

October 15, 2007

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

**SUBJECT: REPORT FOR ANALYSES OF FOUR WATER SAMPLES FROM SET
FOUR FROM THE INDIAN POINT POWER STATION,
BUCHANAN, NEW YORK
[INSPECTION REPORT NO. 050-247/2007-003] [RFTA NO. 07-004]**

Dear Mr. Kottan:

The Oak Ridge Institute for Science and Education (ORISE) received set four, consisting of four water samples associated with the Indian Point Power Station on August 14, 2007. Sample analysis was initiated based on the information in RFTA 07-004. 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, Manager
Laboratory

RDC:WPI:bf

Enclosures

c: T. Carter, NRC/FSME/DWMEP 7J8
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Distribution approval and concurrence :	Initials
Technical Management Team Member	JTR
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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
1748W0023	MW-63-18-(002)	7/30/2007	13:10
1748W0024	MW-63-34-(002)	7/30/2007	13:28
1748W0025	MW-66-21-(001)	7/30/2007	13:45
1748W0026	MW-66-36-(001)	7/30/2007	12:49

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
1748W0023	MW-63-18-(002)	-0.1 ± 2.9 ^b , 4.2	0.9 ± 2.2, 3.9	3.0 ± 2.6, 4.0	0.4 ± 2.2, 3.7
1748W0024	MW-63-34-(002)	-0.1 ± 1.8, 3.0	1.1 ± 1.7, 3.0	0.7 ± 1.7, 3.0	3.0 ± 2.1, 2.1
1748W0025	MW-66-21-(001)	-0.1 ± 2.8, 4.3	-1.1 ± 2.4, 4.1	-1.3 ± 3.0, 4.1	0.1 ± 2.2, 3.8
1748W0026	MW-66-36-(001)	0.3 ± 2.8, 4.7	1.5 ± 2.4, 4.2	2.3 ± 2.6, 4.5	-0.9 ± 2.3, 3.8

^aThe MDCs are after the comma.

^bUncertainties 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, TPU's, and MDCs ^a (pCi/L)
1748W0023	MW-63-18-(002)	1.12 ± 0.49 ^b , 0.72
1748W0024	MW-63-34-(002)	0.55 ± 0.47 , 0.77
1748W0025	MW-66-21-(001)	2.19 ± 0.56 , 0.71
1748W0026	MW-66-36-(001)	6.91 ± 0.81 , 0.71

^aThe MDCs are after the comma.

^bUncertainties 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)
1748W0023	MW-63-18-(002)	-1.0 ± 2.9 ^b , 5.0
1748W0024	MW-63-34-(002)	1.0 ± 2.9 , 5.0
1748W0025	MW-66-21-(001)	2.4 ± 3.0 , 5.0
1748W0026	MW-66-36-(001)	6.4 ± 3.0 , 4.8

^aThe MDCs for each radionuclide are after the comma.

^bUncertainties 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)
1748W0023	MW-63-18-(002)	210 ± 150 ^b , 250
1748W0024	MW-63-34-(002)	390 ± 160 , 250
1748W0025	MW-66-21-(001)	3,640 ± 300 , 250
1748W0026	MW-66-36-(001)	9,310 ± 520 , 250

^aThe MDCs are after the comma.

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