

April 28, 2006

Mr. William Snell
U.S. Nuclear Regulatory Commission
Region III
2443 Warrenville Road
Lisle, IL 60532-4351

**SUBJECT: ANALYTICAL RESULTS FOR ONE WATER SAMPLE, BATCH FOUR,
FROM THE VICINITY OF THE BRAIDWOOD NUCLEAR GENERATING
STATION, BRAIDWOOD, ILLINOIS
(INSPECTION REPORT NO. 050-00456/2006-003] RFTA NO. 06-001)**

Dear Mr. Snell:

The Oak Ridge Institute for Science and Education (ORISE) received 14 water samples, Batch Four, on April 25 that were collected in the vicinity of the Braidwood Nuclear Generating Station in Braidwood, Illinois. The Request for Analysis form listed sample BD-06-4-11 (ORISE sample number 1691W0120) for expedited processing by gamma spectroscopy (GS) (Procedure CP1, Revision 15) and by liquid scintillation analysis (Procedures AP2, Revision 15 and CP4, Revision 3). This water sample was analyzed for tritium to a minimum detectable concentration (MDC) of 200 pCi/L. The tritium concentration was 220 ± 120 pCi/L with a MDC of 200 pCi/L. The GS data are presented in Table 1. The analytical results for the remaining 13 samples will be submitted in a separate letter report as soon as possible after completion of the analyses.

ORISE's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

My contact information is listed below. You may also contact Wade Ivey at 865.576.9184 with any questions or comments.

Sincerely,



Dale Condra, Manager
Laboratory

RDC:WPI:ar

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TABLE 1

**CONCENTRATIONS OF SELECTED
GAMMA EMITTING RADIONUCLIDES
IN A WATER SAMPLE
BY GAMMA SPECTROSCOPY CP1, REVISION 15
BRAIDWOOD NUCLEAR GENERATING STATION
BRAIDWOOD, ILLINOIS**

ORISE Sample ID	NRC Region III Sample ID	Radionuclide Concentrations ^a (pCi/L)			
		Co-58	Co-60	Cs-134	Cs-137
1691W0120	BD-06-4-11	1.5 ± 4.3 ^b	0.7 ± 4.8	0.6 ± 4.6	1.8 ± 4.1

^aThe range of MDCs for the selected radionuclides is 7.2 pCi/L to 8.4 pCi/L.

^bUncertainties represent the 95% confidence level, based on total propagated uncertainties.