ORISE
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December 20, 2007

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

SUBJECT: REPORT FOR ANALYSES OF EIGHT WATER SAMPLES FROM SET SIX FROM THE INDIAN POINT POWER STATION, BUCHANAN, NEW YORK [INSPECTION REPORT NO. 050-247/2007-003] [RFTA NO. 07-005] 1748-LR-06-0

Dear Mr. Kottan:

The Oak Ridge Institute for Science and Education (ORISE) received set six, consisting of eight water samples associated with the Indian Point Power Station. The first seven samples of the set were received on October 8, 2007 and the last sample from LaFarge Well #2 was received on November 28, 2007. In addition, ORISE received samples from LaFarge Wells 1 and 3, but were requested by James Noggle to return the samples to Indian Point without doing any analyses. Sample analysis was initiated based on the information in RFTA 07-005. Sample identification and collection data for the samples addressed in this report are presented in Table 1. Gamma spectroscopy, total radiostrontium, nickel-63, and tritium data are provided in Tables 2-5, respectively. The pertinent procedure references are provided in each specific 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:bf

Enclosures

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TABLE 1

SAMPLE IDENTIFICATIONS AND COLLECTION DATA INDIAN POINT POWER STATION BUCHANAN, NEW YORK

ORISE Sample ID	NRC Region I Sample ID	Collection Date	Collection Time
1748W0034	MW-67-39-(002)	10/1/2007	11:30
1748W0035	MW-67-105-(002)	10/1/2007	11:40
1748W0036	MW-67-173-(002)	10/1/2007	12:30
1748W0037	MW-67-219-(002)	10/1/2007	12:53
1748W0038	MW-67-276-(002)	10/1/2007	13:04
1748W0039	MW-67-323-(002)	10/1/2007	14:08
1748W0040	MW-67-340-(002)	10/1/2007	14:00
1748W0043	LAF-002-(007)	10/9/2007	9:35

TABLE 2

CONCENTRATIONS OF SELECTED GAMMA EMITTING RADIONUCLIDES IN WATER SAMPLES BY GAMMA SPECTROSCOPY CP1, REVISION 15 INDIAN POINT POWER STATION BUCHANAN, NEW YORK

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations[a] (pCi/L)			
		Co-58	Co-60	Cs-134	Cs-137
1748W0034	MW-67-39-(002)	-2.5 ± 2.1[b] , 3.5	-0.5 ± 1.6 , 2.8	0.6 ± 1.7 , 3.0	2.3 ± 1.8 , 2.8
1748W0035	MW-67-105-(002)	-1.4 ± 3.4 , 5.1	1.7 ± 2.8 , 4.3	-1.5 ± 2.6 , 4.2	1.5 ± 2.3 , 3.9
1748W0036	MW-67-173-(002)	-0.1 ± 2.8 , 4.7	1.1 ± 2.1 , 3.8	0.9 ± 2.3 , 4.0	-0.9 ± 3.9 , 4.2
1748W0037	MW-67-219-(002)	2.6 ± 2.7 , 4.8	0.6 ± 2.3 , 4.1	1.9 ± 2.4 , 4.3	-0.3 ± 2.2 , 3.7
1748W0038	MW-67-276-(002)	-4.0 ± 3.1 , 4.9	2.8 ± 2.4 , 4.4	0.7 ± 2.3 , 4.0	1.4 ± 4.5 , 3.7
1748W0039	MW-67-323-(002)	-0.7 ± 2.8 , 4.6	-0.4 ± 2.2 , 3.7	-0.4 ± 2.4 , 3.9	0.5 ± 2.2 , 3.7
1748W0040	MW-67-340-(002)	3.5 ± 3.2 , 3.7	-0.3 ± 1.7 , 2.9	0.4 ± 1.8 , 3.1	0.2 ± 1.6 , 2.8
1748W0043	LAF-002-(007)	-0.5 ± 3.5 , 5.9	1.0 ± 2.6 , 4.0	-0.1 ± 2.6 , 4.3	0.3 ± 2.2 , 3.9

[a]The MDCs are after the comma.

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

TABLE 3

CONCENTRATIONS OF TOTAL RADIOSTRONTIUM IN WATER SAMPLES BY LOW BACKGROUND BETA COUNTING AP4, REVISION 14; CP3, REVISION 2 INDIAN POINT POWER STATION BUCHANAN, NEW YORK

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/L)
1748W0034	MW-67-39-(002)	24.9 ± 1.6[b] , 0.9
1748W0035	MW-67-105-(002)	1.04 ± 0.60 , 0.94
1748W0036	MW-67-173-(002)	-0.42 ± 0.67 , 1.24
1748W0037	MW-67-219-(002)	-0.27 ± 0.62 , 1.14
1748W0038	MW-67-276-(002)	-0.36 ± 0.51 , 0.95
1748W0039	MW-67-323-(002)	-0.22 ± 0.56 , 1.03
1748W0040	MW-67-340-(002)	0.52 ± 0.77 , 1.31
1748W0043	LAF-002-(007)	-0.18 ± 0.63 , 1.15

[a]The MDCs are after the comma.

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

TABLE 4

CONCENTRATIONS OF NICKEL-63 IN WATER SAMPLES BY LIQUID SCINTILLATION ANALYSIS AP12, REVISION 6; CP4, REVISION 3 INDIAN POINT POWER STATION BUCHANAN, NEW YORK

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/L)
1748W0034	MW-67-39-(002)	5.7 ± 3.1[b] , 5.1
1748W0035	MW-67-105-(002)	7.4 ± 3.2 , 5.1
1748W0036	MW-67-173-(002)	5.4 ± 3.1 , 5.1
1748W0037	MW-67-219-(002)	8.4 ± 3.2 , 5.1
1748W0038	MW-67-276-(002)	7.9 ± 3.2 , 5.1
1748W0039	MW-67-323-(002)	4.3 ± 3.1 , 5.1
1748W0040	MW-67-340-(002)	2.2 ± 3.1 , 5.1
1748W0043	LAF-002-(007)	3.4 ± 3.1 , 5.1

[a]The MDCs for each radionuclide are after the comma.

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

TABLE 5

CONCENTRATIONS OF TRITIUM IN WATER SAMPLES BY LIQUID SCINTILLATION ANALYSIS AP2, REVISION 16; CP4, REVISION 3 INDIAN POINT POWER STATION BUCHANAN, NEW YORK

ORISE Sample ID	NRC Region I Sample ID	Radionuclide Concentrations, TPUs, and MDCs[a] (pCi/L)
1748W0034	MW-67-39-(002)	5,290 ± 300[b] , 190
1748W0035	MW-67-105-(002)	2,440 ± 190 , 190
1748W0036	MW-67-173-(002)	910 ± 140 , 190
1748W0037	MW-67-219-(002)	1,010 ± 140 , 190
1748W0038	MW-67-276-(002)	1,100 ± 150 , 190
1748W0039	MW-67-323-(002)	300 ± 120 , 190
1748W0040	MW-67-340-(002)	420 ± 120 , 190
1748W0043	LAF-002-(007)	60 ± 110 , 190

[a]The MDCs are after the comma.

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