AUG 22 1985

Docket Nos. 50-247
50-03

Consolidated Edison Company of
New York, Inc.
ATTN: Mr. Murray Selman
Vice President
Indian Point Station
Broadway and Bleakley Avenue
Buchanan, New York 10511

Gentlemen:

Subject: Inspection Report No. 50-03/85-01 and 50-247/85-19
50-286/85-17

A routine safety inspection was conducted by Jean A. Cioffi of this office on July 22-26, 1985 at the Indian Point Station, Units 1, 2 and 3. This inspection examined the implementation of your radiological environmental monitoring program, which is common to all units at the Indian Point site.

Within the scope of this inspection, no violations were observed.

No reply to this letter is required. Your cooperation with us in this matter is appreciated.

Sincerely,
Original Signed By:
Ronald R. Bellamy/60
Thomas T. Martin, Director
Division of Radiation Safety
and Safeguards

Enclosure: NRC Region I Inspection Report Number 50-03/85-01; 50-247/85-19
50-286/85-17

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cc w/encl:
J. D. O'Toole, Vice President, Nuclear Engineering, Quality Assurance and Reliability
M. Blatt, Director, Regulatory Affairs
F. Matra, Resident Construction Manager
R. L. Spring, Nuclear Licensing Engineer
P. Kokolakis, Director, Nuclear Licensing
C. W. Jackson, Vice President, Nuclear Power
W. D. Hamlin, Assistant to Resident Manager
Thomas J. Farrelly, Esquire
K. Burke, General Manager, Administrative Services
Brent L. Brandenburg, Assistant General Counsel
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
State of New York

bcc w/encl:
Region I Docket Room (with concurrences)
Senior Operations Officer (w/o encl)
DRP Section Chief

RI:DRSS	RI:DRSS	RI:DRSS
Cioffi/gcb	Shanbaky	Bellamy
8/14/85	8/19/85	8/20/85

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08/16/85

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-03/85-01
50-247/85-19
50-286/85-17

Docket Nos. 50-03
50-247
50-286

License Nos. DPR-26 Priority Category
DPR-59
DPR-5

Licensee: New York Power Authority
and
Consolidated Edison of New York

Facility Name: Indian Point 1, 2, and 3

Inspection At: Buchanan, New York

Inspection Conducted: July 22-26, 1985

Inspectors: Jean A. Cioffi
Jean A. Cioffi, Radiation Specialist — 8/19/85 date

Approved by: M. Shanbaky
Mohamed M. Shanbaky, Chief, PWR RPS — 8/19/85 date

Inspection Summary: Inspection on July 22-26, 1985 (Combined Report No. 50-03/85-01; 50-247/85-19, 50-286/85-17)

Areas Inspected: Routine, announced inspection of the operational radiological environmental monitoring program for Units 1, 2, and 3, including: status of previously identified items; management controls; selection and training of personnel; the licensee's program for quality control of analytical measurements; and implementation of the radiological environmental monitoring and meteorological monitoring programs. The inspection involved 43 hours on-site by one region-based inspector.

Results: Within the areas inspected, no violations were identified.

DETAILS

1.0 Personnel Contacted

*V. Lander, Radiological Health Manager, Con Edison
*T. Schmeiser, Acting General Manager for M. Miele, Con Edison
*M. Blatt, Director, Regulatory Affairs, Con Edison
*B. Raskovic, Engineer, Regulatory Affairs, Con Edison
*D. Quinn, Senior Radiological Engineer, NYPA
*M. Byster, Senior Engineer in Emergency Planning, Con Edison
J. Odendahl, Acting I&C Engineer, Con Edison
A. Rosenmeyer, Field Supervisor, York Services
N. Hartmann, Consultant, Con Edison
L. Townsend, Senior Watch Supervisor, Con Edison
P. Madigan, Nuclear Environmental Monitoring Supervisor, Con Edison
R. Schacklinscky, Nuclear Environmental Monitoring Technician, Con Edison
W. Robinson, Shift Senior Reactor Operator, NYPA
G. Hugo, Operations Engineer, Con Edison
A. Klausmann, Associate Environmental Engineer, NYPA Corporate Office
M. Pickham, Emergency Preparedness Analyst, NYPA
*H. Sager, Manager, NPQA, Con Edison
*J. Ellwanger, Senior Engineer, Regulatory Affairs

*Denotes attendance at exit interview.

2.0 Status of Previously Identified Items

2.1 (Closed) Violation (247/83-23-01): Failure to report internal audit results within 30 days. The inspector verified the licensee's corrective actions, as stated in a letter dated December 30, 1983, and determined that these actions appear sufficient to prevent recurrence.

2.2 (Closed) Violation (247/83-23-02): Failure to respond to internal audit reports within 30 days. The licensee's corrective actions, as stated in a letter dated December 30, 1983, and verified by the NRC inspector, appears sufficient to prevent recurrence.

2.3 (Closed) Violation (247/83-23-03): Failure to report Sr-90 results in 1980, and I-131 results in 1981 annual reports. The licensee's response to this violation, as stated in a letter dated December 30, 1983, is adequate to correct this deficiency.

2.4 (Open) Violation (247/85-05-03): Failure to have procedure to implement dose calculation methods of ODCM. The inspector reviewed Revision 4 of Procedure IPC-S-050, and noted that it has been retitled "Radioactive Gaseous and Liquid Release Calculations". This procedure provides detailed methods for the required dose calculations both by computer program and by manual methods, and therefore generally meets the requirements of Section 6.8.1 of the Technical Specifications. However, the procedure contains numerous typographical errors and erroneous references

to its attached tables. The latter, in particular, could lead to erroneous dose calculations. This procedure will be reviewed for corrections in a subsequent inspection.

3.0 Management Controls

The licensee's management controls for the Radiological Environmental Monitoring Program (REMP) were reviewed, including the assignment of responsibility, program audits, and corrective actions for the identified weaknesses and problem areas in the program. The REMP is common to all units at the Indian Point site.

a. Assignment of Responsibility

The radiological environmental monitoring program is administered by Con Edison. The Nuclear Environmental Monitoring program is the responsibility of the Radiological Health Manager, who reports to the General Manager, Environmental Health and Safety. The Nuclear Environmental Monitoring (NEM) Supervisor implements the program and directs two NEM technicians.

The meteorological monitoring program is administered by a contractor under the direction of New York Power Authority. The meteorological monitoring program is the responsibility of the Supervisory Environmental Engineer in the Environmental Programs Group at the corporate office in White Plains, New York.

b. Licensee Audits

The radiological environmental monitoring program and the meteorological monitoring program is audited annually by the Con Edison Quality Assurance Group. Additional audits may be performed by New York Power Authority's Radiological Environmental Services department or Quality Assurance Group.

The inspector reviewed audits performed by the Con Edison QA Group, of the radiological environmental monitoring program for 1983 and 1984, and the meteorological monitoring program for 1984. The audits were thorough in technical review, and timely response to audit findings was documented.

4.0 Selection and Training of Personnel

The licensee has established a Station Administrative Order (SAO) which clearly describes each position within the Environmental Health and Safety Organization. However, there was no delineation of reporting levels within the Environmental Health and Safety Organization. The licensee stated that they will examine a method for clarification of the report levels.

The Environmental Health and Safety Department has established procedures for personnel selection and qualification criteria and for Nuclear Environmental Monitoring personnel duties and responsibilities. The inspector reviewed NEM personnel files, and found that all selection criteria and the documentation of required training were available and completed in each NEM employee's file.

No violations were identified.

5.0 Quality Control of Analytical Measurements

The licensee utilizes a vendor laboratory for the preparation of spiked samples of soil, air particulate filters, charcoal cartridges, organic material, and water. These spiked samples are sent to another vendor for analysis along with routine samples. Approximately 10% of all samples sent to the analytical vendor annually are spiked and split samples for quality control.

The licensee identified a consistent anomaly in the data obtained from the spiked charcoal cartridges and has performed statistical tests to trend these results. The licensee believes that the difference between the activity reported by the vendor laboratory preparing the spiked samples and the vendor used for all the environmental analyses, may be due to inadequate, but consistent, spiking techniques, and to geometric considerations of the analytical vendor's counting equipment. This area will be reexamined during a future inspection (50-247/85-19-02).

The NEM supervisor performs audits of all vendors used for environmental work on an annual basis. This establishes an additional means of quality assurance on the handling and processing the environmental samples, and ensures compliance with the technical specifications.

The vendor laboratory, used for analytical measurements of the licensee's environmental samples, participates in the EPA Interlaboratory Comparison Program. The results of the intercomparison are published in Appendix F of the licensee's Annual Radiological Environmental Operating Report. The inspector examined the intercomparison results for 1983 and 1984, and determined that the vendor laboratory's performance was satisfactory.

6.0 Implementation of the Environmental Monitoring Program

The environmental monitoring program was reviewed against criteria contained in:

- 10 CFR 20.105, "Permissible levels of radiation in unrestricted areas"
- 10 CFR 20.106, "Radioactivity in effluents to unrestricted areas"
- Indian Point 2 Technical Specifications, Appendix A, sections 4.11 and 6.9.1.5.

- Indian Point 3 Technical Specifications, Appendix B, sections 2.7, 2.8, 2.9, 3.7, 3.8, 3.9, 5.3.3.2.

The licensee's performance related to the above criteria was determined from the following:

- a review of the Nuclear Environmental Monitoring procedures;
- a review of the Annual Radiological Environmental Operating Reports for 1983 and 1984;
- discussions with licensee personnel;
- a review of logs and data;
- visual inspections of four offsite sampling locations.

a. Direct Observation

The inspector examined selected air sampling and TLD monitoring stations. All stations examined were located as required by the Offsite Dose Calculation Manual and were operating at the time of the inspection. The licensee's method of changing air sample filters was observed to reduce sample losses and cross-contamination of the filters and cartridges. Dry gas meters were maintained and calibrated as required.

b. Review of Annual Reports

The inspector reviewed the Annual Radiological Environmental Operating Reports for 1983 and 1984. The licensee has complied with the Technical Specifications requirements for sampling frequencies, measurements, analytical sensitivities, and reporting schedules.

c. Environmental Dosimetry

The U.S. Nuclear Regulatory Commission (NRC) Direct Radiation Monitoring Network is operated by the NRC (Region I) to provide continuous measurement of the ambient radiation levels around nuclear power plants (70 sites) througnout the United States. Each site is monitored by arranging approximately 30 to 50 thermoluminescent dosimeter (TLD) stations in two concentric rings extending to about five miles from the power plant. The monitoring results are published in NUREG-0837 quarterly.

One of the purposes of this program is to serve as a basis of comparison with similar programs conducted by individual utilities which operate nuclear power plants. Therefore, five NRC TLDs are co-located with each licensee's TLD stations.

During this inspection the monitoring results of co-located TLDs were compared and the results are listed in Table 2. Table 1 describes the NRC TLD location around the Indian Point site.

All NRC exposures are normalized to a 90-day calendar quarter and reported in units of milliroentgens (mR), and uncertainties are the total uncertainty (random and systematic uncertainties). The licensee's TLD results are normalized to 91.2 days per quarter; uncertainties are determined in the same manner as the NRC TLDs.

In general, there is good agreement between the licensee's TLDs and the NRC's data. The inspector observed in two locations, that the NRC's TLD's are mounted on a metal pole or base whereas the licensee's TLDs are located inside a wooden box housing the air sampler and dry gas meter. This difference in placement of the TLDs may have a slight effect on the results. Also, the co-located TLDs are not necessarily monitoring at the same station; a tenth of a mile apart is not unusual.

7.0 Implementation of the Meteorological Monitoring Program

The inspector examined the licensee's meteorological monitoring system, including the onsite meteorological tower, the recorder charts in the equipment house at the base of the tower, and the digital displays and recorder charts in the Units 2 and 3 control rooms. The meteorological tower is equipped with redundant wind speed and wind direction sensors at the 10 meter, 60 meter, and 122 meter elevations. Temperature sensors are also located at these elevations and measure ΔT between 10 meters and 60 meters, and between 10 meters and 122 meters to give the atmospheric stability class.

The licensee uses a vendor to calibrate meteorological instrumentation semi-annually. The inspector reviewed the calibration procedure and a sample of calibration records. A New York Power Authority Quality Assurance audit of the calibration vendor was also reviewed, and found to be adequate.

Daily channel checks are performed at the meteorological equipment house for all channels. However, there is no verification of these readings in the control rooms of Units 2 and 3 on a routine basis.

Unit 3 has no technical specification requirement for meteorological monitoring equipment. However, licensee representatives stated that a mechanism to verify the readouts in the control room would be initiated. This matter will be reviewed in a future inspection (286/85-17-01).

Unit 2 technical specifications require that meteorological monitoring instrumentation channels be operable at all times with indication of the tabulated parameters available in the control room. (T.S. 3.15.A.) Furthermore, the technical specifications also require a daily channel

check of the meteorological monitoring instrumentation and states that "each meteorological monitoring instrumentation channel shall be demonstrated operable" (T.S. 4.19.A) The inspector discussed the methodology for channel checks, which should include all channel parts and components from the detector to all readout locations. Licensee representatives stated that they felt that the daily channel checks at the meteorological equipment house was sufficient to satisfy the requirements of the technical specifications. They further stated that an analysis had been performed on the instrumentation, and it was decided that if the digital readout failed, it would indicate no reading. However, the inspector observed that the digital readout of stability class (ΔT) in the Unit 2 control room had partially failed, in that the readout indicated erroneous data. Furthermore, the condition of the instrument had been known since May 7, 1985, and was not tagged out of service.

In a telephone conversation with the inspector, on August 12, 1985 the licensee representative stated that they agreed that the control room instrumentation should be verified in the daily channel check. They further stated a method would be instituted to verify the readouts in the control room as well as at the met tower.

This matter will remain unresolved pending further review by the NRC (247/85-19-01).

8. Unresolved Item

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during this inspection is discussed in paragraph 7.

9. Exit Interview

The inspector met with licensee representatives (denoted in Section 1) on July 26, 1985. The inspector summarized the purpose, scope, and findings of the inspection. At no time during this inspection was written material provided to the licensee by the inspector.

Table 1 Co-Location of the TLD Stations

NRC Station	Indian Point Station	Location	Description
6	35	E, 90°, 0.5 mi	Broadway & Bleakley
10	5	SSW, 206°, 0.9 mi.	NYU Tower
30	57	N, 8°, 1.9 mi	Cortlandt Township Garage
2	90	NE, 53°, 1.0 mi.	Charles Point
35	79	WNW, 297°, 4.4 mi.	Anthony Wayne Recreation Area

Table 2 Environmental Monitoring Results (mR/90 days)

TLD Station: NRC Station Number/IP Station Number

Monitoring Period		6/35	10/5	30/57	2/90	35/79
1st QTR 1983	NRC	15.5 ± 0.8	14.4 ± 0.7	18.0 ± 0.8	16.6 ± 0.8	16.0 ± 0.8
	IP	14.5 ± 0.5	13.8 ± 1.4	17.6 ± 0.7	NM	15.8 ± 0.6
2nd QTR 1983	NRC	18.1 ± 0.9	13.9 ± 0.8	20.4 ± 1.0	N/C	18.7 ± 0.9
	IP	14.4 ± 0.7	13.7 ± 0.2	14.0 ± 0.3	NM	16.3 ± 0.7
3rd QTR 1983	NRC	15.0 ± 0.6	15.4 ± 0.6	14.4 ± 0.6	16.9 ± 0.7	N/C
	IP	15.0 ± 1.1	13.7 ± 0.7	14.8 ± 1.6	NM	22.0 ± 4.5
4th QTR 1983	NRC	18.2 ± 0.9	N/C	20.3 ± 1.0	24.1 ± 1.1	20.5 ± 1.0
	IP	15.1 ± 0.9	14.9 ± 0.3	14.8 ± 0.6	NM	17.2 ± 0.5
1st QTR 1984	NRC	15.4 ± 1.1	15.1 ± 1.0	16.9 ± 1.1	17.1 ± 1.1	15.3 ± 1.1
	IP	13.2 ± 0.8	11.2 ± 0.8	15.0 ± 1.2	11.7 ± 0.5	14.7 ± 1.1
2nd QTR 1984	NRC	14.1 ± 0.6	14.0 ± 0.6	13.9 ± 0.6	N/C	N/C
	IP	14.0 ± 0.6	14.0 ± 0.7	13.8 ± 1.6	14.4 ± 0.9	15.3 ± 0.5
3rd QTR 1984	NRC	16.4 ± 0.8	16.1 ± 0.8	15.4 ± 0.8	14.1 ± 0.7	15.1 ± 0.8
	IP	13.6 ± 0.6	13.7 ± 1.1	13.3 ± 0.6	1..9 ± 0.4	15.6 ± 0.9
4th QTR 1984	NRC	15.9 ± 0.6	16.5 ± 0.7	16.4 ± 0.7	16.6 ± 0.7	17.0 ± 0.7
	IP	14.5 ± 0.9	13.5 ± 0.3	12.7 ± 0.7	15.7 ± 0.8	14.7 ± 0.3
1st QTR 1985	NRC	16.7 ± 0.7	16.7 ± 0.7	16.2 ± 0.7	15.4 ± 0.7	17.3 ± 0.7
	IP	14.7 ± 0.8	14.4 ± 0.6	15.2 ± 1.4	13.2 ± 0.7	16.8 ± 0.2

(1) N/C (not compared because the NRC data were not available due to missing or damaged TLDs)

(2) NM (Not Monitored during 1983 due to earlier Tech Spec requirements)