UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CONSOLIDATED EDISON COMPANY OF NEW YORK (Indian Point, Unit Nos. 1 and 2)	)	Docket Nos. 50-3 50-247
POWER AUTHORITY OF THE STATE OF NEW YORK (Indian Point, Unit No. 3)	)	50-286

ISSUANCE OF DIRECTOR'S DECISION UNDER 10 CFR 2.206

By petition dated September 17, 1979, the Union of Concerned Scientists (UCS) requested that the Nuclear Regulatory Commission revoke the license for Indian Point Unit No. 1 and order decommissioning of the plant and suspend operation of Indian Point Unit Nos. 2 and 3 pending resolution of various issues cited in the UCS petition. On October 26, 1979, the Comission referred the UCS petition to the NRC staff for treatment pursuant to 10 CFR 2.206 of the Commission's regulations.

Upon consideration of the UCS petition, various statements filed in support of the petition, and other pertinent information, I have granted in part and denied in part the UCS petition. The reasons for this decision are fully described in a "Director's Decision, Under 10 CFR 2.206," which is available for public inspection in the Commission's Public Document Room at 1717 H Street, N.W., Washington, D. C. 20555 and in the local public document room at the White Plains Public Library, 100 Martine Avenue, White Plains, New York 10601. A copy of this decision will also be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c).

FOR THE NUCLEAR REGULATORY COMMISSION

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 15th day of February, 1980

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JAN 9 1976

Consolidated Edison Company of New York, Inc.
Attention: Mr. W. J. Cahill, Jr.
Vice President
4 Irving Place
New York, New York 10003

License No. DPR-5
Inspection No. 75-12
Docket No. 50-03

Gentlemen:

This refers to the inspection conducted by Mr. R. Hurd of this office on December 18, 1975 at Indian Point 1 of activities authorized by NRC License No. DPR-5 and to the discussions of our findings held by Mr. Streeter with Mr. Stein and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

No reply to this letter is required; however, if you should have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Eldon J. Brunner, Chief
Reactor Operations and Nuclear
Support Branch

Enclosure:
IE:I Inspection Report No. 50-03/75-12

cc: A. E. Upton, Esquire
W. Stein, Manager, Nuclear Power Generation Department
S. Salay, Station Manager
J. M. Makepeace, Technical Operations Director

bcc:
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IE:I Form 12
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U. S. NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

IE Inspection Report No: 50-03/75-12

Docket No: 50-03

Licensee: Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, New York 10003

License No: DPR-5

Priority:

Category: D

Safeguards Group:

Location: Buchanan, New York

Type of Licensee: PWR, 615 MWt(W)

Type of Inspection: Routine, Unannounced

Dates of Inspection: December 18, 1975

Dates of Previous Inspection:

Reporting Inspector: for R. O. Hurd, Reactor Inspector — 1/9/76 DATE

Accompanying Inspectors: _______ DATE

_______ DATE

_______ DATE

Other Accompanying Personnel: J. F. Streeter, Reactor Inspector — 1/9/76 DATE

Reviewed By: for E. C. McCabe, Section Leader, Nuclear Support Section
Reactor Operations and Nuclear Support Branch — 1-9-76 DATE

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items

Not Inspected

Design Changes

Not Inspected

Other Significant Findings

A. Current Findings

1. Acceptable Items

The following items were inspected on a sampling basis and findings did not involve an Item of Noncompliance, Deviation or an Unresolved Item.

a. Plant Status (Detail 3)

b. Defueling Prerequisites (Details 4)

c. Defueling Operations (Details 3)

2. Unresolved Items

None

B. Status of Previously Unresolved Items

The following items identified in report 50-03/75-08 were examined and resolved.

a. Signoff List for Defueling Prerequisites reference report Detail 4.a. (Detail 4.a)

b. Neutron Monitoring System Requirements reference report Detail 4.b. (Detail 5.b)

c. Defueling Operation, reference report Detail 6. (Detail 5.a)

Management Interview

A management interview was held on site subsequent to the completion of the inspection on December 19, 1975 with the following licensee personnel in attendence:

Mr. S. H. Cantone, Acting Plant Manager
Mr. R. H. Haymen, Manager, QA Monitoring and Review
Mr. L. J. Kawula, Test Engineer
Mr. T. M. Law, Manager, Quality Assurance
Mr. G. H. Liebler, Radiological Engineer
Mr. J. M. Makepeace, Director, Technical Engineering
Mr. W. Stein, Manager, Nuclear Power Generation Department
Mr. R. W. VanWyck, Manager, Nuclear Services

During the management interview, the results of this inspection were discussed along with the results of Region I Inspections 50-03/75-11 (Unit 1), 50-247/75-19 (Unit 2), and 50-247/75-20 (Unit 2). The scope and objectives of the inspection were presented and the inspection findings were discussed as they appear in this report.

DETAILS

1. Persons Contacted

Mr. W. E. Carson, Engineer-Test
Mr. P. Leo, U.S. Testing, Inc., QA Engineer
Mr. C. C. Lemoges, Operations Engineer
Mr. J. L. Mitchell, Control Room Operator (SRO)
Mr. M. F. Shatkowski, Reactor Engineer
Mr. R. VanWyck, Manager, Nuclear Services
Mr. J. Walden, General Watch Foreman (SRO)

2. Inspection Purpose

The inspector stated that the purpose of the inspection was to observe the defueling of the reactor core and review the documentation related to the preparation for the defueling.

3. Plant Status

The plant is presently undergoing defueling. All of the reactor fuel is being transferred to the Spent Fuel Storage Pool in the Fuel Handling Building. At the time of the inspection 42 out of 120 fuel assemblies had been removed from the core. The licensee expects that all of the fuel will have been transferred to the Fuel Handling Building by January 10, 1976.

4. Defueling Prerequisites

The inspector reviewed the following procedures to verify that the prerequisites conditions had been satisfied and signed-off prior to fuel movement.

(1) 0-18.4, Transfer of Reactor Core Components Between Core and Transfer Tube Shuttle

(2) 0-18.5, Fuel Transfer Tube Shuttle System

(3) 0-18.6, Fuel Handling Procedure - Fuel Handling Building

(4) M-4, Fuel Movement Schedule

The inspector had the following findings:

a. Documentation

The addition of specific sign-offs for each prerequisite condition in these procedures provides documentation that the prerequisites were met prior to fuel movement. This resolves Detail 4.a of inspection report 50-03/75-08.

b. Control Rod System

Addition of reactivity due to inadvertent control rod movement is prevented by maintaining the conrol rod drive system "Board Condition" mode switch in the OFF position. This is a keylock switch which in the OFF position prevents operation of the control rod drive system.

The inspector had no further questions in this area.

c. Boron Concentration

To satisfy Technical Specification 4.2.10.2, which states in part that "the boric acid in this water shall be maintained at a concentration that shall provide a maximum K effective ≤ 0.9," the licensee determined that the minimum boron concentration during fuel movement in the core is required to be 1950 ppm. This value was a prerequisite condition signed-off in M-4. The inspector also reviewed the Chemistry Log Sheets from 12/4/75, first day of fuel movement, to 12/17/75 and noted that the boron concentration had been maintained greater than 2455 ppm.

The inspector had no further question in this area.

d. Decay Heat System

To satisfy the Technical Specification 5.1.3.2, which states in part that, "the coolant temperature shall be below $140^{o}F$," the Decay Heat System is operated continuously. The operation of the Decay Heat System is a signed-off requirement of M-4. The inspector further reviewed the Control Room Log and noted the Reactor System is maintained at $85^{o}F$.

The inspector had no further questions in this area.

5. Defueling Operations

While defueling operations were in progress, the inspector toured the Fuel Handling Floor and the Control Rod Room. The inspector witnessed the removal of two fuel assemblies from the core and discussed the defueling operation with licensee personnel.

The inspector had the following findings;

a. Personnel

The inspector observed that all fuel handling was directly supervised by a General Watch Foreman (SRO) and that a Control Room operator who also holds a Senior Reactor Operator (SRO) license was present in the Control Room.

The inspector noted that the General Watch Foreman on the Fuel Handling Floor communicated with the control room operator to inform him of the fuel movement status.

The inspector was informed that fuel movement was conducted on a 5 day per week, day shift only schedule. The same fuel handling crew is used for all fuel movement. The inspector was informed that the General Watch Foreman supervising fuel handling had also supervised the training of the fuel handling crew and verified their competence. The inspector noted that the appropriate procedures were available at the fuel handling station and the crews demonstrated familiarity with them. This resolves Detail 6 of inspection report 75-08.

The inspector had no further questions in this area.

b. Core Monitoring

The Technical Specification Section 4.2.8.4 states in part, "During fuel element or control element removal or insertion involving changes in core configuration or refueling, two operable neutron count rate detectors shall be installed within the reactor vessel. They shall replace the detectors of either Channels 1 and 2 or 3 and 4 and shall operate in the safety system."

To satisfy the above specification the licensee placed two operating neutron detectors in the vessel and connected them to channels 3 and 4. The inspector reviewed MWR#1-N-2-1056I, dated 10/1/75, which indicated that due to low count rate on

the out-of-vessel channels 1 and 2 the in-vessel detectors were used. Prior to installation, detector responses were checked using a neutron source. This resolves Detail 4.b of inspection report 75-08.

The inspector had no further questions on this item.

c. Containment

The inspector observed that containment was maintained. The licensee stated that containment pressure was maintained at a slightly negative pressure by balancing intake and exhaust flow.

The inspector had no further questions in this area.

d. Housekeeping

The inspector observed that good housekeeping practices were followed on the Fuel Handling Floor. The vessel studs, bolts and other accessories were properly stored. All movable items in the area of the vessel cavity were secured and the personnel in the area were required to tape all loose items on their person to prevent items from falling into the cavity.

The inspector had no further questions in this area.

e. Water Level

Technical Specification 4.2.10.2 states in part, "During fuel handling ...the water level above the fuel elements being handled shall be a minimum of 2 ft. ..." The licensee stated that with the water level within 4 ft. of the top of the vessel cavity the fuel handling equipment interlocks would prevent the fuel from being raised, such that at least 10 feet of water was above the fuel. The licensee stated that although there was no level indication in the control room, the fuel handling personnel were aware of the level requirement and would stop fuel movement and inform the control room if water level changed.

The inspector had no further questions in this area.

f. Radiation Monitors

The inspector observed that a portable area radiation monitor

was positioned immediately above the reactor cavity water level. The licensee stated that this ARM would provide an audible alarm to alert the fuel handling personnel of a significant increase in the radiation level. The inspector noted that the monitor indicated 2mr/hr. The inspector reviewed surveillance records for that instrument (GA-2T No.8) and noted that a calibration had been performed 11/8/75 and Alarm operation had been set at 3 mr/hr.

The inspector had no further questions on this area.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

IE FILE COPY

OCT 2 4 1975

Consolidated Edison Company of
New York, Inc.
Attention: Mr. W. J. Cahill, Jr.
Vice President
4 Irving Place
New York, NY 10003

License No. DPR-5
Inspection No. 75-08
Docket No. 50-03

Gentlemen:

This refers to the inspection conducted by Mr. R. Hurd of this office on October 15-16, 1975 of activities authorized by NRC License No. DPR-5 and to the discussions of our findings held by Mr. Hurd with Mr. R. L. Simms of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

No reply to this letter is required; however, if you should have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

E/Brunner

Eldon J. Brunner, Chief
Reactor Operations Branch

Enclosure:
Region I Inspection Report No. 50-03/75-08

cc: A. E. Upton, Esquire
W. Stein, Manager, Nuclear Power Generation Department
S. Salay, Station Manager
J. M. Makepeace, Technical Operations Director

bcc:
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U. S. NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

IE Inspection Report No: 50-03/75-08

Docket No: 50-03

Licensee: Consolidated Edison Company

License No: DPR-5

Indian Point Unit No. 1

Priority:

Buchanan, New York

Category: D

Safeguards Group:

Location: Buchanan, New York

Type of Licensee: PWR, 615 MWt (W)

Type of Inspection: Routine, Unannounced

Dates of Inspection: October 15-16, 1975

Dates of Previous Inspection: October 7-10, 1975

Reporting Inspector: R O Hurd — 10/24/75
R. O. Hurd — DATE

Accompanying Inspectors: _____ DATE

_____ DATE

_____ DATE

Other Accompanying Personnel: _____ DATE

Reviewed By: E. C. McCabe, Jr. — 10/24/75
E. C. McCabe, Senior Reactor Inspector — DATE
Nuclear Support Section, Reactor Operations Branch

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items

Not inspected

Design Changes

Not inspected

Other Significant Findings

A. Current Findings

1. Acceptable Items

The following items were inspected on a sampling basis and findings did not involve an Item of Noncompliance, Deviation or an Unresolved Item.

a. Plant Tour. (Detail 3)
b. Fuel Handling Equipment Preparation. (Detail 4.c)
c. Ventilation System Requirements During Defueling. (Detail 4.d)
d. Radiation Monitors. (Detail 4.e)
e. Control Rod Drive Status During Defueling. (Detail 4.f)
f. Boron Concentration. (Detail 4.g)
g. Maintenance Items. (Detail 5)

2. Unresolved Items

The following items were inspected and more information is required to determine item status.

a. Signoff List for Defueling Prerequisites. (Detail 4.a)
b. Neutron Monitoring System Requirements for Defueling. (Detail 4.b)
c. Defueling Operation. (Detail 6)

B. Status of Previously Unresolved Items

None inspected

Management Interview

A management interview was held upon conclusion of the inspection on October 16, 1975 at the Indian Point Unit No. 1 site.

Personnel Attending

Mr. M. Byster, QA Engineer, QA&R
Mr. S. Cantone, Chief Operations Engineer
Mr. T. Law, Manager, Quality Assurance, NPG
Mr. C. C. Limoges, Operations Engineer
Mr. R. L. Simm, Chief Engineer
Mr. R. Van Wyck, Manager, Nuclear Services

The following summarizes the items discussed.

A. Plant Tour. (Detail 3)
B. Review Fuel Movement Procedures. (Detail 4)
C. Maintenance Items. (Detail 5)
D. Defueling Operations. (Detail 6)

DETAILS

1. Persons Contacted

Mr. S. Cantone, Chief Operations Engineer
Mr. W. E. Carson, Engineer-Test
Mr. J. R. Halpin, Reactor Engineer
Mr. C. C. Limoges, Operations Engineer
Mr. R. L. Simms, Chief Engineer
Mr. P. Waldo, QA Records Clerk

2. Inspection Purpose

The inspector stated that the purpose of the inspection was to review and witness the preparation for defueling of the reactor core.

3. Plant Tour

The inspector toured the Unit No. 1 Control Room, Containment Sphere and Fuel Handling Building with the following comments.

a. Shift Coverage

The licensee stated that the General Watch Foreman held a Senior Reactor Operator License for Unit No. 1 and the control room operator assigned to Unit No. 1 also held a Senior Reactor Operator License for Unit No. 1. During the present shutdown condition the control room operator monitors Channels No. 1 and No. 2 of the Nuclear Instrumentation. The inspector noted that Channels No. 1 and No. 2 indicated 20 cpm and 120 cpm, respectively. The licensee stated that the presence of the operator and monitoring of the operable neutron monitoring channels satisfies the requirements of Technical Specification Section 4.1.2.

The inspector had no further questions in this area.

b. Housekeeping

The inspector noted that good housekeeping practices were being maintained in the Containment Sphere and Fuel Handling Building, that the radiation areas were clearly marked and step-off pads and anti-C clothing were well maintained.

The inspector had no question in this area.

c. Watch Foreman's Log

The inspector reviewed the Watch Foreman's Log for the period of September 15, 1975 to October 14, 1975 and noted that the reactor coolant boron concentration had been increased to above 2000 ppm on September 27, 1975 and maintained at approximately 2250 ppm since that time. The reactor vessel temperature is maintained at 85°F by operation of the Decay Heat System.

The inspector had no questions in this area.

4. Defueling Procedure

The inspector reviewed three procedures which will be used during the planned defueling of the Unit No. 1 reactor vessel.

(1) O-18.4, Transfer of Reactor Core Components Between Core and Transfer Tube Shuttle
(2) O-18.5, Fuel Transfer Tube Shuttle System.
(3) O-18.6, Fuel Handling Procedure - Fuel Handling Building.

The inspector had the following findings.

a. Prerequisites

The inspector indicated concern that there was no check-off sheets included within these procedures for prerequisite conditions. The inspector stated that a signoff sheet was necessary to provide documentation that the prerequisites were met prior to fuel movement. The licensee stated that a signoff sheet will be developed.

This item is unresolved until subsequent inspection of the signoff sheet is completed.

b. Neutron Monitoring

The Technical Specification Section 4.2.8.4 states, "During fuel element or control element removal or insertion involving changes in core configuration or refueling, two operable neutron count rate detectors shall be installed within the reactor vessel. They shall replace the detectors of either Channels 1 and 2 or 3 and 4 and shall operate in the safety system. Neutron count rate detectors shall not be required within the reactor vessel provided the neutron detectors of Channels 1

and 2 located outside the reactor vessel indicate a count rate above noise level of two counts per second or more, and it can be demonstrated that a change in any core reactivity results in a change in the count rate on the external detectors."

The inspector noted that there was no specific reference to this requirement in any of the procedures. The fuel movement schedule (M4) does require recording the readings before and after fuel assembly movement but there is no specific acceptance criteria with regard to count rate. The licensee stated that compliance with Technical Specification 4.2.8.4 did not appear to be feasible during the defueling operation. The licensee stated all actions during defueling would decrease the core reactivity and the source level count rate. Further the requirements of TS 4.2.8.4 were not necessary to ensure plant safety. The licensee is requesting clarification of this item from NRC, Division of Reactor Licensing.

This item is unresolved.

c. Fuel Handling Equipment

Section 2.8 of Procedure O-18.4 requires check out and operation of the fuel handling equipment prior to fuel movement per approved procedures.

The inspector had no questions in this area.

d. Ventilation Requirements

Operating Procedure O-15.2, "Containment Ventilation," Section 4.3, states, "The Reactor Pool Exhaust Fans must be operated during refueling operations." The licensee stated this system provides air flow over the reactor pool and through absolute filters to the discharge stack.

The inspector had no questions in this area.

e. Radiation Monitors

To determine the status of the Radiation Monitoring system the inspector reviewed the 100 Day and Daily surveillance tests (T100D-5 and TD-5) on the Functional Radiation Monitors. The inspector reviewed the completed procedures T100D-5 dated September 16, 1975 and TD-5 for October 1, 1975 through October 14, 1975. These procedures were completed and approved. The inspector also reviewed the 100 day surveillance

procedure for the Area Radiation Monitors (T100D-6) completed July 2, 1975. This procedure was completed and approved. No inadequacies were identified.

f. Control Rod Drive Status During Defueling

There are no interlocks required for refueling operations by the Technical Specifications. The licensee stated the control rod hydraulic system will be out of service to ensure that control rods are not removed during the defueling operation.

The inspector had no further questions in this area.

g. Boron Concentration

To satisfy the Technical Specification 4.2.10.2 which states in part, "the boric acid in this water shall be maintained at a concentration that shall provide a maximum $K_{eff} \leq 0.9$" the licensee determined that the minimum boron concentration during fuel movement in the core is required to be 1950 ppm. This value was determined from data contained in WCAP-8046, "Nuclear Design of Indian Point Unit No. 1 Cycle 5 Based on an Extended Cycle 4." The inspector discussed this determination with the licensee and found it to be reasonable.

5. Maintenance Items

The inspector reviewed three maintenance items performed during the present outage to verify that the maintenance was performed by approved requests and procedures and the systems were returned to service after satisfactory completion of the specified testing. The Maintenance Work Requests (MWR) which contained the acceptance criteria for the system tests following completion of the maintenance were signed off by the Operations Engineer and the Test Engineer for each item. The three items reviewed are listed below. No inadequacies were identified.

a. MWR-01751, dated June 10, 1975, involved repair of an overload trip on Hydraulic Pump No. 11.

b. MWR-01762, dated June 17, 1975, involved repair to a Cooling Water Storage Tank Impulse Pressure line which was damaged by construction work.

c. MWR-01790, dated June 19, 1975, involved Steam Generator No. 11 low discharge pressure caused by fouling and required cleanup.

6. Defueling Operation

The licensee stated that fuel transfers to the fuel storage pool are expected to commence in two to three weeks. The licensee stated that all fuel handling will be directly supervised by a Senior Reactor Operator and that a licensed Control Room Operator will be present in the control room. The operators at the control of the fuel handling equipment will be trained but not licensed reactor operators. The inspector expressed concern that no documentation of the operator training would be maintained. The licensee stated that no documentation was required and that the SRO in charge would be responsible for the adequacy of the operators. This item will be further reviewed during a subsequent inspection.