

March 31, 2008

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

**SUBJECT: LETTER REPORT FOR 23 WATER SAMPLES FROM THE VICINITY OF
THE BRAIDWOOD NUCLEAR GENERATING STATION,
BRAIDWOOD, ILLINOIS
[INSPECTION REPORT NO. 050-00456/2007-006] (RFTA NO. 07-005)
DCN: 1766-LR-01-0**

Dear Mr. Snell:

The Oak Ridge Institute for Science and Education (ORISE) received 23 water samples associated with the Braidwood Nuclear Generating Station on December 28, 2007. The sample analysis was delayed until authorization was received from the Office of Nuclear Reactor Regulation on February 29, 2008. The samples were analyzed for tritium to an averaged minimum detectable concentration of 180 pCi/L using a liquid scintillation analyzer. The sample identifications and collection data are presented in Table 1. The tritium data are presented in Table 2. The pertinent procedure references are provided in the specific tables.

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:km

Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5
E. Knox-Davin, NRC/NMSS/TWFN 8A23
File 1766

E. Abelquist, ORISE
S. Roberts, ORISE

Distribution approval and concurrence :	Initials
Technical Management Team Member	DDR
Quality Manager	TCS GRATP

Voice: 865.241.3242

Fax: 865.41.3248

E-mail: Dale.Condra@orau.org

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TABLE 1

**SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
BRAIDWOOD NUCLEAR GENERATING STATION
BRAIDWOOD, ILLINOIS**

ORISE Sample ID	NRC Region III Sample ID	Collection Date	Collection Time
1766W0001	BD-07-6-01	12/12/2007	9:00am
1766W0002	BD-07-6-02	12/12/2007	9:45am
1766W0003	BD-07-6-03	12/12/2007	10:35am
1766W0004	BD-07-6-04	12/12/2007	11:20am
1766W0005	BD-07-6-05	12/12/2007	11:52am
1766W0006	BD-07-6-06	12/12/2007	1:45pm
1766W0007	BD-07-6-07	12/12/2007	2:15pm
1766W0008	BD-07-6-08	12/12/2007	2:52pm
1766W0009	BD-07-6-09	12/12/2007	3:20pm
1766W0010	BD-07-6-10	12/12/2007	3:55pm
1766W0011	BD-07-6-11	12/12/2007	9:03am
1766W0012	BD-07-6-12	12/12/2007	9:43am
1766W0013	BD-07-6-13	12/12/2007	10:38am
1766W0014	BD-07-6-14	12/12/2007	11:17am
1766W0015	BD-07-6-15	12/12/2007	11:50am
1766W0016	BD-07-6-16	12/12/2007	1:38pm
1766W0017	BD-07-6-17	12/12/2007	2:12pm
1766W0018	BD-07-6-18	12/12/2007	2:46pm
1766W0019	BD-07-6-19	12/12/2007	3:22pm
1766W0020	BD-07-6-20	12/12/2007	4:07pm
1766W0021	BD-07-6-21	12/12/2007	10:30am
1766W0022	BD-07-6-22	12/12/2007	10:10am
1766W0023	BD-07-6-23	12/12/2007	9:25am

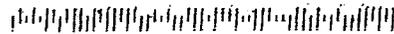
TABLE 2

**TRITIUM CONCENTRATIONS
IN WATER SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP2, REVISION 16 AND CP4, REVISION 3
BRAIDWOOD NUCLEAR GENERATING STATION
BRAIDWOOD, ILLINOIS**

ORISE Sample ID	NRC Region III Sample ID	Tritium Concentrations (pCi/L)
1766W0001	BD-07-6-01	17,130 ± 830 ^a , 180 ^b
1766W0002	BD-07-6-02	10 ± 110 , 180
1766W0003	BD-07-6-03	170 ± 110 , 180
1766W0004	BD-07-6-04	90 ± 110 , 180
1766W0005	BD-07-6-05	110 ± 110 , 180
1766W0006	BD-07-6-06	40 ± 110 , 180
1766W0007	BD-07-6-07	80 ± 110 , 180
1766W0008	BD-07-6-08	130 ± 110 , 180
1766W0009	BD-07-6-09	440 ± 120 , 180
1766W0010	BD-07-6-10	3,670 ± 250 , 180
1766W0011	BD-07-6-11	8,110 ± 440 , 180
1766W0012	BD-07-6-12	3,630 ± 250 , 180
1766W0013	BD-07-6-13	10 ± 110 , 180
1766W0014	BD-07-6-14	260 ± 110 , 180
1766W0015	BD-07-6-15	70 ± 110 , 180
1766W0016	BD-07-6-16	4,780 ± 290 , 180
1766W0017	BD-07-6-17	250 ± 110 , 170
1766W0018	BD-07-6-18	1,260 ± 150 , 170
1766W0019	BD-07-6-19	560 ± 120 , 170
1766W0020	BD-07-6-20	100 ± 100 , 170
1766W0021	BD-07-6-21	120 ± 100 , 170
1766W0022	BD-07-6-22	350 ± 110 , 170
1766W0023	BD-07-6-23	530 ± 120 , 170

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

^bMDCs are presented after the comma.



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