Semiannual Progress Report
Selection of Remedy –
Prairie Creek Generating Station

Prairie Creek Generating Station
Cedar Rapids, Iowa

Prepared for:

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SCS ENGINEERS

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1.0 INTRODUCTION AND PURPOSE

The Semiannual Progress Report for remedy selection at the Interstate Power and Light Company (IPL) Prairie Creek Generating Station (PCS) was prepared to comply with U.S. Environmental Protection Agency (USEPA) regulations regarding the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities [40 CFR 257.50-107], or the "CCR Rule" (Rule). Specifically, the selection of remedy process was initiated to fulfill the requirements of 40 CFR 257.97.

1.1 BACKGROUND

The Assessment of Corrective Measures (ACM) for the PCS Closure Area was completed on September 12, 2019. The ACM was completed in response to the detection of molybdenum and arsenic at a statistically significant level above the Groundwater Protection Standards (GPS) in groundwater samples from downgradient monitoring wells. Arsenic concentrations exceeded the GPS at MW-303 and MW-304, and molybdenum concentrations exceeded the GPS at MW-306. As discussed in Section 3.0 of this report, an addendum to the ACM is currently in development.

This Semiannual Progress Report summarizes data collected and remedy evaluation progress made since the ACM was completed in September 2019, and outlines planned future activities to complete the selection of remedy process. This is the second semiannual progress report, and covers the 6-month period of September 2020 through February 2021.

1.2 SITE INFORMATION AND MAPS

PCS is located to the south of Prairie Creek and to the west of the Cedar River, on the south side of the City of Cedar Rapids in Linn County, Iowa (**Figure 1**). The address of the generating station is 3300 C Street Southwest, Cedar Rapids, Iowa. In addition to the coal-fired generating station, the property also contains a closure area located within the original footprint of the CCR impoundments and a coal stockpile.

The groundwater monitoring system at PCS monitors the Closure Area, which was created when the following CCR units were closed:

- PCS Pond 1
- PCS Pond 2
- PCS Pond 3
- PCS Pond 4
- PCS Pond 5
- PCS Pond 6
- PCS Pond 7
- PCS Discharge Pond (Pond 8)
- PCS Beneficial Use Storage Area
- PCS Bottom Ash Pile

A map showing the CCR units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR groundwater monitoring program is provided on **Figure 2**.

Groundwater flow at the site is generally to the north. Depth to groundwater varies from 0 to 16 feet below ground surface (bgs) due to topographic variations across the facility and seasonal fluctuations in the groundwater surface. The downgradient area where MW-303 through MW-306, the MW-309/309A nest, and the MW-310/310A nest are located is prone to flooding when water levels in Prairie Creek and the Cedar River are high.

2.0 SUMMARY OF WORK COMPLETED

Work completed to support remedy selection for the PCS CCR units is summarized in **Table 1**. Activities completed within the 6-month period covered by this semiannual report are discussed in more detail below.

Significant schedule delays occurred in 2020 due to the COVID-19 Pandemic. Temporary travel bans, social distancing restrictions, and pandemic response planning delayed selection of remedy activities for several months. Semiannual assessment monitoring in spring 2020 was also delayed due to COVID-19-related restrictions.

2.1 MONITORING NETWORK CHANGES

No changes to the monitoring network were made during the period covered by this Semiannual Progress Report. The locations of existing monitoring wells at PCS are shown on **Figure 2**.

2.2 GROUNDWATER MONITORING

Groundwater samples were collected from the monitoring wells installed in 2020 (MW-301A, MW-306A, MW-309A, and MW-310A) on September 15, 2020. Groundwater samples were collected from all assessment monitoring wells on October 19 to 21, 2020. The October 2020 monitoring event was part of the routine semiannual assessment monitoring program. A summary of groundwater samples collected since submittal of the ACM is provided in **Table 2**.

2.3 STATISTICAL EVALUATION

Statistical evaluation of sampling results during the period covered by this update was discussed in the 2020 Annual Groundwater Monitoring and Corrective Action Report, dated January 2021. Based on this evaluation, statistically significant levels (SSLs) above the GPS were identified for the following parameters and wells:

- Arsenic: MW-303, MW-304, MW-308, MW-309, and MW-310
- Molybdenum: MW-306

The SSLs for arsenic at MW-303 and MW-304 and for molybdenum at MW-306 are consistent with previous SSL determinations. The SSLs for arsenic at MW-308, MW-309, and MW-310 are newly identified SSLs, because these wells were installed more recently and have now been sampled four times, which is the minimum required for Lower Confidence Level (LCL) evaluation.

Lithium was detected at a concentration above the GPS at compliance well MW-308 in October 2020; this was the first result above the GPS at this well in four rounds of sampling to date. The significance of the lithium GPS exceedance at this well will be evaluated as additional sampling is completed.

2.4 EVALUATION OF CORRECTIVE MEASURE ALTERNATIVES

A qualitative assessment of potential Corrective Measure Alternatives using the selection criteria in 40 CFR 257.97(b) and (c) was provided in the September 2019 ACM. **Table 3** summarizes the assessment completed for the ACM. No updates or changes to the assessment have been made based on additional information obtained since the issue of the ACM, but an addendum that includes updates to the assessment is currently in development. Additional groundwater data

collection and analysis is necessary for the evaluation of the monitored natural attenuation (MNA) option. Updates to the assessment, and development of the quantitative evaluation system discussed in the ACM, will be completed in the future based on updates to the conceptual site model, delineation of the nature and extent of impacts, and collection of additional data relevant to remedy selection.

3.0 PLANNED ACTIVITIES

Planned activities related to the remedy selection process include the following:

- Continue semiannual assessment monitoring
- Prepare an ACM Addendum to include the assessment of:
  - In-Situ Treatment with Chemical Amendment
  - Groundwater Collection
  - Groundwater Management with Barrier Wall
- Complete evaluation of MNA feasibility, including additional evaluation of groundwater flow and groundwater quality
- Update conceptual site model based on findings of nature and extent investigation
- Continue evaluation of remedial options
- Conduct public meeting (40 CFR 257.96(e))

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