U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 84-12

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: May 14, 1984 to June 15, 1984

Inspectors:

T. Foley, Senior Resident Inspector — 6/27/84 date

P. Koltay, Resident Inspector — 6/27/84 date

Approved by:

L. Norrholm, Chief, Reactor Projects Section 2B
DPRP — 6/27/84 date

Inspection Summary: Inspection on May 14 - June 15, 1984 (Report No. 50-247/84-12)

Areas Inspected: This inspection report includes routine daily inspections, as well as unscheduled backshift inspections of onsite activities, and includes the following areas: licensee action on previously identified inspection findings; facility operations review; operability of engineered safeguard features; maintenance; alternate shutdown exercise; radiological controls; surveillance; investigation of an allegation; and, physical security. The inspection involved 168 hours by the resident inspectors.

Results: Two concerns were brought to the licensee's attention by the inspectors during the report period. (1) Several deficiencies in the licensee's health physics program, identified during the first week of the refueling and maintenance outage, prompted the inspectors to request an inspection by a regionally based specialist in this area. That inspection has been completed, and the findings will be issued in NRC report 84-13, and (2) The licensee's security personnel failed to comply with access control procedures. Immediate corrective action was taken by the licensee.

## 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 Action on Previously Identified Inspection Findings

(Closed) Unresolved Item (247/83-12-01) Remote steam generator and pressurizer levels and pressure indicating instruments failed due to incorrect installation of associated piping. The inspector verified that the licensee rectified the installation errors and the instruments are operational.

(Closed) Unresolved Item (247/83-21-01) The licensee's procedures addressing jumper logs failed to clearly identify the requirement for retention of records of determinations of unreviewed safety questions. The inspector verified that the licensee issued a revised Procedure, SAO 126, "Jumper Logs," Revision 9, which requires the retention of documented reviews performed in accordance with 10 CFR 50.59.

(Closed) Violation (247/83-24-04) The licensee determined that the containment spray system was isolated due to incorrect positioning of two system isolation valves, while the reactor coolant system temperature was maintained above 350°F. The inspector verified that the licensee has completed the corrective actions identified in the licensee's letter to the NRC dated April 12, which will preclude the recurrence of this violation.

(Closed) Unresolved Item (247/84-02-01) The subject report detailed concerns regarding the licensee's draindown procedure which did not provide sufficient guidance for accurate Reactor Coolant System (RCS) level monitoring. The licensee issued Procedure SOP 1.2, "Draining Reactor Coolant System," Revision 11, dated May 18, 1984. The inspector verified that the procedure provides instructions for RCS draindown in a manner which allows for accurate monitoring and control of RCS level and provides precautions to prevent residual heat removal pump cavitation during the procedure.

(Closed) Unresolved Item (247/84-02-03) The licensee temporarily replaced a leaking containment isolation valve, FCV 1173, on the containment purge exhaust system with a blank flange. At the time of the installation, the applicable safety evaluation was not available for the inspector's review. Subsequently, the inspector reviewed the licensee's Safety Evaluation No. NS-2-84-026, and found it acceptable.

(Closed) Violations (247/84-08-01 and 84-08-02) During full reactor power operations, the licensee failed to adhere to radiological safety requirements while performing work in high radiation areas inside containment, and failed to conduct pre-planning meetings and a thorough briefing of personnel prior to entering high radiation areas inside containment. Subsequently, the licensee reviewed applicable health physics and operations departments' procedures, and determined that guidelines for accessing and performing work in high radiation areas need to be revised. As a result of the procedure review, the licensee issued Environmental Health and Safety Procedure EHS 3.106, "Containment Building Entry," Revision 0, which defines the functions for health physics technicians, and identifies requirements for pre-planning and briefing for parties entering the containment building during power operations. Also, the licensee is in the process of revising Station Administrative Order SAO 134, "High Radiation Exposure Tasks," to provide guidance for work parties on accomplishing tasks in high radiation areas. Training for Nuclear Plant Operators includes additional emphasis on ALARA. The inspectors attended several pre-planning meetings and verified that inspection and work parties entering the containment during power operations are adequately briefed by the responsible supervisors While this item is closed, the inspectors will continue to monitor the licensee's activities in this area.

3. Facility Operations Review

During this period, the plant operated at 100% power through May 10, and at 65-69% of full rated power through June 2. On June 2, the licensee commenced a planned refueling and maintenance outage scheduled to last 88 days. Utilizing safe shutdown equipment, the licensee conducted a controlled cooldown from outside the control room for approximately 50°F. On June 3, the reactor was placed in cold shutdown, and on June 7, the reactor coolant was drained to a level approximately midpoint of the loops, to facilitate maintenance.

4. Operability of Engineered Safeguard Features

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

- Emergency Diesel Generator, starting air
- Emergency Diesel Generator, fuel supply
- Residual Heat Removal System
- High Pressure Safety Injection 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 checkoff lists; and,

- Local and remote control positions were correctly established.

No violations were identified.

5. Maintenance

During this refueling and maintenance outage, the inspectors observed portions of selected inspection/maintenance activities on the following safety related systems and components. The inspectors determined that such activities are conducted in accordance with approved procedures, technical specifications, and appropriate industrial standards and codes. The inspectors also monitored the licensee's quality assurance activities regarding major maintenance items:

- Installation of a low pressure purification pump;

- Installation of reactor coolant pump seals;

- Steam generator inspection program, including sludge lancing and preparations for eddy current testing;

- Replacement of defective RTD's and installation of new RTD's; and,

- Steam generator and pressurizer manway repairs.

No violations were identified.

6. Alternate Shutdown Exercise

On June 3, while the reactor was being cooled to a cold shutdown condition, the licensee transferred the reactor cooldown activity from the control room to the alternate shutdown facilities located in the plant. The full complement of shift watch remained in place, with the alternate cooling procedure implemented by a spare watch personnel. The licensee followed Temporary Operating Instructions, TOI 54, to reduce reactor coolant temperature by approximately 50°F. The activity included:

- Local control of the secondary atmospheric relief valves;

- Local control of charging and letdown flow, and of pressurizer pressure and level; and,

- Monitoring thermocouple readings from cable spreading room.

Several activities planned, such as the local control of motor driven auxiliary feedwater pumps and operation of transfer switches to provide alternate power supplies to 21 auxiliary feed pump had to be dropped due to equipment failure. The single major problem area identified by both the inspectors and the licensee, concerns the inadequacy of the portable communications equipment. This item is under review by the licensee.

No violations were identified.

7. Radiological Controls

On June 5, 1984, during a routine tour of the containment, the inspectors noted a step-off pad at the access point to Number 24 Reactor Coolant Pump (RCP) grating on the 95 foot elevation of the building. The grating above the pump has been removed leaving a large opening with a safety rail around it, and a ladder tied to the safety rail leading down to the various levels of the RCP below, with direct access to the 46 foot elevation of the containment building inside the biological shield wall. Several areas accessible through this opening have general fields greater than 1000 mr/hr, and also require the use of respirators.

The inspectors noted that no high radiation area and airborne reactivity area warning signs have been conspicuously posted. Access to the area was not actively guarded by licensee personnel to prevent unauthorized entry. A review of surveys of these areas, dated June 4, 1984, indicated radiation levels as high as 3000mr/hr general area (under No. 24 hot leg), and hot spots up to 7000 mr/hr. The inspector noted that, at the time of the inspection, these readings may have been higher than indicated on the survey due to the addition of chemicals to the reactor coolant to initiate crud burst. Further investigation of this area found one sign posted on a rope surrounding the No. 24 RCP 95 foot level grating area that extended from the pressurizer cubicle to a post marking the entrance, but not including the entrance, to No. 24 RCP. This sign stating, "Contaminated Area, Contact HP Prior to Entry," was not visible from the step-off pad/entrance to the pump area.

Technical Specification, Section 6.11, requires the licensee to prepare procedures for radiation protection of personnel. Such procedure shall be approved, maintained and adhered to for all operations involving radiation exposures. The licensee's health physics Procedure EHS 3.101, "Access Control Areas," Revision 0, defines high radiation and airborne radioactivity areas, and requires such areas to be segregated from adjoining areas of lower radiation intensity, less than 100 mr/hr, by methods identified in the procedure. In addition, the procedure states that all access points to high radiation areas and/or airborne radioactivity areas will be conspicuously posted with the appropriate signs, and if the radiation intensity in the areas is greater than 1000 mr/hr, access control point will be actively guarded.

Although the containment building is posted as a high radiation area, with access control points continuously manned and monitored, most areas within the building have radiation levels below the 100 mr/hr limits (e.g. 20-40 mr/hr) set by the licensee's procedures, and do not qualify as high radiation or high airborne activity areas.

It is the licensee's practice, however, to identify all high radiation and airborne radioactivity areas within containment and segregate such areas by manned access control, and by conspicuous posting of high radiation and airborne radioactive area signs as required.

The licensee's failure to conspicuously post a high radiation and airborne radioactivity area sign, with radiation intensity levels greater than 1000 mr/hr, and provide guarded access control to the area, is an apparent violation. (84-12-01)

The apparent violation was brought to the licensee's attention by the inspectors. Immediate corrective action, by the licensee, included the posting of appropriate caution signs, reinstruction of health physics technicians and responsible supervisors on procedural requirements, and placement of barricades at uncontrolled access points to high radiation area with greater than 1000 mr/hr fields. The access controls were subsequently augmented by assigning health physics technicians to actively guard against unauthorized entry to each high radiation area.

On the same tour, the inspectors noted several examples of improper radiological controls. In at least one instance, personnel received greater than anticipated exposures; however, regulatory and administrative limits were not exceeded. The resident inspectors observed two quality assurance (QA) inspectors standing in an area where normal radiation dose rates are in the 20-40 mr/hr range as supported by a June 4 survey of the area. The QA inspectors were unaware that due to the ongoing chemical cleaning of the primary system, general radiation fields in the area they were standing in increased to 150 mr/hr at eye level and 100 mr/hr at waist level, as determined by the resident inspector and verified by an HP technician.

Based on observation of ongoing activities, and on discussions with the licensee management, health physics technicians, and with members of various work parties, the inspectors identified the following practices detrimental to the implementation of good HP controls:

- Lack of communication and coordination between the various licensee departments;

- Lack of familiarity by new HP technicians with plant layout and recently revised radiological procedures; and,

- Lack of on-the-job guidance provided by technicians familiar with the plant, and with the applicable procedures, to new technicians.

The inspectors findings were brought to the attention of licensee management.

The licensee management's immediate corrective actions included:

- Identification of all high radiation area with general fields greater than 1000 mr/hr, by posting appropriate signs and erecting barricades;

- Additional HP technicians have been assigned to the containment building, including technicians with extensive site experience; and,

- Additional training has been conducted in the use of digidose devices.

This item remains unresolved pending a review, by regionally based NRC inspectors, of the licensee's corrective actions, and a review of the health physics program in place during the refueling and maintenance outage. (84-12-02)

8. 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:

- Reactor Containment Leakage Testing, Type B and Type C Tests, PTR-27, Rev. 10;
- Main Steam Safety Valve Setpoint Determination Test, PTR-6, Rev. 7;
- Fire Valve Inspection, PT-M35, Revision 11; and,
- Steam Driven Auxiliary Boiler Feed Pumps Full Flow Test, PT-R22A, Rev. 2.

No violations were identified.

9. Investigation of An Allegation

On May 7, the inspector received a telephone call from a person who identified himself and stated that he was in the licensee's employ, through May 4. The caller alleged that the various departments on site, responsible for the issuance of Temporary Procedure Changes (TPC), do not present those changes to the members of the onsite safety review committee within the required seven days of issuance.

The caller identified three such instances, involving TPC's 83-44, 83-54 and 84-04. The inspector reviewed the above TPC's among others, and determined that with the exception of 84-04, all TPC's were brought to the attention of the review committee within the required time period. The latter TPC 84-04, was issued as a renewal of a previously expired TPC regarding the licensee's procedure SAO 124. The licensee identified the error and notified the resident inspector regarding the lateness of the TPC, on April 24, which is before the alleger's initial contact with the inspector. The inspector determined that the licensee's failure to present TPC 84-04 to the review committee was an isolated incident, and does not require further followup.

The caller also alleged that six review committee meeting minutes were based on inadequate notes, recorded by an alternate during the caller's absence. The meetings identified are Nos. 761, 771, 777, 780 and 781, conducted during the latter part of last year. The inspector requested copies of the minutes of meetings identified above. The inspector obtained and reviewed the minutes of meeting No. 771, dated November 25, 1983, and found them to be acceptable. This item remains unresolved pending the inspector's review of the remaining minutes of meetings identified by the caller. (84-12-03)

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Inadequate Employee Screening

On May 14, 1984, the licensee identified incorrect information contained in seven background verification letters issued by Crouse Nuclear Energy Services, Inc., a licensee contractor, to their non-union employees.

In all cases, the information pertained to the person's term of employment with the contractor, and allowed for the issuance of unescorted access badges without employee screening. All letters were signed by the contractor's site project manager.

The licensee identified all non-union employees of the contractor, (69) and replaced their unescorted badges with escort-required badges, pending a review of each individual's background documentation. The licensee's corporate security management team conducted an investigation and determined that the problem is limited to one contractor performing work on site. The licensee also initiated a background check on each of the contractor employees in question. As of June 15, approximately 16 employees qualified to receive unescorted site access security badges. The remaining non-union employees of the contractor continue to conduct work on site using security badges requiring escort. The licensee reviewed the employee screening procedures for another major contractor, and found that background verification of all employees met the requirements.

On June 5, the licensee informed the inspectors that, based on information from an anonymous caller, two union employees have been identified, by the licensee, who do not qualify for unescorted security badges, due to incorrect information contained in their background verification letter. The two employees in question have been working on site since October, 1982, and belong to the laborer's union, Local 275. The licensee revoked the employees' security badges and initiated an investigation to determine if other members of the same union employed at the site are affected. The NRC's regionally based security inspectors have been notified, and they will continue to monitor the licensee's activities in this area.

11. 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 7, and 9.

12. Exit Interview

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