

December 20, 2007

Mr. Duane Schmidt  
U.S. Nuclear Regulatory Commission  
FSME/DWMEP/DURLD TWFN 8 F5  
Rockville, Maryland 20852

**SUBJECT: ADDENDUM TO THE REPORT FOR ANALYSES OF SOIL SAMPLES  
FROM NUCLEAR FUEL SERVICES, ERWIN, TENNESSEE  
[TAC NUMBER L32631] [RFTA NO. 07-001]  
DCN 0478-LR-02-0**

Dear Mr. Schmidt:

The Oak Ridge Institute for Science and Education (ORISE) received 16 soil samples from Nuclear Fuel Services on three separate dates. Four samples for technetium-99 (Tc-99) analysis were received on August 3, 2007. One sample for Tc-99 analysis was received on August 17, 2007. Eleven samples for gamma and alpha spectroscopy analyses were received on October 23, 2007. The results of the original analyses were submitted to you in a letter report on December 7, 2007.

In an e-mail dated December 6, 2007, you requested Pu-241 analysis of the samples previously submitted for alpha spectroscopy analysis with the knowledge that any reported data would be qualified due to the lack of a Pu-241 laboratory control sample for the analytical batches. The blanks and yields for this analysis met the ORISE QC requirements. The samples were counted using a liquid scintillation analyzer (AP10, Revision 3; CP4, Revision 3). The Pu-241 result for ORISE sample 0478S0006 was  $17.6 \pm 6.5$  pCi/g with a minimum detectable concentration (MDC) of 5.0 pCi/g. The results for the other ten samples were all less than the MDC. The range of MDCs for the other ten samples was 4.2 to 4.7 pCi/g. Sample identification and collection data for the samples addressed in this report are presented in Table 1.

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

Sincerely,

*Wade P. Ivey*  
for

Dale Condra, Manager  
Laboratory

RDC:WPI:km

Enclosures

c: T. Carter, NRC/FSME/DWMEP T-8F5  
E. Knox-Davin, NRC/FSME/TWFN 8A23  
J. Foster, NRC Region II

E. Abelquist, ORISE  
S. Roberts, ORISE  
File 0478

Distribution approval and concurrence :	Initials
Technical Management Team Member	
Quality Manager	<i>ATP</i>

**TABLE 1**

**SAMPLE IDENTIFICATIONS  
AND COLLECTION DATA  
NUCLEAR FUEL SERVICES  
ERWIN, TENNESSEE**

<b>ORISE Sample ID</b>	<b>NRC Region I Sample ID</b>	<b>Collection Date</b>	<b>Collection Time</b>
0478S0006	0111-AX-XA SU7	8/2/2007	13:16
0478S0007	0118-AX-XA SU7	8/9/2007	12:51
0478S0008	0110-EX-XA SU7	8/1/2007	16:02
0478S0009	0125-DX-XA SU7	7/31/2007	13:48
0478S0010	0128-EX-XA SU7	7/31/2007	16:08
0478S0011	0130-EX-XA SU7	8/1/2007	11:50
0478S0012	0130-FX-XA SU7	8/1/2007	12:06
0478S0013	0134-CX-XA SU7	7/31/2007	11:25
0478S0014	0138-BX-XA SU7	8/1/2007	10:08
0478S0015	0139-BX-XA SU7	8/1/2007	14:08
0478S0016	0142-EX-XA SU7	7/31/2007	14:45