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July 15, 2022

Wood Reference No: 1420222006

Arizona Public Service Company
400 N. 5th Street
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**Re: SEMIANNUAL REPORT DOCUMENTING PROGRESS IN REMEDY SELECTION
MULTIUNIT 1 AND THE UPPER RETENTION SUMP
Four Corners Power Plant - Fruitland, New Mexico**

In accordance with 40 Code of Federal Regulations (CFR) Section (§) 257.97(a) of the Coal Combustion Residuals (CCR) Rule, this Semiannual Remedy Selection Progress Report (Semiannual Report) has been prepared on behalf of Arizona Public Service Company (APS) to document progress in selection of remedies for CCR units which have been identified as potentially impacting groundwater at the APS Four Corners Power Plant, located in Fruitland, New Mexico (the Site). Applicable Site CCR units include Multiunit 1 (comprised of the Lined Ash Impoundment and the Lined Decant Water Pond) and the Upper Retention Sump (URS). Semiannual progress reporting to support remedy selection began on July 15, 2019. The most recent update was provided in the *Annual Groundwater Monitoring and Corrective Action Report (GMCAR) for 2021*, dated January 31, 2022. This Semiannual Report serves as the seventh update on remedy selection progress at the site and documents activities completed to date in 2022.

1. Summary of Activities Completed in 2022

Activities completed by APS in the first half of 2022 in support of remedy selection for Multiunit 1 and the URS include the following:

- *Four Corners Sampling and Analysis Plan Update.* The Site Sampling and Analysis Plan (SAP), last updated in 2018, was reissued to reflect changes to the monitoring program since the update. These changes include the transition of units within the monitoring program (including Multiunit 1 and the URS into corrective action), and subsequent sampling requirements pursuant to CFR § 257.96(b). Any further sampling requirements, such as those necessary to support remedy implementation, will be included in a future addendum to the SAP.
- *Site-Wide Split Sampling.* During the first 2022 semiannual monitoring event, split sampling was conducted for select sample locations (including at Multiunit 1 and the URS) to evaluate the accuracy and precision of analyses executed by the primary laboratory, Eurofins. Eurofins has served as the primary laboratory for water quality analysis since CCR monitoring began at the Site. The results of the split sampling and any recommendations for a possible laboratory transition will be presented in the 2022 GMCAR.
- *Groundwater Monitoring at Multiunit 1 and the URS.* Monitoring requirements pursuant to CFR § 257.95 have continued at both Multiunit 1 and the URS at a minimum on a semiannual basis. Monitoring of supplementary wells and additional water quality constituents in the vicinity of Multiunit 1 began in 2020 during the semiannual CCR monitoring events. This additional monitoring continued through 2021. Based



on evaluation of data through early 2021, further quarterly monitoring of a condensed list of constituents at select well locations was recommended for Multiunit 1. This quarterly monitoring was implemented during the December 2021 semiannual monitoring event at Four Corners, with transducers also deployed in select wells to assess water level changes within the area downgradient of the intercept trench located downgradient of Multiunit 1 and near Chaco Wash. The second and third subsequent quarterly Multiunit monitoring events were conducted during the first half of 2022 along with the first 2022 semiannual Site-wide CCR monitoring event. The final Multiunit quarterly monitoring event will occur early in the latter half of 2022. The additional monitoring has been conducted to evaluate groundwater conditions within the area of Multiunit 1 and downgradient of the southern intercept trench (SIT) system to assess both spatially and temporally heterogeneous concentrations of cobalt and molybdenum in select monitoring wells. Updated evaluations of the quarterly and semiannual monitoring event data are expected to be included in remedy selection reporting and the 2022 GMCAR.

- *Continued Evaluation of Exceedances at MW-87.* Since being installed in late 2018, cobalt and molybdenum have also been noted to intermittently exceed respective groundwater protection standards (GWPSs) in MW-87. Although the last exceedances of cobalt and molybdenum GWPSs occurred in November 2021 and June 2019 respectively, lithium concentrations in MW-87 have recently been increasing and exceedances of the lithium GWPS have been noted since November 2021. Evaluation of monitoring data collected to date (including additional monitoring described above) has been inconclusive and quarterly monitoring at MW-87 will continue into the latter half of 2022. The evaluation of analytical data from MW-87 will be summarized where applicable in remedy selection reporting and the 2022 GMCAR. Collection of surface water samples from Chaco Wash may also be warranted to evaluate the potential for the surface water to affect groundwater quality at MW-87 and likely other wells near the wash (see section below).
- *Chaco Wash Stream Gauge Installation Report.* Following successful installation of a stream gauging station within Chaco Wash in late 2021, an installation report and final drawing of the station have been completed. Once the station is online, stream stage data will provide comparisons to nearby groundwater elevations, insights into seasonal flow patterns, and inform ideal timeframes to collect Chaco Wash surface water samples (as mentioned above).
- *Operation of Extraction Wells at the URS.* In 2019 two extraction wells (CM-01, CM-02) were installed downgradient of the URS. To date, design and construction has been completed for a pilot-scale seepage extraction system for CM-01 and CM-02 to convey extracted water to a sump that discharges into the new Upper Retention Tank. This system is considered a corrective measures pilot study to evaluate the effectiveness of targeted extraction of groundwater downgradient of the URS with elevated fluoride concentrations. Transducers were installed in several wells around the URS and extraction system to monitor water level changes as the system became operational in early 2022. The pilot study also serves as an interim response measure and will inform remedy selection and design to address groundwater impacts at the URS.
- *Ongoing Operation of the Multiunit 1 SIT.* Operation of the existing SIT has continued into 2022 and will continue throughout the year as part of interim response measures at Multiunit 1. Annual contaminant mass removal estimates from the seepage collection system will be calculated and included in the 2022 GMCAR.

2. Future Planned Activities

APS plans to perform the following activities in support of remedy selection during the second half of 2022 (and in upcoming years, as noted):

- *Four Corners Statistical Data Analysis Work Plan.* The Site Statistical Data Analysis Work Plan (SDAWP) will be updated to include statistical evaluations to support units in corrective action (the Multiunit 1 and URS) and unit closure as needed. Statistical analyses will also be conducted for any noted Appendix IV

groundwater protection standard (GWPS) exceedances that are not currently constituents of concern (for which the Multiunit 1 or URS was originally phased into corrective action).

- *Construction Completion Report and Evaluation of URS Seepage Extraction Pilot Study.* A report summarizing construction and initial study activities of the pilot-scale seepage extraction system for the URS (section 1 above) will be completed early in the second half of 2022. A performance evaluation of the system and assessment of the data from transducers deployed in wells in the area will be summarized in the 2022 GMCAR.
- *Continued Operation of the Multiunit 1 SIT.* The seepage intercept system at Multiunit 1 will continue to serve as part of interim response measures until remedial activities begin. The seepage collection system will also likely be a part of final selected remedies.
- *Public Meeting.* APS will conduct a public meeting with interested and affected parties at least 30 days prior to selection of remedies for Multiunit 1 and the URS pursuant to 40 CFR §257.96(e). The public meeting is expected to take place during the second half of 2022 and will be documented in the 2022 GMCAR.
- *Remedy Selection Reports for Multiunit 1 and the URS.* After a public meeting to discuss the results of the corrective measures assessment occurs, APS will prepare a remedy selection report for each CCR unit which will document how the selected remedy will meet the requirements of 40 CFR §257.97(b).
- *Initiation of Remedial Activities.* Upon completion of the Multiunit 1 and URS Remedy Selection Reports, within 90 days APS will initiate and begin documentation of remedial activities for each CCR unit pursuant to 40 CFR §257.98(a).

Respectfully submitted,

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Reviewed by:



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