

September 10, 2007

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

SUBJECT: LETTER REPORT FOR 20 WATER SAMPLES FROM THE VICINITY OF THE BRAIDWOOD NUCLEAR GENERATING STATION, BRAIDWOOD, ILLINOIS [INSPECTION REPORT NO. 050-00456/2007-005] (RFTA NO. 07-005)

Dear Mr. Snell:

The Oak Ridge Institute for Science and Education (ORISE) received 20 water samples associated with the Braidwood Nuclear Generating Station on August 23, 2007. The samples were analyzed for tritium to an average 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

c: T. Carter, NMSS/DWMEP 7J8
E. Knox-Davin, NRC/NMSS/TWFN 8A23
File 1751

E. Abelquist, ORISE
S. Roberts, ORISE

| Distribution approval and concurrence : | Initials |
|---|-----------|
| Technical Management Team Member | WCA & SJR |
| Quality Manager | ATP |

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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 |
|----------------------------|-------------------------------------|------------------------|----------------------------|
| 1751W0001 | BD-07-4-01 | 06/19/2007 | NDP ^a |
| 1751W0002 | BD-07-4-02 | 06/19/2007 | NDP |
| 1751W0003 | BD-07-4-03 | 06/19/2007 | NDP |
| 1751W0004 | BD-07-4-04 | 06/19/2007 | NDP |
| 1751W0005 | BD-07-4-05 | 06/19/2007 | NDP |
| 1751W0006 | BD-07-4-06 | 06/19/2007 | NDP |
| 1751W0007 | BD-07-4-07 | 06/19/2007 | NDP |
| 1751W0008 | BD-07-4-08 | 06/19/2007 | NDP |
| 1751W0009 | BD-07-4-09 | 06/19/2007 | NDP |
| 1751W0010 | BD-07-4-10 | 06/19/2007 | NDP |
| 1751W0011 | BD-07-4-11 | 06/19/2007 | NDP |
| 1751W0012 | BD-07-4-12 | 06/19/2007 | NDP |
| 1751W0013 | BD-07-4-13 | 06/19/2007 | NDP |
| 1751W0014 | BD-07-4-14 | 06/19/2007 | NDP |
| 1751W0015 | BD-07-4-15 | 06/19/2007 | NDP |
| 1751W0016 | BD-07-4-16 | 06/19/2007 | NDP |
| 1751W0017 | BD-07-4-17 | 06/19/2007 | NDP |
| 1751W0018 | BD-07-4-18 | 06/21/2007 | NDP |
| 1751W0019 | BD-07-4-19 | 06/21/2007 | NDP |
| 1751W0020 | BD-07-4-20 | 07/27/2007 | NDP |

^aNo data provided.

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) |
|--------------------|-----------------------------|---|
| 1751W0001 | BD-07-4-01 | -50 ± 110 ^a , 180 ^b |
| 1751W0002 | BD-07-4-02 | 80 ± 110 , 180 |
| 1751W0003 | BD-07-4-03 | -50 ± 110 , 180 |
| 1751W0004 | BD-07-4-04 | 40 ± 110 , 180 |
| 1751W0005 | BD-07-4-05 | -10 ± 110 , 180 |
| 1751W0006 | BD-07-4-06 | 10 ± 110 , 180 |
| 1751W0007 | BD-07-4-07 | 30 ± 110 , 180 |
| 1751W0008 | BD-07-4-08 | -70 ± 100 , 180 |
| 1751W0009 | BD-07-4-09 | -80 ± 100 , 180 |
| 1751W0010 | BD-07-4-10 | 1,910 ± 170 , 180 |
| 1751W0011 | BD-07-4-11 | 110 ± 110 , 180 |
| 1751W0012 | BD-07-4-12 | 780 ± 130 , 180 |
| 1751W0013 | BD-07-4-13 | -40 ± 110 , 180 |
| 1751W0014 | BD-07-4-14 | 70 ± 110 , 180 |
| 1751W0015 | BD-07-4-15 | 1,860 ± 170 , 180 |
| 1751W0016 | BD-07-4-16 | 30 ± 110 , 180 |
| 1751W0017 | BD-07-4-17 | 670 ± 130 , 180 |
| 1751W0018 | BD-07-4-18 | 530 ± 120 , 180 |
| 1751W0019 | BD-07-4-19 | 30 ± 110 , 180 |
| 1751W0020 | BD-07-4-20 | 870 ± 130 , 180 |

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

^bMDCs are after the comma.