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TECHNICAL MEMORANDUM

February 13, 2026
File No. 0211090-005

TO: Associated Electric Cooperative, Inc.
Keslie Inman – Senior Environmental Analyst

FROM: Haley & Aldrich, Inc.
Steven F. Putrich, P.E., Principal Consultant – Engineering Principal
Mark Nicholls, P.G., Principal Consultant – Hydrogeologist

SUBJECT: September 2025 Groundwater Monitoring Results
New Madrid Power Plant Lined Pond
Marston, Missouri

Attached for your records is the summary table documenting the results of the September 2025 semiannual round of assessment monitoring for the New Madrid Power Plant Lined Pond in accordance with Title 40 Code of Federal Regulations § 257.95(d)(1) of the U.S. Environmental Protection Agency Federal Coal Combustion Residuals Rule **This semiannual assessment monitoring sampling event occurred from September 3 – 10, 2025, with laboratory results received and validated on December 23, 2025.** The assessment monitoring event included laboratory analyses for all Appendix III constituents and detected Appendix IV constituents identified during the November 2024 annual assessment monitoring sampling event. The summary of analytical results is provided in Table I.

Enclosure:

Table I – Summary of Analytical Results – September 2025 Semiannual Assessment Monitoring

TABLE

TABLE I
SUMMARY OF ANALYTICAL RESULTS - SEPTEMBER 2025 SEMIANNUAL ASSESSMENT MONITORING
ASSOCIATED ELECTRIC COOPERATIVE, INC.
NEW MADRID POWER PLANT - LINED POND (INACTIVE)
MARSTON, MISSOURI

Location	Upgradient			Downgradient						
	B-123	B-126	MW-16	P-6	P-7	MW-8	MW-9	MW-17	MW-18	MW-18 (Duplicate)
Measuring Point (TOC)	292.7	293.63	292.85	310.88	308.60	310.63	310.24	299.20	301.19	301.19
Sample Name	B-123	B-126	MW-16	P-6	P-7	MW-8	MW-9	MW-17	MW-18	LP-DUP-09-2025
Sample Date	9/4/2025	9/4/2025	9/3/2025	9/10/2025	9/10/2025	9/8/2025	9/8/2025	9/10/2025	9/10/2025	9/10/2025
Final Lab Report Date	10/20/2025	10/20/2025	10/20/2025	10/27/2025	10/27/2025	10/20/2025	10/20/2025	10/27/2025	10/27/2025	10/27/2025
Final Lab Report Revision Date	-	-	-	-	-	-	-	-	-	-
Final Radiation Lab Report Date	10/27/2025	10/27/2025	10/27/2025	11/18/2025	11/18/2025	10/27/2025	10/27/2025	11/18/2025	11/18/2025	11/18/2025
Lab Data Reviewed and Accepted	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025	12/23/2025
Depth to Water (ft btoc)	22.10	22.60	24.98	44.50	40.00	42.75	44.30	29.80	31.82	31.82
Temperature, Field (Deg C)	17.28	18.78	20.72	19.43	19.64	20.31	18.68	17.99	23.51	-
Conductivity, Field (µS/cm)	641	570	718	1120	984	995	914	750	485	-
Turbidity, Field (NTU)	95.3	5.9	0.0	19.0	10.0	3.8	0.0	10.0	4.5	-
pH, Field (su)	6.76	6.61	7.17	6.30	6.52	6.72	6.93	6.24	6.04	-
Dissolved Oxygen, Field (mg/L)	0.00	0.00	0.00	0.00	5.55	3.02	0.58	0.00	1.81	-
Oxidation Reduction Potential, Field (mV)	-84	42	-90	83	258	-6	-109	-65	194	-
Boron, Total (mg/L)	0.030	0.037	0.050	1.4	0.095	6.5	4.0	0.035	0.034	0.033
Calcium, Total (mg/L)	79	86	110	160	130	140	110	81	48	48
Chloride (mg/L)	3.8	5.2	7.7	8.5	9.2	8.5	15	11	9.8	9.8
Fluoride (mg/L)	0.537	0.251	0.888	< 0.250	< 0.250	< 0.250	0.579	< 0.250	< 0.250	< 0.250
Sulfate (mg/L)	24	15	52	29	47	80	150	63	45	46
pH (lab) (su)	7.08	7.13	7.06	6.89	7.01	7.09	7.26	6.95	6.75	7.30
TDS (mg/L)	380	350	380	520	460	550	500	380	250	260
Arsenic, Total (mg/L)	0.0054	0.0014	0.0011	0.0016	< 0.0010	0.0047	< 0.0010	0.0027	< 0.0010	< 0.0010
Barium, Total (mg/L)	0.30	0.44	0.50	0.21	0.24	0.16	0.086	0.23	0.11	0.11
Cobalt, Total (mg/L)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	0.0037	< 0.0020	< 0.0020	0.0027	0.0028
Lithium, Total (mg/L)	0.025	< 0.020	< 0.020	0.024	< 0.020	< 0.020	0.021	< 0.020	< 0.020	< 0.020
Molybdenum, Total (mg/L)	0.0042	0.0017	0.0013	< 0.0010	0.0011	0.43	0.35	< 0.0010	< 0.0010	< 0.0010
Selenium, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0085	< 0.0010	0.0016	< 0.0010	< 0.0010	< 0.0010
Mercury, Total (mg/L)	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Fluoride (mg/L)	0.537	0.251	0.888	< 0.250	< 0.250	< 0.250	0.579	< 0.250	< 0.250	< 0.250
Radium 226 & 228 Combined (pCi/L)	1.48 ± 0.580 (0.622)	1.41 ± 0.539 (0.589)	1.86 ± 0.683 (0.615)	1.32 ± 0.552 (0.689)	1.85 ± 0.516 (0.551)	1.65 ± 0.555 (0.652)	2.88 ± 0.917 (0.634)	1.49 ± 0.498 (0.524)	1.46 ± 0.589 (0.533)	0.626 ± 0.419 (0.541)

Notes:

Bold value: Detection above laboratory reporting limit or minimum detectable concentration (MDC).

Radiological results are presented as activity plus or minus uncertainty with MDC.

µS/cm = micro Siemens per centimeter

Deg C = degrees Celsius

ft btoc = feet below top of casing

mg/L = milligrams per liter

mV = millivolt

N/A = Not Applicable

NTU = Nephelometric Turbidity Unit

pCi/L = picoCuries per liter

su = standard unit

TOC = top of casing