SEMI-ANNUAL SELECTION OF REMEDY (SoR) PROGRESS REPORT (Q1 AND Q2 2020)

COAL COMBUSTION BYPRODUCT LANDFILL

Harrison Power Station
Harrison County, West Virginia

Prepared for:

Monongahela Power Company
A Wholly Owned Subsidiary of First Energy

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1.0 INTRODUCTION

This Semi-Annual Selection of Remedy (SoR) Progress Report was prepared by Tetra Tech, Inc. (Tetra Tech) on behalf of Monongahela Power Company (MP), a wholly owned subsidiary of FirstEnergy, for the Coal Combustion Byproduct Landfill ("CCBL", (hereinafter referred to as the "Station"). The Station and CCBL are located in Harrison County, West Virginia. The period covered by this report is the first two quarters (Q1 and Q2) of calendar year 2020 (January 1st through June 30th).

As per 40 CFR 257.97(a), once a Coal Combustion Residual (CCR) unit has completed an Assessment of Corrective Measures (ACM) and transitions to SoR, "The owner or operator must prepare a semiannual report describing the progress in selecting and designing the remedy." Accordingly, this report summarizes the progress to date in selecting and designing the remedy for addressing arsenic concentrations in groundwater downgradient of the CCR unit and also includes a summary of anticipated SoR activities which will be conducted over the next SoR reporting period.

Detailed background information on the CCR unit, hydrogeologic site conditions, and CCR monitoring results can be found in various other documents on the CCBL's publicly accessible website, the most recent of which being the 2019 Annual CCR Rule Groundwater Monitoring and Corrective Action Report (Harrison CCB Landfill 2019 Annual GWMCA Report). The following section provides background information as it relates to the SoR at the CCR unit.

1.1 Background

Groundwater Assessment Monitoring (AM) conducted at the site in accordance with the federal CCR Rule identified arsenic and molybdenum concentrations in certain downgradient CCR monitoring wells which were at Statistically Significant Levels (SSLs) above their corresponding Groundwater Protection Standards (GWPS). Pursuant to 40 CFR 257.95(g)(3)(ii), Tetra Tech performed an Alternative Source Demonstration (ASD) to assess if the Appendix IV SSLs determined for sampling events AM-1, -2, and -3 were attributable to a release from the CCR unit or from a demonstrable alternative source(s). The Appendix IV ASD is included as Attachment A of the ACM Report prepared for the Site (Harrison CCB Landfill 2019 ACM Report) and determined that evidence exists that the CCR unit, combined with impacts from an as-yet unidentified alternate source (e.g., grout infiltration into the sand pack of the well), are likely the causes of elevated molybdenum concentrations observed in monitoring well MW-20, which was the only well to have a molybdenum SSL, and that the arsenic SSLs could not be attributed to sources other than the CCR unit. As such, a transition to Nature and Extent (N&E) of release

characterization and ACM for arsenic per 40 CFR 257.96 of the CCR Rule were implemented.

As required by 40 CFR 257.96(c), the ACM conducted by Tetra Tech on behalf of FE included an analysis of the effectiveness of potential corrective measures in meeting the remedy requirements and objectives as described under 40 CFR 257.97. The ACM Report evaluated the following corrective measures against the criteria referenced in 40 CFR 257.96(c): Source Control, Groundwater Extraction and Treatment, In-Situ Technologies and Monitored Natural Attenuation (MNA).

Based on the evaluation of viable remediation technologies, MNA, combined with source control by the eventual installation of a final cover system, ranks highest among the evaluated options. In September 2019, pursuant to 40 CFR 257.96(d), the ACM Report was posted in the CCR unit's Operating Record, and then subsequently posted to the facility's publicly accessible website on October 16, 2019 (Harrison CCB Landfill 2019 ACM Report).

1.2 SoR Regulatory Basis

SoR activities must be completed in compliance with 40 CFR 257.97(a), which states that as soon as feasible after completion of the ACM, a remedy must be selected that, at a minimum, meets the performance standards listed in 40 CFR 257.97(b), and considers the evaluation factors listed in 40 CFR 257.97(c).

2.0 CURRENT STATUS OF THE SELECTION OF REMEDY PROGRAM

The following activities have been performed during the current reporting period as part of selecting the remedy at the Site:

- 40 CFR 257.95(g)(1)(i) requires that the extent of groundwater impacts be defined by installing additional monitoring wells as necessary. In order to fulfill this requirement, three new downgradient monitoring well locations, including one off-site location, have been identified and field staked. These new monitoring wells will serve to better characterize the extent of arsenic in groundwater and to evaluate potential natural attenuation impacts on arsenic concentrations downgradient of the CCR unit. For the proposed off-site well location, FE is currently negotiating a right-of-access and lease agreement with the landowner so the new well can be installed.
- Initiating development of a Natural Attenuation Evaluation Work Plan to include evaluating historic concentrations of parameters which can affect the natural attenuation of arsenic (e.g., iron, pH, ORP, etc.) as well as planning the sampling and analysis program that would be associated with future MNA activities.

- Initiated a review of candidate technologies with regard to their potential to meet the performance standards listed in 40 CFR 257.97(b) and the evaluation factors listed in 40 CFR 257.97(c).
- Continued AM with a sampling event in February 2020, which included sampling of the site's four CCR monitoring wells with analyses for all Appendix III and Appendix IV parameters along with targeted general chemistry parameters to assist in evaluating potential natural attenuation impacts.
- Determined February 2020 groundwater flow patterns in the monitoring network area downgradient of the CCR unit and found they were consistent with historical flow patterns at the Site.

3.0 PLANNED SOR ACTIVITIES

The following activities are planned as part of the ongoing SoR process:

- Continue evaluation of the historic groundwater monitoring data set for relationships between key parameters affecting arsenic natural attenuation and arsenic concentrations in groundwater.
- Complete development of the Arsenic Natural Attenuation Evaluation Work Plan.
- Install, develop, and sample the three additional downgradient groundwater monitoring wells for arsenic and natural attenuation parameters.
- Conduct additional sampling and analysis for molybdenum to evaluate whether the downward trend in molybdenum concentrations measured over the last two years in MW-20 is statistically significant.
- Continue evaluating the candidate technologies identified in the ACM against the performance standards listed in 40 CFR 257.97(b) and the evaluation factors listed in 40 CFR 257.97(c).
- As required by 40 CFR 257.96(e), FE will discuss the results of the corrective measures assessment at least 30 days prior to the final selection of remedy, in a public meeting.
- Upon completion of all required SoR activities, FE will prepare a final report describing the selected remedy and how it, at a minimum, meets the performance standards listed in 40 CFR 257.97(b) and considers the evaluation factors listed in 40 CFR 257.97(c).
- As required by 40 CFR 257.97(d), FE will specify, as part of the selected arsenic remedy, a schedule(s) for implementing and completing remedial activities.
- Complete the second scheduled 2020 AM sampling event at the Site.

Should the final remedy for the CCR unit not be selected during Q3 or Q4 2020, then another Semi-Annual SoR Report will be prepared as required by 40 CFR 257.97(a).