.

Appendix I - FSP

1. For comment #4 (following validation guidelines for high moisture sediments) the response includes the following modification to the sampling SOP:

If solids content for a sediment sample is determined to be below 30%, the sample will be discarded, and a new sample will be collected.

It should be clarified how this will be tested in the field. Solids content cannot be visually assessed, so analysis involving drying the soil and weighing it would be required. Please clarify.

Please address this comment, then compile the revised Appendix I for EPA approval.

Response: The SOP will be updated to reflect that the Laboratory will determine the %moisture. If the laboratory reports moisture below 30% a new sample will be collected and resubmitted to the laboratory for analysis.

Appendix J QAPP

1. For comments #10, #11, #32, and #34 (regarding use of current validation guidelines including blank actions), the response indicates that updated validation blank actions will not be employed for consistency with historical data. However, the most obvious gap in the proposed validation actions noted is the application of blank action levels. The practice of negating results that are 5 or 10 times the concentration detected in a blank ended several years ago. Application of blank action levels in data validation levels can lead to an increase in false negative results and may mask useful information about the presence of site contaminants. The validation actions presented also retain the outdated practice of mathematically adjusting the blank result from an aqueous sample to generate a blank action level to a soil sample. Because contamination removed from equipment by water does not reflect contamination picked up by a solid, the blank results should be applied in only a qualitative sense, consistent with the latest guidance. Please address.

Response: The use of 5 and 10X multiplier for blank action levels had been carried through, consistent with the data validation approach at the site for the past eight years. However, we will move forward using the current National Functional Guidelines. Worksheets have been updated to reflect this.

In response to qualifying soil samples based on aqueous field / trip blanks, we agree this in an inappropriate practice. Worksheets 12 and 28 are incorrect and will be updated to reflect this. Please see attached updated sheets

2. For comment #12 (sensitivity requirements). The sensitivity requirements added state that the RL < PAL, however EPA recommends that the RL is less than 1/3 the RL or lower. Please address.

Response: Assuming this was meant to say that the RL is less than 1/3 the PAL. Worksheets were updated under this assumption. If this assumption is incorrect, please clarify. Please see attached updated worksheets.

3. For comment #15 (listing of analytical tasks). It is agreed that the RDWP appendices are detailed in the manner described in the response. However, the detail concerning extraction methods are not included in these appendices. Please include this information in the RDWP or other location where the link to sampling event and task can be readily made.

Response: Extraction methods and SOP references are on worksheets 12, 20 (SOP reference only), 19, 23 and 30.

4. For comment #36 (field data quality), the response does not address the comment. The response discusses how the field data will be used but does not

discuss how the quality of the field data will be assessed prior to use. Please address.

Response: All personnel that will managing field teams collecting data qualify as Environmental Professionals as defined in 40 CFR §312.10. Field data will be deemed usable (i.e., precise, accurate, and representative) when it is collected following the appropriate standard operating procedures (SOPs), using the proper equipment that has been correctly calibrated. The usability of field data, for example groundwater geochemical parameters such as dissolved oxygen concentration and pH, will be assessed through adherence to several protocols outlined in the RDWP. The Field Sampling Plan contains SOPs that will be followed by field staff during execution of the work. SOPs are included for calibration of field probes as well as collection of field data. In many cases, the SOPs include forms to be completed by field staff which support and document proper calibration of field instruments and data collection. These forms will be reviewed by field team leaders, who will then make the judgement regarding subsequent data usability. As an example, SOP NMI-003 describes the approach for calibrating a multiparameter meter for groundwater sampling and includes what calibration solutions/points to use for each probe, how often to calibrate, and has a calibration form attached. This SOP works in conjunction with SOP-GW-010 which specifies the procedure for collecting a representative groundwater sample and representative field groundwater geochemical data, per EPA guidance, using a calibrated probe. SOP-GW-010 also provides thresholds for acceptable data quality as well as a field form to assist staff in collecting and properly documenting data which meets minimum standards to be considered acceptable. In summary, field data will be deemed valid/usable provided they are collected using calibrated instruments per SOPs provided in the FSP**.**

5. For comment #38 (completeness), the response is not consistent with the introduction of the QAPP which states, "The purpose of the QAPP is to support the sampling and analytical methods and procedures that will be used during the RD/RA phases of the project, including pre-design investigations, SOW-specified groundwater monitoring events, and implementation of the remedial components." Please clarify.

Response: Noted, changes have been made to the text in the introduction. Please see attached updated QAPP text.

Please respond to these comments. After the questions are adequately addressed, please compile and submit the revised Appendix J for EPA approval.

Appendix K Sitewide Monitoring Plan

All responses and revisions acceptable, no further comments. Please compile the revised Appendix K for EPA approval.

Response: Comments addressed, document finalized, and uploaded to Project Portal.