ORISE
OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

February 2, 2007

Mr. John White
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

SUBJECT: REPORT FOR ADDITIONAL ANALYSES OF TWO OF THE TWELVE SOIL SAMPLES FROM OYSTER CREEK GENERATING STATION IN LACEY TOWNSHIP, NEW JERSEY
[INSPECTION REPORT NO. 50-219/2006-05] [RFTA NO. 06-001]

Dear Mr. White:

The Oak Ridge Institute for Science and Education (ORISE) received 12 soil samples on December 18, 2006 associated with the Oyster Creek Generating Station in Lacey Township, New Jersey. Sample analysis was initiated based on your instructions received by phone on December 18, 2006 and completed based on an e-mail from Jim Kottan dated January 8, 2007. ORISE submitted the data from the requested analyses in a letter report dated January 12, 2007. On January 17, 2007, ORISE received another e-mail from Jim Kottan requesting additional analyses on two of the twelve soil samples (1729S0009 and 1729S0010). Sample identifications and collection data for the samples addressed in this report are presented in Table 1. The carbon-14, tritium, total radiostrontium, and alpha isotopic data are provided in Tables 2-5, respectively. The pertinent procedure reference is provided in the table.

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

Dale Condra, Manager
Laboratory

RDC:WPI:ar

Enclosures

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TABLE 1

SAMPLE IDENTIFICATIONS
AND COLLECTION DATA
OYSTER CREEK GENERATING STATION
LACEY TOWNSHIP, NEW JERSEY

ORISE Sample ID	NRC Region I Sample ID	Collection Date	Collection Time
1729S0009	Hallock East (0-5cm)	12/14/2006	13:25
1729S0010	Hallock East (5-30cm)	12/14/2006	13:30

TABLE 2

CONCENTRATIONS OF CARBON-14
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP6, REVISION 15; CP4, REVISION 3
OYSTER CREEK GENERATING STATION
LACEY TOWNSHIP, NEW JERSEY

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/g wet weight)			
1729S0009	Hallock East (0-5cm)	-1.2	±	1.8[b]	(3.1)
1729S0010	Hallock East (5-30cm)	0.1	±	1.8	(3.1)

[a]MDCs are in parentheses.

[b]Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

TABLE 3

CONCENTRATIONS OF TRITIUM
IN SOIL SAMPLES
BY LIQUID SCINTILLATION ANALYSIS
AP2, REVISION 15; CP4, REVISION 3
OYSTER CREEK GENERATING STATION
LACEY TOWNSHIP, NEW JERSEY

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/g wet weight)			
1729S0009	Hallock East (0-5cm)	-2.3	±	2.5[b]	(4.4)
1729S0010	Hallock East (5-30cm)	-1.8	±	2.5	(4.4)

[a]MDCs are in parentheses.

[b]Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

TABLE 4

CONCENTRATIONS OF TOTAL RADIOSTRONTIUM
IN SOIL SAMPLES
BY LOW BACKGROUND BETA COUNTING
AP4, REVISION 13; CP3, REVISION 2
OYSTER CREEK GENERATING STATION
LACEY TOWNSHIP, NEW JERSEY

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/g)
1729S0009	Hallock East (0-5cm)	0.30 ± 0.21[b] (0.34)
1729S0010	Hallock East (5-30cm)	0.18 ± 0.21 (0.35)

[a]MDCs are in parentheses.

[b]Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

TABLE 5

CONCENTRATIONS OF SELECTED ALPHA EMITTING RADIONUCLIDES IN SOIL SAMPLES BY ALPHA SPECTROSCOPY AP11, REVISION 3; CP2, REVISION 12 OYSTER CREEK GENERATING STATION LACEY TOWNSHIP, NEW JERSEY

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations[a] (pCi/g)				
		Np-237	Pu-238	Pu-239/240	U-234	U-238
1729S0009	Hallock East (0-5cm)	0.00[b] ± 0.01[c] (0.02)	0.00 ± 0.02 (0.04)	0.00 ± 0.01 (0.03)	0.88 ± 0.11 (0.03)	0.84 ± 0.10 (0.01)
1729S0010	Hallock East (5-30cm)	-0.03 ± 0.02 (0.04)	0.01 ± 0.01 (0.02)	0.00 ± 0.01 (0.01)	0.74 ± 0.09 (0.01)	0.87 ± 0.10 (0.02)

[a]The MDCs are in parentheses.

[b]Zero values are due to rounding.

[c]Uncertainties represent the 95% confidence level, based on total propagated uncertainties.