

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-03/79-01  
50-247/79-02  
Docket No. 50-03  
50-247  
License No. DPR-5 Priority -- Category D  
DPR-26 C

Licensee: Consolidated Edison Company of New York, Inc.

4 Irving Place

New York, New York 10003

Facility Name: Indian Point Nuclear Generating Station, Units 1 and 2

Inspection at: Buchanan, New York

Inspection conducted: January 10, 1979

Inspectors: J. J. Kottan  
J. J. Kottan, Radiation Specialist

1/31/79  
date signed

\_\_\_\_\_

date signed

\_\_\_\_\_

date signed

Approved by: J. P. Stohr  
J. P. Stohr, Chief, Environmental and  
Special Projects Section, FF&MS Branch

1/31/79  
date signed

Inspection Summary:

Inspection on January 10, 1979 (Combined Report Nos. 50-03/79-01 and 50-247/79-02)

Areas Inspected: This report contains the results of an effluent sample split between the licensee and NRC:I during a previous inspection on June 20-22, 1978. The comparison of these results involved no onsite time.

Results: Within the area inspected, no items of noncompliance were observed.

7903130085

## DETAILS

### 1. Persons Contacted

J. Higgins, General Chemistry Supervisor

### 2. Confirmatory Measurements

In a previous inspection conducted on June 20-22, 1978, Inspection Report 50-03/78-08 and 50-247/78-23, a liquid effluent sample was split with the licensee and NRC:I. Analyses were performed by the licensee using his normal methods and procedures, and the NRC:I analyses were performed by the Department of Energy's Radiological and Environmental Services Laboratory (RESL). The comparison of the analytical results indicated that all of the measurements were in agreement or possible agreement under the criteria used for comparing results (see Attachment 1) with the exception of the Kr-85 and Sr-89 results. The inspector discussed the disagreements with the licensee. The licensee could offer no explanation for the disagreements at this time. The inspector noted that in a previous inspection (Inspection Report 50-03/77-02, 50-247/77-06, and 50-286/77-07) on March 7-9, 1977, the Sr-89 and Kr-85 measurements comparisons were in agreement. The inspector also noted that the Sr-89 disagreement was in a conservative direction and would not have resulted in the licensee exceeding any effluent release limits. In addition, the inspector reviewed the licensee's effluent release data for the second quarter of 1978 (the latest effluent data available from the licensee) and using the NRC Kr-85 measurement noted this did not result in the licensee exceeding his quarterly Technical Specification effluent release limits. The inspector stated that these disagreements would be further reviewed during the next inspection in this area (50-03/79-01-01, 50-247/79-02-01). The results of the comparisons are presented in Table I. No items of noncompliance were identified.

### 3. Exit Interview

The inspector discussed the results of this inspection in a telephone conversation on January 10, 1978, with the licensee representative denoted in Paragraph 1.

TABLE 1

INDIAN POINT 1 & 2 VERIFICATION TEST RESULTS

RESULTS IN MICROCURIES PER MILLILITER

<u>Sample</u>	<u>Isotope</u>	<u>NRC Value</u>	<u>Licensee Value</u>	<u>Comparison</u>
Gas Decay Tank 6/20/78 1255 hrs.	Xe-133	(1.05 ± 0.04) E-2	(1.00 ± 0.004) E-2	Agreement
	Kr-85	(2.3 ± 0.3) E-3	(3.65 ± 0.37) E-4	Disagreement
Waste Distillate Storage Tank 6/20/78 1630 hrs.	gross beta	(2.69 ± 0.09) E-5	(1.52 ± ?) E-5	Possible Agreement
	H-3	(4.95 ± 0.02) E-2	(4.60 ± ?) E-2	Agreement
	Sr-89	(1.1 ± 0.2) E-7	(1.2 ± 0.1) E-6	Disagreement
	Sr-90	(6.4 ± 0.7) E-8	(6.6 ± 0.7) E-8	Agreement
	I-131	(6.50 ± 1.50) E-6	(5.62 ± 0.32) E-6	Agreement
	Cs-134	(1.18 ± 0.04) E-5	(1.34 ± 0.12) E-5	Agreement
	Cs-137	(1.72 ± 0.06) E-5	(1.88 ± 0.07) E-5	Agreement
	Co-58	(9.96 ± 0.41) E-6	(1.32 ± 0.07) E-5	Agreement
	Mn-54	(1.36 ± 0.12) E-6	(1.75 ± 0.25) E-6	Agreement
Co-60	(4.08 ± 0.23) E-6	(3.83 ± 0.53) E-6	Agreement	

## Attachment 1

### Criteria for Comparing Analytical Measurements

This attachment provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgement limits are variable in relation to the comparison of the NRC Reference Laboratory's value to its associated uncertainty. As that ratio, referred to in this program as "Resolution", increases the acceptability of a licensee's measurement should be more selective. Conversely, poorer agreement must be considered acceptable as the resolution decreases.

<u>Resolution</u>	<u>Agreement</u>	<u>LICENSEE VALUE</u>	
		RATIO= NRC REFERENCE VALUE	
		<u>Possible Agreement A</u>	<u>Possible Agreement B</u>
<3	0.4 - 2.5	0.3 - 3.0	No Comparison
4 - 7	0.5 - 2.0	0.4 - 2.5	0.3 - 3.0
8 - 15	0.6 - 1.66	0.5 - 2.0	0.4 - 2.5
16 - 50	0.75 - 1.33	0.6 - 1.66	0.5 - 2.0
51 - 200	0.80 - 1.25	0.75 - 1.33	0.6 - 1.66
>200	0.85 - 1.18	0.80 - 1.25	0.75 - 1.33

"A" criteria are applied to the following analyses:

Gamma Spectrometry where principal gamma energy used for identification is greater than 250 Kev.

Tritium analyses of liquid samples.

Iodine on absorbers

"B" criteria are applied to the following analyses:

Gamma Spectrometry where principal gamma energy used for identification is less than 250 Kev.

89Sr and 90Sr Determinations.

Gross Beta where samples are counted on the same date using the same reference nuclide.