Union Electric
Callaway Plant

PO Box 620
Fulton, MO 65251

July 22, 2009

ULNRC-05640

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Ameren UE

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
2008 ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT

Reference: AmerenUE Letter ULNRC-05622, dated April 30, 2009.

The referenced letter transmitted to the NRC the 2008 Annual Radiological Environmental Operating Report (AREOR) for Callaway Plant. Please find enclosed pages supplemental to Appendix C of Part II to this report. In addition, a revision to page 11 of this report is enclosed.

As noted in the AREOR provided per the April 30, 2009 letter, the Offsite Dose Calculation Manual (ODCM) for Callaway was revised effective July 8, 2008 to require gamma spectroscopic analyses on particulate air samples in lieu of gross beta analysis. The associated plant procedure was revised to reflect the changes to the ODCM. However, the laboratory used to perform the analysis was not notified, and the required gamma spectroscopic analyses were not initially performed as intended. The 2008 AREOR stated in Section 3.3 that the results of the gamma spectrographic analyses would be provided in a supplemental report after completion of the analyses.

The error was discovered during review of the monthly progress reports from the laboratory and preparation of the 2008 AREOR. The laboratory has been notified of the changes to the ODCM and the new analytical requirements. Further, the analyses pursuant to the ODCM requirements have been performed. Attachment 1 provides the results of the gamma spectroscopic analyses that have been completed up through and including January 1, 2009.

Also enclosed is a revision of page 11 of the 2008 AREOR. This replacement page includes a statement referencing the value of the lower limit of detection (LLD) of tritium in surface water. This change is a clarification only. No change is made to the value of the mean concentration of tritium in surface water samples as reported in the 2008 AREOR. Attachment 2 provides the original page, followed by a marked-up page that indicates the correction to that page. Attachment 3 provides a clean copy of the corrected page.

These supplemental pages to the 2008 AREOR are submitted in accordance with Section 5.6.2 of the Technical Specifications and Appendix B to the Callaway Plant Operating License.

This letter does not contain new commitments.

If there are any questions, please contact us.

Sincerely,

Luke H. Graessle
Director, Operations Support

ACS/nls

Attachment 1: Supplemental Pages (Part II, Appendix C, Pages C–4-1 through C–4-5)

Attachment 2: Original and Marked-Up Pages (Page 11, Program Findings)

Attachment 3: Clean Typed Corrected Page (Page 11, Program Findings)

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ATTACHMENT 1

SUPPLEMENTAL PAGES
(Part II, Appendix C, Pages C–4-1 through C–4-5)

CALLAWAY

Table 2. Air particulates, analyses for gamma-emitting isotopes.
Collection: Continuous, weekly exchange.
Units: pCi/m^3
NOTE: Ba-La-140 results of 0.00 pCi/m^3 are >12 halflives.

Location		CA-A-001							
		Be-7	Co-58	Co-60	Zr-95	Cs-134	Cs-137	Ba-La-140	Ce-144
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected									
07-10-08		< 2.25	< 0.036	< 0.010	< 0.241	< 0.009	< 0.008	< 0.00	< 0.071
07-17-08		< 1.47	< 0.046	< 0.006	< 0.118	< 0.003	< 0.004	< 0.00	< 0.053
07-17-08	a	< 1.71	< 0.043	< 0.006	< 0.171	< 0.006	< 0.005	< 0.00	< 0.045
07-24-08		< 1.58	< 0.045	< 0.005	< 0.158	< 0.005	< 0.003	< 0.00	< 0.046
07-31-08		< 1.44	< 0.074	< 0.006	< 0.116	< 0.005	< 0.005	< 0.00	< 0.032
08-07-08		< 1.57	< 0.072	< 0.005	< 0.110	< 0.006	< 0.003	< 0.00	< 0.041
08-14-08		< 1.18	< 0.033	< 0.006	< 0.102	< 0.005	< 0.003	< 0.00	< 0.054
08-14-08	a	< 0.88	< 0.036	< 0.006	< 0.109	< 0.004	< 0.003	< 0.00	< 0.054
08-21-08		< 1.22	< 0.032	< 0.006	< 0.171	< 0.004	< 0.003	< 0.00	< 0.028
08-28-08		< 3.78	< 0.144	< 0.016	< 0.379	< 0.021	< 0.018	< 0.00	< 0.171
09-04-08		< 1.10	< 0.027	< 0.005	< 0.153	< 0.005	< 0.005	< 0.00	< 0.032
09-11-08		< 0.42	< 0.062	< 0.007	< 0.076	< 0.006	< 0.003	< 0.00	< 0.039
09-11-08	a	< 0.52	< 0.030	< 0.006	< 0.059	< 0.007	< 0.004	< 0.00	< 0.054
09-18-08		< 0.93	< 0.035	< 0.005	< 0.048	< 0.006	< 0.005	< 0.00	< 0.034
09-25-09		< 0.57	< 0.030	< 0.006	< 0.078	< 0.005	< 0.004	< 0.00	< 0.048
10-02-08		< 0.78	< 0.024	< 0.005	< 0.097	< 0.006	< 0.008	< 0.00	< 0.044
10-09-08		< 0.40	< 0.017	< 0.006	< 0.070	< 0.007	< 0.005	< 0.00	< 0.045
10-16-08		< 0.49	< 0.027	< 0.005	< 0.050	< 0.004	< 0.004	< 0.00	< 0.024
10-23-08		< 0.48	< 0.022	< 0.004	< 0.040	< 0.005	< 0.004	< 0.00	< 0.032
10-30-08		< 0.59	< 0.023	< 0.006	< 0.035	< 0.006	< 0.005	< 0.00	< 0.044
11-06-08		< 0.30	< 0.018	< 0.007	< 0.029	< 0.004	< 0.006	< 0.00	< 0.050
11-13-08		< 0.31	< 0.014	< 0.005	< 0.047	< 0.004	< 0.003	< 0.00	< 0.035
11-20-08		< 0.45	< 0.030	< 0.005	< 0.018	< 0.005	< 0.004	< 0.00	< 0.033
11-28-08		< 0.29	< 0.018	< 0.005	< 0.033	< 0.005	< 0.004	< 0.00	< 0.031
12-04-08		< 0.25	< 0.023	< 0.009	< 0.043	< 0.007	< 0.005	< 0.00	< 0.033
12-11-08		< 0.36	< 0.014	< 0.006	< 0.035	< 0.005	< 0.006	< 17.68	< 0.030
12-18-08		< 0.33	< 0.011	< 0.005	< 0.031	< 0.003	< 0.003	< 8.13	< 0.039
12-26-08		< 0.21	< 0.009	< 0.005	< 0.029	< 0.002	< 0.004	< 6.11	< 0.026
01-01-09		< 0.20	< 0.017	< 0.008	< 0.021	< 0.006	< 0.004	< 3.64	< 0.049

[a] Duplicate results.

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Table 2. Air particulates, analyses for gamma-emitting isotopes.
Collection: Continuous, weekly exchange.
Units: pCi/m^3
NOTE: Ba-La-140 results of 0.00 pCi/m^3 are >12 halflives.

Location		CA-A-007							
		Be-7	Co-58	Co-60	Zr-95	Cs-134	Cs-137	Ba-La-140	Ce-144
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected									
07-10-08		< 1.97	< 0.078	< 0.006	< 0.151	< 0.009	< 0.006	< 0.00	< 0.068
07-17-08		< 1.12	< 0.076	< 0.006	< 0.156	< 0.003	< 0.005	< 0.00	< 0.059
07-24-08		< 1.55	< 0.040	< 0.006	< 0.090	< 0.004	< 0.006	< 0.00	< 0.043
07-31-08		< 0.57	< 0.061	< 0.005	< 0.109	< 0.003	< 0.003	< 0.00	< 0.044
08-07-08		< 1.26	< 0.046	< 0.004	< 0.107	< 0.005	< 0.005	< 0.00	< 0.028
08-14-08		< 1.32	< 0.030	< 0.007	< 0.159	< 0.004	< 0.004	< 0.00	< 0.054
08-21-08		< 0.72	< 0.054	< 0.005	< 0.083	< 0.003	< 0.004	< 0.00	< 0.031
08-28-08		< 1.53	< 0.057	< 0.005	< 0.138	< 0.006	< 0.005	< 0.00	< 0.076
09-04-08		< 1.05	< 0.036	< 0.005	< 0.091	< 0.004	< 0.005	< 0.00	< 0.047
09-11-08		< 0.64	< 0.041	< 0.006	< 0.101	< 0.004	< 0.004	< 0.00	< 0.039
09-18-08		< 0.74	< 0.054	< 0.006	< 0.126	< 0.006	< 0.007	< 0.00	< 0.042
09-25-09		< 0.79	< 0.025	< 0.005	< 0.033	< 0.004	< 0.005	< 0.00	< 0.044
10-02-08		< 0.50	< 0.025	< 0.003	< 0.046	< 0.004	< 0.004	< 0.00	< 0.035
10-09-08		< 0.73	< 0.022	< 0.006	< 0.080	< 0.005	< 0.005	< 0.00	< 0.028
10-16-08		< 0.58	< 0.030	< 0.005	< 0.064	< 0.006	< 0.004	< 0.00	< 0.034
10-23-08		< 0.54	< 0.017	< 0.006	< 0.030	< 0.005	< 0.003	< 0.00	< 0.039
10-23-08	[a]	< 0.67	< 0.018	< 0.005	< 0.050	< 0.004	< 0.003	< 0.00	< 0.038
10-30-08		< 0.57	< 0.027	< 0.007	< 0.047	< 0.003	< 0.006	< 0.00	< 0.033
11-06-08		< 0.52	< 0.021	< 0.005	< 0.037	< 0.004	< 0.003	< 0.00	< 0.025
11-13-08		< 0.44	< 0.022	< 0.006	< 0.031	< 0.005	< 0.004	< 0.00	< 0.026
11-20-08		< 0.36	< 0.020	< 0.005	< 0.039	< 0.005	< 0.004	< 0.00	< 0.048
11-20-08	[a]	< 0.27	< 0.015	< 0.005	< 0.053	< 0.003	< 0.005	< 0.00	< 0.028
11-28-08		< 0.19	< 0.018	< 0.005	< 0.021	< 0.005	< 0.003	< 0.00	< 0.023
12-04-08		< 0.61	< 0.021	< 0.005	< 0.072	< 0.009	< 0.009	< 0.00	< 0.056
12-11-08		< 0.37	< 0.021	< 0.004	< 0.044	< 0.007	< 0.007	< 8.72	< 0.047
12-18-08		< 0.31	< 0.012	< 0.004	< 0.027	< 0.005	< 0.004	< 14.84	< 0.053
12-18-08	[a]	< 0.22	< 0.009	< 0.005	< 0.025	< 0.005	< 0.004	< 9.70	< 0.035
12-26-08		< 0.24	< 0.008	< 0.005	< 0.017	< 0.004	< 0.003	< 5.94	< 0.025
01-01-09		< 0.26	< 0.010	< 0.008	< 0.015	< 0.004	< 0.004	< 2.60	< 0.044

[a] Duplicate results.

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Table 2. Air particulates, analyses for gamma-emitting isotopes.
Collection: Continuous, weekly exchange.
Units: pCi/m^3
NOTE: Ba-La-140 results of 0.00 pCi/m^3 are >12 halflives.

Location	CA-A-008							
	Be-7	Co-58	Co-60	Zr-95	Cs-134	Cs-137	Ba-La-140	Ce-144
Required LLDs	-	-	-	-	0.050	0.060	-	-
Date Collected								
07-10-08	< 2.00	< 0.072	< 0.005	< 0.258	< 0.005	< 0.008	< 0.00	< 0.053
07-17-08	< 1.24	< 0.055	< 0.006	< 0.214	< 0.004	< 0.004	< 0.00	< 0.056
07-24-08	< 0.98	< 0.036	< 0.005	< 0.194	< 0.007	< 0.005	< 0.00	< 0.049
07-31-08	< 1.34	< 0.038	< 0.007	< 0.150	< 0.003	< 0.005	< 0.00	< 0.062
08-07-08	< 1.45	< 0.059	< 0.006	< 0.175	< 0.006	< 0.003	< 0.00	< 0.064
08-14-08					ND[a]			
08-21-08	< 1.09	< 0.040	< 0.005	< 0.136	< 0.003	< 0.003	< 0.00	< 0.030
08-28-08	< 0.98	< 0.062	< 0.007	< 0.100	< 0.006	< 0.006	< 0.00	< 0.052
09-04-08	< 0.66	< 0.044	< 0.005	< 0.071	< 0.004	< 0.006	< 0.00	< 0.047
09-11-08	< 0.73	< 0.047	< 0.006	< 0.087	< 0.003	< 0.004	< 0.00	< 0.048
09-18-08	< 1.11	< 0.058	< 0.004	< 0.075	< 0.007	< 0.005	< 0.00	< 0.052
09-25-09	< 0.46	< 0.031	< 0.005	< 0.041	< 0.006	< 0.005	< 0.00	< 0.028
10-02-08	< 0.55	< 0.022	< 0.004	< 0.071	< 0.005	< 0.004	< 0.00	< 0.048
10-09-08	< 0.67	< 0.022	< 0.006	< 0.085	< 0.003	< 0.004	< 0.00	< 0.050
10-16-08	< 0.61	< 0.027	< 0.005	< 0.040	< 0.006	< 0.002	< 0.00	< 0.038
10-23-08	< 0.37	< 0.022	< 0.005	< 0.065	< 0.006	< 0.004	< 0.00	< 0.038
10-30-08	< 0.54	< 0.018	< 0.006	< 0.084	< 0.003	< 0.004	< 0.00	< 0.031
11-06-08	< 0.47	< 0.018	< 0.008	< 0.032	< 0.003	< 0.003	< 0.00	< 0.050
11-13-08	< 0.47	< 0.027	< 0.004	< 0.047	< 0.005	< 0.004	< 0.00	< 0.040
11-20-08	< 0.33	< 0.012	< 0.005	< 0.053	< 0.004	< 0.003	< 0.00	< 0.045
11-28-08	< 0.31	< 0.010	< 0.005	< 0.027	< 0.003	< 0.005	< 0.00	< 0.039
12-04-08	< 0.29	< 0.014	< 0.007	< 0.036	< 0.008	< 0.004	< 0.00	< 0.058
12-11-08	< 0.23	< 0.008	< 0.005	< 0.040	< 0.004	< 0.004	< 24.67	< 0.039
12-18-08	< 0.23	< 0.010	< 0.005	< 0.032	< 0.004	< 0.004	< 8.25	< 0.045
12-26-08	< 0.20	< 0.017	< 0.004	< 0.038	< 0.006	< 0.005	< 4.87	< 0.041
01-01-09	< 0.30	< 0.012	< 0.007	< 0.027	< 0.005	< 0.005	< 2.61	< 0.028

[a] "ND" = No data; volume of 35.7 m^3 not enough for viable sample.

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Table 2. Air particulates, analyses for gamma-emitting isotopes.
Collection: Continuous, weekly exchange.
Units: pCi/m^3
NOTE: Ba-La-140 results of 0.00 pCi/m^3 are >12 halflives.

Location	CA-A-009							
	Be-7	Co-58	Co-60	Zr-95	Cs-134	Cs-137	Ba-La-140	Ce-144
Required LLDs	-	-	-	-	0.050	0.060	-	-
Date Collected								
07-10-08	< 2.11	< 0.100	< 0.005	< 0.215	< 0.008	< 0.007	< 0.00	< 0.055
07-17-08	< 0.76	< 0.037	< 0.005	< 0.168	< 0.003	< 0.003	< 0.00	< 0.045
07-24-08	< 1.54	< 0.051	< 0.006	< 0.077	< 0.002	< 0.004	< 0.00	< 0.052
07-31-08	< 1.10	< 0.052	< 0.006	< 0.118	< 0.005	< 0.004	< 0.00	< 0.053
08-07-08	< 1.20	< 0.035	< 0.004	< 0.073	< 0.006	< 0.004	< 0.00	< 0.044
08-14-08	< 0.80	< 0.053	< 0.006	< 0.081	< 0.006	< 0.004	< 0.00	< 0.033
08-21-08	< 1.29	< 0.034	< 0.006	< 0.125	< 0.007	< 0.003	< 0.00	< 0.048
08-28-08	< 0.88	< 0.025	< 0.004	< 0.105	< 0.005	< 0.003	< 0.00	< 0.024
09-04-08	< 1.19	< 0.041	< 0.005	< 0.092	< 0.003	< 0.005	< 0.00	< 0.050
09-11-08	< 0.79	< 0.038	< 0.005	< 0.081	< 0.006	< 0.004	< 0.00	< 0.049
09-18-08	< 0.83	< 0.026	< 0.004	< 0.069	< 0.005	< 0.004	< 0.00	< 0.025
09-25-09	< 0.53	< 0.028	< 0.005	< 0.124	< 0.004	< 0.005	< 0.00	< 0.045
10-02-08	< 0.95	< 0.024	< 0.006	< 0.113	< 0.006	< 0.005	< 0.00	< 0.061
10-09-08	< 0.59	< 0.018	< 0.005	< 0.038	< 0.004	< 0.004	< 0.00	< 0.031
10-16-08	< 0.63	< 0.032	< 0.005	< 0.084	< 0.006	< 0.004	< 0.00	< 0.043
10-23-08	< 0.59	< 0.024	< 0.005	< 0.067	< 0.003	< 0.006	< 0.00	< 0.032
10-30-08	< 0.60	< 0.014	< 0.006	< 0.025	< 0.008	< 0.005	< 0.00	< 0.036
11-06-08	< 0.50	< 0.025	< 0.004	< 0.035	< 0.005	< 0.006	< 0.00	< 0.031
11-13-08	< 0.53	< 0.013	< 0.005	< 0.065	< 0.007	< 0.005	< 0.00	< 0.038
11-20-08	< 0.39	< 0.021	< 0.005	< 0.054	< 0.003	< 0.004	< 0.00	< 0.035
11-28-08	< 0.27	< 0.013	< 0.003	< 0.032	< 0.005	< 0.003	< 0.00	< 0.021
12-04-08	< 0.36	< 0.019	< 0.004	< 0.027	< 0.005	< 0.005	< 0.00	< 0.038
12-11-08	< 0.26	< 0.014	< 0.006	< 0.046	< 0.005	< 0.005	< 14.08	< 0.032
12-18-08	< 0.37	< 0.017	< 0.006	< 0.034	< 0.003	< 0.003	< 8.29	< 0.036
12-26-08	< 0.31	< 0.013	< 0.004	< 0.042	< 0.006	< 0.007	< 5.57	< 0.051
01-01-09	< 0.20	< 0.009	< 0.007	< 0.021	< 0.005	< 0.005	< 3.36	< 0.045

CALLAWAY

Table 2. Air particulates, analyses for gamma-emitting isotopes.
Collection: Continuous, weekly exchange.
Units: pCi/m^3
NOTE: Ba-La-140 results of 0.00 pCi/m^3 are >12 halflives.

Location	CA-B-003							
	Be-7	Co-58	Co-60	Zr-95	Cs-134	Cs-137	Ba-La-140	Ce-144
Required LLDs	-	-	-	-	0.050	0.060	-	-
Date Collected								
07-10-08	< 1.70	< 0.049	< 0.005	< 0.165	< 0.005	< 0.004	< 0.00	< 0.042
07-17-08	< 1.94	< 0.043	< 0.006	< 0.108	< 0.005	< 0.003	< 0.00	< 0.036
07-24-08	< 1.26	< 0.039	< 0.006	< 0.192	< 0.003	< 0.003	< 0.00	< 0.035
07-31-08	< 1.54	< 0.038	< 0.006	< 0.207	< 0.005	< 0.005	< 0.00	< 0.054
08-07-08	< 1.42	< 0.036	< 0.004	< 0.127	< 0.006	< 0.004	< 0.00	< 0.048
08-14-08	< 0.95	< 0.033	< 0.005	< 0.112	< 0.004	< 0.003	< 0.00	< 0.025
08-21-08	< 0.89	< 0.042	< 0.006	< 0.050	< 0.005	< 0.005	< 0.00	< 0.042
08-28-08	< 0.74	< 0.035	< 0.004	< 0.046	< 0.005	< 0.003	< 0.00	< 0.030
09-04-08	< 0.87	< 0.031	< 0.005	< 0.064	< 0.006	< 0.003	< 0.00	< 0.041
09-11-08	< 0.45	< 0.043	< 0.005	< 0.053	< 0.005	< 0.004	< 0.00	< 0.040
09-18-08	< 0.50	< 0.021	< 0.003	< 0.067	< 0.004	< 0.003	< 0.00	< 0.024
09-25-09	< 0.46	< 0.016	< 0.005	< 0.067	< 0.005	< 0.004	< 0.00	< 0.035
10-02-08	< 0.47	< 0.028	< 0.004	< 0.098	< 0.005	< 0.006	< 0.00	< 0.049
10-09-08	< 0.91	< 0.033	< 0.005	< 0.058	< 0.007	< 0.006	< 0.00	< 0.066
10-16-08	< 0.66	< 0.017	< 0.004	< 0.060	< 0.004	< 0.003	< 0.00	< 0.031
10-23-08	< 0.35	< 0.029	< 0.006	< 0.064	< 0.005	< 0.003	< 0.00	< 0.048
10-30-08	< 0.44	< 0.025	< 0.007	< 0.060	< 0.004	< 0.004	< 0.00	< 0.041
11-06-08	< 0.32	< 0.019	< 0.004	< 0.040	< 0.004	< 0.003	< 0.00	< 0.036
11-13-08	< 0.51	< 0.026	< 0.005	< 0.075	< 0.005	< 0.005	< 0.00	< 0.044
11-20-08	< 0.24	< 0.021	< 0.006	< 0.057	< 0.004	< 0.005	< 0.00	< 0.035
11-28-08	< 0.21	< 0.021	< 0.004	< 0.034	< 0.003	< 0.004	< 0.00	< 0.032
12-04-08	< 0.40	< 0.016	< 0.005	< 0.037	< 0.007	< 0.004	< 0.00	< 0.032
12-11-08	< 0.28	< 0.019	< 0.006	< 0.055	< 0.008	< 0.004	< 11.84	< 0.046
12-18-08	< 0.13	< 0.020	< 0.006	< 0.014	< 0.003	< 0.004	< 8.28	< 0.050
12-26-08	< 0.23	< 0.008	< 0.004	< 0.017	< 0.005	< 0.004	< 3.33	< 0.037
01-01-09	< 0.15	< 0.008	< 0.009	< 0.022	< 0.004	< 0.006	< 2.63	< 0.042

4.2 Program Findings (continued)

Fish

All gamma-emitting isotopes, except naturally-occurring potassium-40, in edible portions were below detection limits. The potassium-40 levels were similar at both indicator and control locations (2,867 and 2,717 pCi/kg wet, respectively).

No plant effect on the fish population is indicated.

Soil

Cesium-137 activity was detected at both indicator and control locations, at average concentrations of 523 and 231 pCi/kg dry, respectively. The cesium-137 activity is similar to or less than levels observed from 1998 through 2007, these levels are generally attributable to deposition of fallout from previous decades.

Naturally-occurring potassium-40 averaged 11,784 pCi/kg dry weight.

Analysis results for soil samples in 2008 were consistent with previously accumulated data and no plant operational effects were identified.

Surface Water

The automatic sampler at location S01 was operable 100% of the time during 2008 and 94% of the time at location S02. Grab samples were taken as required.

Tritium was the only radionuclide detected in surface water samples collected during 2008. Three of twelve surface water samples collected at indicator location S02, contained measurable levels of tritium with a mean concentration of 398 pCi/L. The results are less than 2.5% of the reporting limit in surface water and well within regulatory requirements. Tritium results for location S02 are being trended along with monthly liquid H-3 releases and Missouri river flow. The 2008 results are consistent with previous operational levels and there was no significant radiological impact on the health and safety of the public or the environment.

Gamma spectroscopic analysis for surface water samples were consistent with previously accumulated data and no plant operational effects were identified.

Ground and Drinking Water (potable water)

Potable ground water from wells D-01 and PW-01 was tested for gross beta, tritium, iodine-131 and gamma-emitting isotopes. The mean gross beta activity measured 5.5 pCi/L, ranging from 4.0 to 8.6 pCi/L and similar to levels observed from 1998 through 2007. Iodine-131, tritium and gamma-emitting isotopes all measured below detection levels.

An additional twenty-one wells were added to the program in 2008 and monitored for tritium. No activity was measured above detection level (179 pCi/L) in any of the samples. Ten of the wells were monitored for gamma-emitters. No activities were detected above the respective LLDs.

Analysis results for ground water samples were consistent with previously accumulated data and no plant operational effects were identified.

ATTACHMENT 2

ORIGINAL AND MARKED-UP PAGES
(Page 11, Program Findings)

Note: The affected, original page is followed by the corresponding marked-up, corrected page.

4.2 Program Findings (continued)

Fish

All gamma-emitting isotopes, except naturally-occurring potassium-40, in edible portions were below detection limits. The potassium-40 levels were similar at both indicator and control locations (2,867 and 2,717 pCi/kg wet, respectively).

No plant effect on the fish population is indicated.

Soil

Cesium-137 activity was detected at both indicator and control locations, at average concentrations of 523 and 231 pCi/kg dry, respectively. The cesium-137 activity is similar to or less than levels observed from 1998 through 2007, these levels are generally attributable to deposition of fallout from previous decades.

Naturally-occurring potassium-40 averaged 11,784 pCi/kg dry weight.

Analysis results for soil samples in 2008 were consistent with previously accumulated data and no plant operational effects were identified.

Surface Water

The automatic sampler at location S01 was operable 100% of the time during 2008 and 94% of the time at location S02. Grab samples were taken as required.

Tritium was the only radionuclide detected in surface water samples collected during 2008. Three of twelve surface water samples collected at indicator location S02, contained measurable levels of tritium with a mean concentration of 398 pCi/L. The results are less than 2.5% of the reporting limit in surface water and well within regulatory requirements. Tritium results for location S02 are being trended along with monthly liquid H-3 releases and Missouri river flow. The 2008 results are consistent with previous operational levels and there was no significant radiological impact on the health and safety of the public or the environment.

Gamma spectroscopic analysis for surface water samples were consistent with previously accumulated data and no plant operational effects were identified.

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Potable ground water from wells D-01 and PW-01 was tested for gross beta, tritium, iodine-131 and gamma-emitting isotopes. The mean gross beta activity measured 5.5 pCi/L, ranging from 4.0 to 8.6 pCi/L and similar to levels observed from 1998 through 2007. Iodine-131, tritium and gamma-emitting isotopes all measured below detection levels.

An additional twenty-one wells were added to the program in 2008 and monitored for tritium. No activity was measured above detection level (179 pCi/L) in any of the samples. Ten of the wells were monitored for gamma-emitters. No activities were detected above the respective LLDs.

Analysis results for ground water samples were consistent with previously accumulated data and no plant operational effects were identified.

ABOVE THE LLD VALUE OF 180 pCi/L,

ATTACHMENT 3

CLEAN TYPED CORRECTED PAGE
(Page 11, Program Findings)

4.2 Program Findings (continued)

Fish

All gamma-emitting isotopes, except naturally-occurring potassium-40, in edible portions were below detection limits. The potassium-40 levels were similar at both indicator and control locations (2,867 and 2,717 pCi/kg wet, respectively).

No plant effect on the fish population is indicated.

Soil

Cesium-137 activity was detected at both indicator and control locations, at average concentrations of 523 and 231 pCi/kg dry, respectively. The cesium-137 activity is similar to or less than levels observed from 1998 through 2007, these levels are generally attributable to deposition of fallout from previous decades.

Naturally-occurring potassium-40 averaged 11,784 pCi/kg dry weight.

Analysis results for soil samples in 2008 were consistent with previously accumulated data and no plant operational effects were identified.

Surface Water

The automatic sampler at location S01 was operable 100% of the time during 2008 and 94% of the time at location S02. Grab samples were taken as required.

Tritium was the only radionuclide detected in surface water samples collected during 2008. Three of twelve surface water samples collected at indicator location S02, contained measurable levels of tritium above the LLD value of 180 pCi/L, with a mean concentration of 398 pCi/L. The results are less than 2.5% of the reporting limit in surface water and well within regulatory requirements. Tritium results for location S02 are being trended along with monthly liquid H-3 releases and Missouri river flow. The 2008 results are consistent with previous operational levels and there was no significant radiological impact on the health and safety of the public or the environment.

Gamma spectroscopic analysis for surface water samples were consistent with previously accumulated data and no plant operational effects were identified.

Ground and Drinking Water (potable water)

Potable ground water from wells D-01 and PW-01 was tested for gross beta, tritium, iodine-131 and gamma-emitting isotopes. The mean gross beta activity measured 5.5 pCi/L, ranging from 4.0 to 8.6 pCi/L and similar to levels observed from 1998 through 2007. Iodine-131, tritium and gamma-emitting isotopes all measured below detection levels.

An additional twenty-one wells were added to the program in 2008 and monitored for tritium. No activity was measured above detection level (179 pCi/L) in any of the samples. Ten of the wells were monitored for gamma-emitters. No activities were detected above the respective LLDs.

Analysis results for ground water samples were consistent with previously accumulated data and no plant operational effects were identified.