

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 84-09

Docket No. 50-247

License No. DPR-26

Priority       --      

Category C


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

Facility Name: Indian Point Nuclear Generating Station, Unit 2

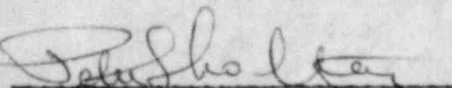
Inspection at: Buchanan, New York

Inspection conducted: April 9, 1984 to May 13, 1984

Inspectors:


  
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T. Foley, Senior Resident Inspector

5/22/84  
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date

  
\_\_\_\_\_  
P. Koltay, Resident Inspector

5/22/84  
\_\_\_\_\_  
date

Approved by:

for   
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L. Norrholm, Chief, Reactor Projects Section 2B,  
DPRP

5/25/84  
\_\_\_\_\_  
date

Inspection Summary:

This inspection report includes routine daily inspections, as well as unscheduled backshift inspections of onsite activities. The inspection focused on the "Basic Program" as defined in Manual Chapter 2515 of the NRC Enforcement and Inspection Manual. The inspection involved 177 hours by the resident inspectors.

Results: Two concerns were brought to the licensee's attention by the inspectors during the report period. (1) The licensee's fire protection training program has not developed effective fire brigade leadership, and (2) The diesel generator supplier has identified a potential hydraulic lockup problem which is under investigation by the licensee. No diesel generator failures have been attributed to this problem.

## DETAILS

### 1. Persons Contacted

Within this report period, interviews and discussions were conducted with various licensee personnel, including reactor operators, maintenance and surveillance technicians, and the Licensee's management staff.

### 2. Licensee Management Changes

The following licensee management changes became effective during the inspection period:

- Grant Lewis assumed the position of Chief Operations Engineer;
- John Curry assumed the position of Chief Technical Engineer;
- George A. Marquardt assumed the position of Acting General Manager, Environmental Health and Safety; and,
- Robert Vogle assumed the position of Acting Manager, Radiation Protection.

### 3. Licensee Action on Previously Identified Inspection Findings

(Closed) Violation (247/83-20-02) The licensee failed to provide proper means of supervision for approximately twenty-five valves which control water supplies to fire protection systems protecting safety related areas. The inspector verified that all of the above type valves have been provided with electrical and/or mechanical seals which prevent routine unauthorized operation of the valves.

(Closed) Violation (247/83-20-04) The licensee's valve verification surveillance test did not include several valves which were installed during recent modifications to the fire protection system. During the current report period, the inspectors verified that Revision 11 of Surveillance Procedure PT-M35, "Fire Valve Inspection" dated October 14, 1984, includes all fire protection system valves.

(Closed) Unresolved Item (247/83-21-05) The subject report discussed the lack of continuity in the licensee's training programs for non-licensed technical personnel. The inspectors verified that the licensee is in the process of implementing a training program for non-licensed technicians. Details of the program are discussed in NRC Inspection Report 247/84-02.

(Closed) Unresolved Item (247/83-12-02) Inadequate modification procedures and lack of management involvement with the modification program resulted in the failure of instruments and equipment installed in accordance with certain modification procedures. In order to identify and correct the problems of the modification program, the entire program was revamped. The scope of the new modification program was reviewed by the Operational Assessment Team, and will be documented in NRC Inspection Report 247/84-03.

### 3. Facility Operations Review

During this period, the licensee maintained full power operations through May 9, with one temporary power reduction on April 19 caused by partial vacuum loss in the main condenser. On May 9, the licensee reduced reactor power to 67% of full rated power, in order to facilitate continuous plant operations for the remainder of the fuel cycle.

Refueling and maintenance outage is scheduled to begin on June 2.

### 4. Plant Tours

During the course of the inspection period, the inspectors made multiple tours of all accessible areas within the facility. During these tours, the inspectors ascertained that sufficient controls were being implemented for the following:

- Radiation Protection Controls
- Plant Housekeeping
- Fire Protection
- Equipment Control
- Tagging Controls
- Pipe Support and Seismic Restraint
- Fluid Leaks
- Instrumentation and Controls

#### Findings:

- A. On May 2, 1984, while conducting a routine tour of the piping penetration areas, the inspectors noted that an 8" x 10" sheet metal ventilation duct was supported by a chain wrapped around the containment spray piping located above the duct. This item was brought to the licensee's attention. The licensee noted that the chain support was a temporary installation of undeterminable origin. The licensee also verified that adequate permanent supports for the duct are in place and the use of the temporary support is unnecessary, therefore, the chain was removed. The licensee stated that based on the size of the duct and the location of permanent supports, the increased load created on the spray line was negligible.

The inspectors consider this an isolated incident and no further action is warranted.

- B. On April 11, at approximately 10 a.m., the inspectors had an opportunity to observe the licensee's fire brigade respond to a fire located in the Diesel Generator Building. The fire was identified by technicians conducting surveillance tests on the diesel generators. A large quantity of smoke was generated by lubricating oil coming in contact with hot surfaces on the operating diesel generator. No flames were observed, and no actual fire fighting activity was required.

The response by fire brigade members to the fire alarm was prompt. However at the scene of the fire, fire brigade activities were uncoordinated and generally lacked in leadership.



Subsequent to the event, the following concerns noted by the inspectors were discussed with the licensee:

- A command post to direct all fire fighting operations and coordinate other related activities, was not established;
- Initial access to the building was uncontrolled and included fire brigade members who were not properly equipped for fire fighting operations, and at least 20 licensee personnel who had no legitimate interest in being inside the building at the time. The latter group contributed to the confusion that characterized the activity. Security coverage was provided at the access door to the building.

The inspectors reviewed the licensee's pre-planned fire fighting strategy for the diesel generator building and noted that several instructions were not adhered to by the fire brigade including:

- Assurance that all diesels are promptly shut down;
- Deenergize fuel transfer pumps, and
- Control building ventilation.

The inspectors verified that the diesels continued to operate for at least 5 minutes after the arrival of the fire brigade, and the access door to the building remained open throughout the incident.

Based on the above events, the inspectors questioned the effectiveness of the fire brigade leadership training program. Similar concerns were previously identified in NRC Inspection Report 83-24, which provided detail on the annual fire drill conducted on November 22, 1983.

The licensee has initiated a review and rewrite of fire fighting strategies for vital plant areas. The training program for fire brigade leaders and brigade members is also under review, to determine the necessary improvements which will make the program more effective. General employee training will be enhanced by instructing employees on how to react to fire alarms, and specifically, not to interfere with fire fighting operations. This item remains unresolved pending future review and evaluation by the NRC of the licensee's fire brigade training programs. (84-09-01)

#### 5. Operability of Engineered Safeguard Features

The inspectors verified the operability and positioning of valves associated with the following systems:

- Auxiliary Component Cooling System
- Hydrogen Recombiners
- Service Water System to Fan Cooler Units
- Auxiliary Boiler Feed System

The inspection criteria included:

- A walkdown of the accessible portions of the selected system;
- A verification of system lineup compared to plant drawings;
- Verification of appropriate hanger and support settings;
- Observation of cleanliness in breakers and instrumentation cabinets;
- Verification that instrumentation is properly aligned and calibrated;
- Verification that valves were properly positioned, power was available, and valves were locked or sealed, as required by check-off lists; and,
- Local and remote control positions were correctly established.

No violations were identified.

#### 6. Maintenance

The inspector reviewed/observed portions of selected maintenance activities on the following safety related systems and components. The inspector determined that such activities were conducted in accordance with approved procedures, technical specifications, and appropriate industrial codes and standards.

##### Reinstall UE Model F110A Temperature Switches to Replace Temperature Switches TC 1112S and TC 1113S

The licensee identified that the response time for two temperature switches TC 1112S and TC 1113S which initiate isolation of the steam supply line to the auxiliary feedwater pump could be as much as 7 minutes. The isolation occurs if ambient temperature reaches  $130 \pm 5^{\circ}\text{F}$  to protect the motor driven auxiliary boiler feed pumps. The switches were installed during the 1982 refueling outage as part of a modification to replace original equipment with environmentally qualified equipment. The response time for the original switches was 8 seconds.

The licensee, in accordance with Modification MFI 84-40748, replaced the EQ switches with the original equipment. The licensee was also able to environmentally qualify the original equipment by sealing the conduit and the switches with RTV-88 sealant. The post maintenance test verified that the switches initiated a signal 8 seconds after exposure to  $130^{\circ}\text{F}$  heat lamp.

### No. 23 Diesel Generators

The licensee determined that lubricating oil leaked past a check valve into No. 4R cylinder and into the exhaust manifold. Upon starting the engine, a loud noise was heard and smoke was generated while the excess lube oil burned off. The licensee, in accordance with MWR 13555 removed, cleaned, and re-installed No. 4R cylinder head. The lube oil check valves were also cleaned and tested. Post Maintenance Test 2023 was performed satisfactorily. The licensee's diesel generator supplier inspected the engine and, in a letter to the licensee, stated that lubricating oil leakage into the engine cylinders could result in hydraulic lockup of the cylinders on starting. No further explanation of this statement was made. The inspector requested that the licensee determine the impact the hydraulic cylinder lockup may have on emergency diesel operation. This item remains unresolved pending clarification of the vendor's statement and the initiation of necessary corrective action by the licensee. (84-09-02)

Portions of the following additional maintenance activities were observed by the inspectors:

- Service Water Pumps No. 25 and 26 - Leakage through the discharge line checkvalves caused backwards rotation of the pumps. The licensee re-worked the checkvalves. Zurn strainers associated with each of the pumps were removed and cleaned.
- No. 21 Rod Drive Motor/Generator Set - The licensee overhauled the MG set in accordance with Maintenance Procedure 2CM-16-37.

### 7. Surveillance

The inspector verified that surveillance of safety-related systems and components was performed by licensee personnel in accordance with technical specification requirements for frequency and acceptance criteria.

The following surveillances performed by the licensee, were observed during the inspection period:

#### Diesel Generator Functional Test, PT-M21, Revision 16

On April 11, upon starting No. 23 diesel generator, the technicians observed smoke originating from the engine exhaust manifold. The technicians terminated the test. The licensee determined that No. 23 engine failed its surveillance test. On May 9, while conducting PT-M21, No. 23 diesel generator failed to start. Since this constitutes the second failure out of the previous 100 starts for No. 23 diesel generator, the licensee, in accordance with the February, 1980 order, will increase testing frequency of the diesel from once per 31 days to once per 14 days. The licensee determined that the cause of failure was a defective air start motor.

The following additional surveillance tests were observed:

- Atmosphere Tank Inspection, PT-M1, Revision 3
- Auxiliary Boiler Feed Pumps Functional Test, PT-M43, Revision 16
- Main Fire Pump Test, PT-M34, Revision 7



No violations were identified.

#### 8. Preparation for Refueling

The 1984 refueling outage is scheduled to begin on June 2 and will last approximately 90 days. The following major jobs are planned for the outage:

- 10 year Inservice Inspection Program;
- Steam Generator Manway Repairs;
- Steam Generator Tubing Inspection Program;
- Reactor Lower Internals Removal and Inspection;
- Reactor Defueling and Refueling;
- Fan Cooler Unit Fan Motor Replacement; and,
- Seal Replacement for Reactor Coolant Pumps No. 22 and 24.

The inspector verified, that prior to receipt of new fuel, technically adequate, approved procedures were available covering the receipt, inspection and storage of new fuel.

The inspector reviewed the following procedures:

- Maintenance Procedure, Unloading, Storing and Handling of New Fuel Assemblies, 2CM-2.14, Revision 4, December 12, 1984; and,
- Nuclear Fuel Receipt Inspection Check List.

The inspector verified that selected portions of these activities, including inspection unloading and opening of containers, inspection and storing of fuel assemblies, were performed in accordance with the licensee's procedures.

No violations were identified.

#### 9. Spent Resin Transfer

During this period, the licensee transferred and solidified 72 cubic feet of spent resin from deborating demineralizers to one resin transfer cask for shipment to Barnwell, South Carolina.

The inspectors reviewed the licensee's procedure SOP 5.32, Revision 5, "Spent Resin Transfer to Shipping Cask," attended the pre-transfer briefing, and witnessed portions of the transfer. The transfer was performed without incident.

No violations were identified.

## 10. TMI Action Items

The inspector reviewed the status of the licensee's actions with regard to NUREG 0737 items, as modified by NUREG 0737, Supplement 1, Generic Letters 82-02, 82-05, 82-12, and 82-16, and as stated in the applicable licensee correspondence to the NRC. Additional information regarding TMI Action Plan items is documented in the following reports: 50-247/81-05, 06, 15, 20; 82-02; and 83-12, 14, 21, and 24.

The licensee has delegated the responsibility of consolidating and tracking to completion the 0737 items to one individual. Discussion with this individual revealed that most of the applicable documentation associated with the TMI items are at the corporate office and are not kept on site.

The inspector reviewed the following outstanding items:

### II.B.1 - Reactor Coolant System Vent

This item was addressed in Inspection Report 83-12 and 24. Subsequently, the licensee has developed Procedure A-43 "Voids in Reactor Vessel" which provides information about when and how to utilize the reactor coolant head vent system. Discussion with operators revealed that operators have not been trained in the use of the system; however, training department personnel plan to include head vent training in the next training cycle.

### II.E.1.1 - Auxiliary Feedwater System Evaluation

This item was previously addressed in Inspection Report 80-15 and 81-05 and 20.

#### A. Flow Rate Indication

The control room is provided with one channel of auxiliary feedwater flow indication for each steam generator. The flow transmitters are Rosemont - 1153A transmitters located in the Auxiliary Boiler Feed Pump Room. These transmitters are listed on the licensee's list of Electrical Equipment Important to Safety pursuant to 10 CFR 50:49.

Power supplies to the transmitters are supplied off the 118 VAC instrument buses through static inverters from the 120 volt DC buses and the 480 volt buses via a 480V/120V transformer. Emergency Diesel Generators are connected to the 480 volt buses. Each instrument is independently supplied from a separate bus.

#### B. Automatic Initiation

The system automatically initiates on selected plant parameters signals including Steam Generator low level, safety injection and unit trip coincident with a station blackout. Testing of these features occurs during refueling surveillance testing.

#### C. Safety Evaluation

A safety evaluation by NRR is in progress. Several letters have been sent to the licensee requesting additional information in order to complete the evaluation.



### II.F.1 - Accident Monitoring

This general topic was addressed in Inspection Report 50-247/81-06. Specific items (1), (2), and (3) will be reviewed in a subsequent inspection by regional specialists. Topic (4), Containment Pressure Monitor, is discussed below.

#### (4) Containment Pressure Monitor

The licensee has installed two containment pressure monitors. The scale of the wide range monitor is 0-75 psig. The scale of the narrow range monitor is -5 to +5 psig. Additionally, there is a 0-150 psig containment pressure recorder installed in the control room. The work package, MWR-2N2-5139; MMC-80-2-04 did not address equipment qualifications, nor were the response time specifications addressed. This item will be reviewed during a future inspection. (84-09-03)

### 11. Physical Security

During the course of the inspection, the inspectors observed the implementation of the security plan by noting:

- That the security organization is properly manned and that security personnel are capable of performing their assigned function;
- That persons and packages are checked prior to allowing entry into the protected area;
- That selected vital area barriers are not degraded;
- That vehicles are properly authorized, searched, and escorted or controlled within the protected area;
- That persons within the protected area display photo identification badges, persons in vital areas are properly authorized, and persons requiring escort are properly escorted;
- That compensatory measures are employed when required, by security equipment failure or impairment; and,
- That response to threats or alarms or discovery of a condition that appears to require additional security precaution is consistent with procedures and the security plan.

No violations were identified.

### 12. Unresolved Items

Unresolved items are those for which further information is required to determine whether the item is acceptable or a violation. Unresolved items are discussed in Paragraphs 4, 6, and 10.

### 13. Exit Interview

During the inspection, meetings were held periodically with senior facility management to discuss inspection scope and findings.