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## TECHNICAL MEMORANDUM

February 6, 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 Pond 003  
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 Pond 003 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 through 9 and 29, 2025, with all laboratory results received and validated by January 21, 2026.** The assessment monitoring event included laboratory analyses for all Appendix III constituents and detected Appendix IV constituents identified during the May 2025 assessment monitoring annual sampling event. **Verification samples were collected from monitoring well MW-7 on November 24, 2025 and December 12, 2025 to confirm the cobalt analytical concentration for the sample collected on September 9, 2025.** The summary of analytical results is provided in Table I.

Enclosure:

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

## **TABLE**

**SUMMARY OF ANALYTICAL RESULTS - SEPTEMBER 2025 SEMIANNUAL ASSESSMENT MONITORING**

ASSOCIATED ELECTRIC COOPERATIVE, INC.

NEW MADRID POWER PLANT - POND 003

MARSTON, MISSOURI

Location	Upgradient			Downgradient										
	B-123	B-126	MW-16	MW-6	MW-6 DUPLICATE	MW-7	MW-7 RESAMPLE	MW-7 RESAMPLE	MW-8	MW-9	P-1	P-2	P-3	P-5
Measuring Point (TOC)	292.70	293.63	292.85	300.27	300.27	301.50	301.50	301.50	310.63	310.24	313.35	309.84	310.72	301.97
Sample Name	B-123	B-126	MW-16	MW-6	DUP-P3-09-2025	MW-7	MW-7	MW-7	MW-8	MW-9	P-1	P-2	P-3	P-5
Sample Date	09/04/2025	09/04/2025	09/03/2025	09/09/2025	09/09/2025	09/09/2025	11/24/2025	12/12/2025	09/08/2025	09/08/2025	09/08/2025	09/29/2025	09/29/2025	09/09/2025
Final Lab Report Date	10/20/2025	10/20/2025	10/20/2025	10/27/2025	10/27/2025	10/27/2025	12/9/2025	12/18/2025	10/20/2025	10/20/2025	10/27/2025	10/27/2025	10/27/2025	10/27/2025
Final Radiation Lab Report Date	10/27/2025	10/27/2025	10/27/2025	10/27/2025	10/27/2025	10/27/2025	-	-	10/27/2025	10/27/2025	10/27/2025	11/6/2025	11/6/2025	10/27/2025
Lab Data Reviewed and Accepted	12/23/2025	12/23/2025	12/23/2025	1/21/2026	1/21/2026	1/21/2026	1/21/2026	1/21/2026	12/23/2025	12/23/2025	1/21/2026	1/21/2026	1/21/2026	1/21/2026
Depth to Water (ft btoc)	22.10	22.60	24.98	36.50	36.50	35.07	42.85	42.77	43.94	45.87	55.03	51.96	52.23	34.80
Temperature (Deg C)	17.28	18.78	20.72	18.99	-	18.86	16.29	15.86	20.31	18.68	20.89	27.56	22.06	18.24
Conductivity, Field (µS/cm)	641	570	718	845	-	1070	1050	850	995	914	1080	1180	1090	906
Turbidity, Field (NTU)	95.3	5.9	0	0.0	-	0.0	0.0	0.0	3.8	0.0	0.0	21.5	3.8	6.9
pH (field) (su)	6.76	6.61	7.17	6.64	-	6.21	6.40	6.94	6.72	6.93	6.94	7.41	7.42	6.22
Dissolved Oxygen, Field (mg/L)	0.00	0.00	0.00	0.00	-	0.00	1.05	0.85	3.02	0.58	0.00	3.56	2.27	0.00
ORP, Field (mV)	-84	42	-90	287	-	85	217	244	-6	-109	-18	207	195	-71
Boron, Total (mg/L)	0.030	0.037	0.050	0.34	0.37	1.7	-	-	6.5	4.0	1.6	2.5	7.4	4.0
Calcium, Total (mg/L)	79	86	110	120	120	160	-	-	140	110	170	160	170	130
Chloride (mg/L)	3.8	5.2	7.7	< 1.0	< 1.0	2.7	-	-	8.5	15	14	11	14	8.8
Fluoride (mg/L)	0.537	0.251	0.888	0.375	0.368	0.300	-	-	< 0.250	0.579	0.294	0.416	0.564	< 0.250
Sulfate (mg/L)	24	15	52	31	32	99	-	-	80	150	210	320	150	110
pH (lab) (su)	7.08	7.13	7.06	6.86	7.51	6.63	-	-	7.09	7.26	7.17	7.17	1.50	6.76
TDS (mg/L)	380	350	380	450	390	610	-	-	550	500	740	780	2900	540
Arsenic, Total (mg/L)	0.0054	0.0014	0.0011	< 0.0010	< 0.0010	0.0030	-	-	0.0047	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0048
Barium, Total (mg/L)	0.30	0.44	0.50	0.16	0.15	0.13	-	-	0.16	0.086	0.072	0.086	0.11	0.11
Chromium, Total (mg/L)	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	-	-	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Cobalt, Total (mg/L)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	0.010	0.0072	0.0071	0.0037	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Lithium, Total (mg/L)	0.025	< 0.020	< 0.020	< 0.020	< 0.020	0.022	-	-	< 0.020	0.021	0.023	< 0.020	0.023	< 0.020
Molybdenum, Total (mg/L)	0.0042	0.0017	0.0013	0.0064	0.0070	1.3	-	-	0.43	0.35	0.023	0.30	1.1	0.26
Selenium, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.037	-	-	< 0.0010	0.0016	0.0022	0.023	0.0047	< 0.0010
Radium 226 & 228 Combined (pCi/L)	1.48 ± 0.580 (0.622)	1.41 ± 0.539 (0.589)	1.86 ± 0.683 (0.615)	1.30 ± 0.543 (0.656)	1.13 ± 0.613 (0.795)	2.19 ± 0.679 (0.774)	-	-	1.65 ± 0.555 (0.652)	2.88 ± 0.917 (0.634)	1.48 ± 0.706 (0.803)	0.623 ± 0.678 (1.01)	0.794 ± 0.745 (0.981)	2.11 ± 0.613 (0.795)

Notes:

\*\*P-4 not sampled due to low water levels

**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

N/A = Not Applicable

NTU = Nephelometric Turbidity Unit

pCi/L = picoCuries per liter

su = standard unit

TDS = total dissolved solids

TOC = top of casing