

John D. O'Toole  
Vice President

Consolidated Edison Company of New York, Inc.  
4 Irving Place, New York, NY 10003  
Telephone (212) 460-2533

Letter No. 81-104  
May 22, 1981

Re: Indian Point Unit No. 2  
Docket No. 50-247

Mr. Eldon J. Brunner, Chief,  
Reactor Projects Branch 1,  
Division of Resident and  
Project Inspection  
U. S. Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, Pa. 19406

Dear Mr. Brunner:

This refers to Inspection #50-247/81-03 conducted by Mr. T. Kenny and Mr. T. Rebelowski of your office during the period January 4 through February 28, 1981 of Indian Point Station Unit 2. Your April 29, 1981 letter stated that it appeared that one of our activities was not conducted in full compliance with NRC requirements as set forth in the Notice of Violation enclosed therewith as Appendix A. Our response to this item is presented in the attached Appendix A.

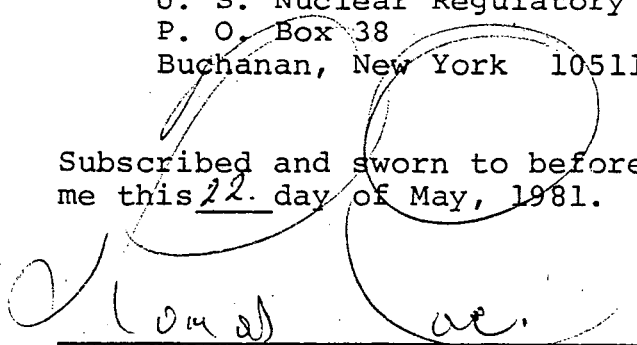
Very truly yours,



Attach.

cc: Mr. T. Rebelowski, Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 38  
Buchanan, New York 10511

Subscribed and sworn to before  
me this 22 day of May, 1981.



Notary Public

THOMAS LOVE  
Notary Public State of New York  
No. 31-2409638  
Qualified in New York County  
Commission Expires March 30, 1983

8106300429

APPENDIX A

NRC Inspection Report  
50-247/81-03

Response Item (3.b)

On January 26, 1981 the NRC inspector, during a routine survey of the area surrounding the refueling cavity, identified one item of non-compliance. The scope of the refueling elevation construction activity sometimes requires that essential work unrelated to refueling proceed during the refueling period. When the reactor vessel head is removed for an extended period of time as during the current outage, vulnerability to cleanliness control increases.

Our overall approach to Reactor Coolant System cleanliness is to use a "defense in depth" concept. Three distinct areas have been established with increasingly limited accessibility and cleanliness control. The designated areas with the least restricted accessibility and concern for cleanliness are the locations of the refueling elevation. More restrictive is the area adjacent to the refueling cavity. Some locations in this designated area although located next to the pool are relatively remote from the vessel. The area of greatest cleanliness concern and with the most restricted accessibility is the refueling cavity and the area directly over the vessel. These three areas provide for staged control which facilitates Reactor Coolant System cleanliness. Prior to reinstallation of the upper internals, additional protective measures are taken; for example, a visual examination is made of the upper fuel nozzles for any foreign objects. It is our position that cleanliness control is an important and integral part of any construction activity undertaken on the refueling elevation.

The importance of promptly correcting items of non-compliance and preventing recurrence of these items is recognized by Con Edison. With regard to this concern the actions listed below were taken immediately following the inspection.

1. Loose items were secured as per Station Procedure QA-10, Appendix A, Rev. 2 or removed from the area;
2. The cleanliness inspection personnel reread the above procedure;
3. Corporate representatives of the inspection contractor hired by Con Edison and responsible for monitoring cleanliness in the refueling area were made aware of the problem; and
4. Some items near the marked refueling boundary were moved. This was done to reduce the risk of these items causing cleanliness problems within the refueling area.

Subsequent steps undertaken include:

1. Appropriate job supervisors had the cleanliness procedure requirements reviewed and discussed with QA personnel;
2. An existing QA policy was amended to require inspection (at least once per shift) in the refueling areas beyond that of normal monitoring.
3. A lead inspector was designated for each segment of the shift on the refueling elevation; and
4. Clearer inspector shift turnover measures were instituted.

Our program for refueling cleanliness control is undergoing review by Plant and Power Generation Maintenance personnel. Recommendations resulting from this review will be incorporated into procedure for the next outage.

The above actions provide future assurance against recurrent non-compliance items of the type identified in the NRC Inspection Report 50-247/81-03.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION I

631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

29 APR 1981

Docket No. 50-247

Consolidated Edison Company of  
New York, Inc.  
ATTN: Mr. John D. O'Toole  
Assistant Vice President - Nuclear  
Affairs and Quality Assurance  
4 Irving Place  
New York, New York 10003

Gentlemen:

Subject: Inspection 50-247/81-03

This refers to the routine inspection conducted by Mr. T. Rebelowski and Mr. T. Kenny of this office on January 4, 1981 - February 28, 1981 at Indian Point Station Unit 2 of activities authorized by NRC License No. DPR-26 and to the discussions of our findings held by Mr. Kenny with Mr. Monti 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.

Based on the results of this inspection, it appears that one of your activities was not conducted in full compliance with NRC requirements, as set forth in the Notice of Violation, enclosed herewith as Appendix A. This item of noncompliance has been categorized into the levels described in the Federal Register Notice (45 FR 66754) dated October 7, 1980. You are required to respond to this letter and in preparing your response, you should follow the instructions in Appendix A.

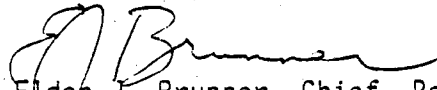
In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, 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

29 Apr 1981

must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b) (4) of Section 2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Eldon J. Brunner, Chief, Reactor  
Projects Branch 1, Division of Resident  
and Project Inspection

Enclosures:

Appendix A, Notice of Violation  
Office of Inspection and Enforcement Inspection  
Report Number 50-247/81-03

cc w/encl:

L. O. Brooks, Project Manager, IP Nuclear  
W. Monti, Manager, Nuclear Power Generation Department  
M. Shatkouski, Plant Manager  
J. M. Makepeace, Director, Technical Engineering  
W. D. Hamlin, Assistant to Resident Manager (PASNY)  
J. D. Block, Esquire, Executive Vice President - Administration  
Joyce P. Davis, Esquire  
Brent L. Brandenburg, Assistant General Council

bcc w/encl:

IE Mail & Files (For Appropriate Distribution)  
Central Files  
Public Document Room (PDR)  
Local Public Document Room (LPDR)  
Nuclear Safety Information Center (NSIC)  
Technical Information Center (TIC)  
REG:I Reading Room  
State of New York  
NRC Resident Inspector  
Chief, Operational Support Section (w/o encls)

APPENDIX A

NOTICE OF VIOLATION

Consolidated Edison Company  
Indian Point Unit 2

Docket No. 50-247  
License No. DPR-26

As a result of the inspection conducted on January 26, 1981, and in accordance with the Interim Enforcement Policy, 45FR66754 (October 7, 1980), the following violation was identified:

Technical Specification 6.8.1 states in part, "Written Procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972. . .".


Station Operating Procedure, SOP 17.1, "Preparations For Core Refueling" Step 4.2.19 states, "The refueling area inside the Roped Off Area has been vacuumed and cleaned as necessary to prevent accumulation of dust, dirt and debris in accordance with QA-10, Appendix A."

Station Procedure QA-10, Appendix A, Rev. 2 states, "Whenever the Reactor Vessel head is removed all tools and equipment shall be prevented from loss into the Reactor Vessel by lanyards, equivalent devices or other special precautions.

Contrary to the above, the inspector found, during a routine survey of the area surrounding the refueling cavity, several wrenches, a gas pressure regulator, clear goggles, a bag of tie wraps in a clear poly bag and an aluminum conduit coupling, none of which were attached to a lanyard or equivalent device. This is a Severity Level V Violation (Supplement I.)

Pursuant to the provisions of 10 CFR 2.201, Consolidated Edison Company is hereby required to submit to this office within twenty-five days of the date of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

Dated APR 29 1981



Eldon J. Brunner, Chief,  
Reactor Project Branch 1,  
Division of Resident and  
Project Inspection

Dcs 50247-810108  
50247-810110  
50247-810112  
50247-810120  
50247-810124  
50247-810223  
50247-810225

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

Region I

NOTED  
30 APR 1981  
RECEIVED  
2.790  
NOT RECORDED  
IN ACCORDANCE WITH 10 CFR

Report No. 50-247/81-03  
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: January 4, 1981 to February 28, 1981

Inspectors: *H. Kister* 4/28/81  
date signed  
T. Rebelowski, Senior Resident Inspector  
*T. Kenny* 4/28/81  
date signed  
T. Kenny, Resident Inspector

Approved by: *H. Kister* 4/28/81  
date signed  
H. Kister, Chief, Reactor Projects  
Section No. 4, RO&NS Branch

Inspection Summary:

Inspections on January 4, 1981 - February 28, 1981 (Report No. 50-247/81-03)

Areas Inspected: Routine, onsite regular and backshift inspections of plant operations including shift logs and records; licensee action on previous inspection findings; observation of physical security; review of monthly and periodic reports; licensee action on previously identified findings; inspection during long term shutdown; maintenance observation; surveillance observations; refueling activities; follow-up on significant events and independent effort. The inspection involved 164 inspector-hours by the resident inspectors.

Results: One item of noncompliance was identified (Inspection During Long-Term Shutdown, Paragraph 3b.)

## DETAILS

### 1. Persons Contacted

- \*J. Curry, Chief Operations Engineer
- \*C. Limoges, Reactor Engineer
- \*J. Makepeace, Technical Engineering Director
- \*W. Monti, Manager, Nuclear Power Generation Department
- M. Shatkouski, Plant Manager
- S. Wisla, Chemistry and Radiation Safety Director
- L. Kawula, Test and Performance Engineer
- L. Volpe, Test Engineer

The inspector also interviewed and observed other licensee employees including members of the operations, health physics, technical services, maintenance, and security staffs.

\*Denotes staff members present at Exit Interview in which the notice of violation was discussed.

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

(Open) Unresolved Item (80-22-06): Perform an audit of locked valves by December 19, 1980 and again prior to start up. An audit of locked valves has been conducted by the licensee and the first part of this item is closed. However, the audit prior to start up remains unresolved.

(Closed) Unresolved Item (80-22-07): Review the MWR process from initiation to close-out by January 9, 1981. The licensee has conducted



this review and recommended changes to improve the MWR program. The inspector has no further questions in this area.

(Closed) Unresolved Item (80-22-08): Review the surveillance test process from initiation to completion of tests including review and evaluation by January 9, 1981. The licensee has conducted this review and indicated more follow-up of findings in surveillance tests is required. The inspector has no further questions in this area.

(Closed) Unresolved Item (80-22-09): Develop an administrative policy through which individuals may express their plant-related concerns by December 31, 1980. By development of administrative order #123, Personnel Safety Concerns, the licensee has developed such a policy. The inspector has no further questions in this area.

(Closed) Unresolved Item (80-22-10): Review Housekeeping Policy Station Administrative Order to assure it is clear in its objective and ensure that it can be effective through its implementation by December 31, 1980. The licensee has reviewed the mentioned Administrative order and found it adequate. However, to improve its effectiveness, the licensee has assigned various subsection heads the responsibility for housekeeping in various parts of the plant. The inspector has no further questions in this area.

(Closed) Unresolved Item (80-22-13): The Q.A. Engineer will review facility weld rod control programs by December 23, 1980. The licensee has conducted a review of weld rod control and will make changes to improve the system. The inspector has no further questions in this area.

### 3. Inspection During Long Term Shutdown

- a. The inspector observed control room operations, reviewed selected logs and conducted discussions with control room operators during the inspection period. Tours of the primary auxiliary building,

reactor buildings, and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards and fluid leaks. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste discharges including the documentation of records for selected accumulated discharges.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedure.

- b. The inspector identified one item of noncompliance in one area; failure to follow a procedure.

Station Procedure QA-10, Appendix A, Rev. 2 states in part: "whenever the Reactor Vessel head is removed, all tools and equipment shall be prevented from loss into the Reactor Vessel by lanyards, equivalent devices or other special precautions."

Contrary to the above, the inspector found, during a routine survey of the area surrounding the refueling cavity, several wrenches, a gas pressure regulator, clear goggles, a bag of tie wraps in a clear poly bag and an aluminum conduit coupler, none of which were attached to a lanyard or equivalent device. This is a violation. (50-247/81-03-01)

#### 4. Maintenance Observation

Station maintenance activities on safety-related systems and components listed below were reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

##### a. Maintenance Work Requests

MWR 2936 - Replaced Nuclear Instrument Channel 42

MWR 3270 - Replaced Nuclear Instrument Channels 31 and 35

MWR 1344 - Removed and checked Nuclear Instrument Channels 32 and 36

No items of noncompliance were identified.

- b. The inspector reviewed procedure 2CM-1.61 "Replacement of Studs in Reactor Coolant Pump" (RCP) and visited the work site of RCP #22, where the procedure was in progress. The inspector's findings are noted below:

- The system was tagged in accordance with station procedures.
- The work in progress was being accomplished under RWP 3803.
- The torque wrench and dial indicator being used had been calibrated within the required time interval.
- Q.A. hold points were being observed.
- The procedure being used had been approved by the proper personnel listed in the Station Administrative Procedures.

In addition, the inspector reviewed the purchase order and Q.C. acceptance of the replacement studs and nuts. No items of non-compliance were identified.

- c. The licensee's technical specifications requires, "once each refueling cycle, a representative sample of 10 hydraulic snubbers or approximately 10% of the hydraulic snubbers, whichever is

less, shall be functionally tested for operability including verification of proper piston movement, lockup rate and bleed. For each hydraulic snubber found inoperable, an additional 10% of the remaining hydraulic snubbers, whichever is less, shall be tested. This procedure shall be repeated until no failures are found or all hydraulic snubbers subject to the functional testing requirements have been tested." Since the licensee has 323 hydraulic snubbers currently installed, 10 were selected.

The licensee removed the 10 snubbers from their respective positions and functionally tested them on a Bergin Patterson testing rig (which had been recently calibrated by the manufacturer.) A number of the snubbers failed and additional snubbers were tested until the licensee had 11 failures out of 22 snubbers tested. The licensee then elected to test all snubbers as required by technical specifications. The reason for the failed snubbers was due to no lockup in the extended direction. The licensee had discussions with the manufacturer of the snubbers (Bergin Patterson) as to why this type of failure could occur. The manufacturer stated that there may be air in the fluid. Information Notice 80-42, "Effect of Radiation on Hydraulic Snubber Flood," states, "hydraulic fluid properties can be affected by absorbed doses of radiation." Based on this information, the licensee will send samples of the fluid of failed snubbers, both irradiated and non-irradiated to a laboratory for testing. The results of analysis remains unresolved. (50-247/81-03-02)

The failed snubbers are being sent, by the licensee, to Wyle Laboratories to have the failed snubbers rebuilt. The snubbers that have passed the functional test will be returned to their respective positions throughout the plant.

The inspector witnessed the functional testing of 4 of the replacement snubbers the licensee plans to use. The 4 snubbers,

one rebuilt 3 kip, one new 3 kip, one rebuilt 10 kip, and one new 30 kip successfully passed the required functional testing requirements including proper piston movement, lockup rate both in the extend and retract direction, and bleed rate in the extend and retract direction.

The inspector reviewed the documentation available for verification of non-environmentally qualified materials in the installed snubbers. The inspector noted that 6 of the installed snubbers have non-environmentally qualified materials. The licensee stated, "These snubbers will be replaced with proper qualified snubbers this outage,": This item remains unresolved until the licensee submits documentation for review by the Resident Inspector. (50-247/81-03-03)

The inspector has no further questions in this area.

5. Surveillance Observations

- a. The inspector observed surveillance testing required by technical specifications on Process Radiation Monitoring (3PT-M56), Diesel Generators (PT-M21), and Station Batteries (PT-M22), and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.
- b. The inspector witnessed the leak rate testing of two containment isolation valves (1610 and 1616) and reviewed documentation on all containment isolation valve testing required by refueling

surveillance test PT-R27 completed to date (January 2, 1981). The inspector found the tests conformed with technical specifications and procedure requirements, and that the test instrumentation used was calibrated. The inspector has no further questions in this area.

6. Refueling Activities

- a. Two events were identified to the NRC concerning the fuel. The first, reported January 8, identified grid strap damage. Initially, two assemblies were found which were judged by the licensee unacceptable for reinsertion. However, after licensee discussions with the fuel vendor, the entire core was off loaded and all of Batch 4-7 fuel assemblies (272) were examined for grid strap damage, including 193 assemblies selected for cycle 5 operation. Of the 272 assemblies examined, 164 were found to have no damage and 108 exhibited anomalies of some degree. Of the latter 108 assemblies, 73 were judged to have only minor grid strap damage (indentation of straps, bent metal, small tears and other blemishes), 33 assemblies were judged to require some repair (debris removal from 25 assemblies, bending or dressing protruding metal on 8 assemblies); 10 assemblies were judged to have sustained more damage than would be acceptable for reinsertion.

One of these 10 assemblies originally classified as unacceptable was reclassified as repairable, and placed in core to match fuel loading calculations. Three of the remaining 9 assemblies are from Batch 4(D), three are from Batch 5(E), and three are from Batch 6(F).

- b. The second event was reported January 20, which identified an apparent clad perforation in one fuel rod during a review of video inspection tapes of fuel assembly #E-42. The defect appeared to be a hydride blister above the sixth grid from the

bottom and second row into the assembly. Westinghouse had identified a probable failure in the E-region based on Cesium activity in the coolant. They further attribute  $I^{137}$  activity levels of approximately 0.008 uCi/gm (approximately 1/10 of the total) to this defect and expect no water logging of this rod because of the absence of iodine spiking. The defect appears to be unique and independent of the grid strap damage. The licensee has placed assembly E-42 in the core for the next fuel cycle.

Two members of Reactor Fuels Section of the NRC visited the site on January 20 to review the video tapes of the grid strap damage and assembly E-42 damage.

- c. The inspector reviewed Station Procedure SOP 17.2, Rev. 6, "Core-Loading Sequence" noting the procedure's reference to the precautions to be used in handling the assemblies which had experienced grid strap damage. The inspector witnessed the loading of a previously damaged assembly in accordance with the procedure.

The inspector found no items of noncompliance and has no further questions in this area.

## 7. Follow up on Significant Events

### a. Service Boiler Contamination

On January 12, the licensee identified  $10^{-5}$  uc/ml activity, primarily Cs-134 and Cs-137, in the service water condensate return monthly sample. The total release from blowdown of the service boilers calculated by the licensee, was one millicurie per day to the Hudson River. The service water flow dilutes this far below 10 CFR 20 limits for release to unrestricted areas. This value is detectable by an installed continuous monitor but a solenoid valve was closed in the sample line. The valve is intended to protect the detector from high temperature in the

event the sample cooler fails. The cause of this failure remains unresolved. (50-247/81-03-04).

The inspector determined that this radiation monitor and solenoid valve were not on the monthly surveillance program. After discussion with the licensee, the licensee agreed it should be in the surveillance program and has complied.

The licensee found the source of the leak using a sampling program. Samples were taken on all systems that interface with condensate return, and service boiler steam. All systems showed negative results except the Isolation Valve Seal Water System. The inspector reviewed the licensee's findings and found that under certain conditions a flow path from IVSWS can cause a radioactive release from the site. This can be caused by a check valve in the Isolation Valve Seal Water System not sealing properly allowing primary coolant from the letdown system to leak by the valve packing into the Isolation Valve Seal Water System. The seal water system, normally at 60 psi, can then be forced into the containment heating drains return line contaminating the condensate system of the service boilers which can leave the site through the service boiler blowdown system. The inspector has addressed this problem to the licensee. The licensee is currently conducting an engineering study which addresses such an event.

The inspector noted that the city water system ties into the isolation valve seal water system for makeup. The inspector verified by review of design changes that a double check valve system exists in the city water makeup line.

The inspector has no further questions in this area.



b. Contractor Exposure During Service Water Piping X-ray

The licensee's service water piping is under repair and modification, as an outgrowth of the containment flooding incident. A part of the licensee's service water piping repair program was to X-ray various piping, flanges, etc. to determine base line data for acceptance or rejection of various radiographs of weldments. A contractor X-ray technician, the evening of January 10, 1981, had a reading of 2100 mr on his personal dosimeter. The following is a partial description of the event. The X-ray technician was part of a two man X-ray team, working off the 46' level of vapor containment approximately 17' above the 46' level. Shots were being made of piping. During a film change by one technician, the pig (holder of X-ray source) was left unattended, but behind a secured barrier. At the conclusion of film change, the monitoring Health Physics technician noted high dosimeter readings on personnel dosimeters and secured the work area. The licensee obtained the TLD chips from the technicians and preliminary readings by the licensee indicated 3200 and 2800 mr.

Immediate action by the Resident Inspector included:

- a) Review of Source Purchase Records.
- b) Review of Exposure Device Maintenance and Inspection Check List.
- c) Physical Quarterly Inventory
- d) Instrument Calibration Certification
- e) Consolidated X-ray Service Corporation Certification Statement of Technician in Charge.
- f) Review of Significant Occurrence Report 81-5
- g) Review of Work Permit 3495

An inspection of the work site was made and all above items were discussed with the NRC Region 1 office.

The cause of the exposure is contributed to an unboxed source that either was not properly secured or was inadvertently sent out of the pig (camera). An independent laboratory analysis of the technician's film badge indicated 2200 mr.

The inspector verified that the technician had been removed from further job actions at the site until an investigation of the occurrence has been completed.

This item was turned over to the Health Physics Section of the NRC Region I office for further investigation. For purpose of this report, review of the information obtained by the Resident Inspector is completed. This item is closed.

c. Radiation Monitor

On February 23, 1981, a concerned employee informed the Resident Inspector that the Containment Air Particulate Monitor was not operating properly. The inspector investigated the problem with the following results:

- The detector was reading lower than normal because a subsequently discovered dirty rheostat caused a decrease in voltage, which resulted in a lower reading. The rheostat had been cleaned by the instrument technicians prior to the inspector arriving at the instrument.
  
- The alarm would have sounded in the control room if the activity of the containment had increased. The alarm was not compromised by the dirty rheostat and would have initiated at the set point. The basis for the alarm is for a containment purge rate following shutdown of 40,000 cu. ft. per minute and a site boundary 0-30 day dispersion factor of  $3 \times 10^{-5}$  Sec/meter<sup>3</sup>.

The alarm would sound prior to exceeding 10 CFR 20 limits for the following isotopes, I-131, I-133, Cs-134 and Cs-137. During shutdown periods, the alarm setting is decreased by the licensee to approximately 1/2 decade above background concentration in containment, to act as a signal that radioactive contamination within the containment is increasing. The licensee had local samplers in operation at the time this monitor was out of service.

-- The inspector noted the return of the instrument to service and has no further questions in this area.

d. Reactor Coolant Pump Removal Related to Loose Parts

The licensee has known of loose parts within the Reactor coolant system for several years and has investigated to find and retrieve these parts. This outage, and during this report period, pieces were found and retrieved from the reactor vessel during a period when all the fuel was removed for grid strap inspection. (See Section 6a of this report). The licensee and the vendor examined the retrieved parts by configuration, length, screw threads, etc. and deduced that the parts may have come from the Reactor Coolant Pump Thermal Barrier Labyrinth Seal Ring. The licensee elected to remove the #21 reactor coolant pump. The pump was removed and examined. The thermal barrier labyrinth seal ring was intact. The inspector reviewed the procedure used for this task and found it to be approved and in accordance with Technical Specifications and Station Administrative Procedures.

The licensee then decided to remove and inspect #24 RCP. Upon removal, the licensee discovered that it did not have a thermal barrier labyrinth seal ring. The inspector had a discussion with licensee management and reviewed pictures taken during the removal of the RCP. The discussion led to several unresolved items listed below:

- How did the labyrinth seal ring shear from its mounts. (16 bolts hold this 3½ x 1½ x 36 in. dia. piece of stainless steel in place.) This item is unresolved. (50-247/81-03-05)
  
- When did this event occur and how did such a large piece of steel get through the small clearance between the impeller and pump body diffuser (0.15") into the reactor coolant loop, finally coming to rest in the Reactor vessel. This item is unresolved. (50-247/81-03-06)
  
- The parts retrieved from the reactor vessel is not volumetrically equal to that amount found in the reactor vessel. The whereabouts of the remaining volume remains unresolved. (50-247/81-03-07)

A safety evaluation report addressing this area has been requested of licensee prior to unit return to service.

e. Bomb Threats

During this report period on January 24 and February 25, 1981, bomb threats were reported by the licensee. Physical searches were conducted by the licensee with negative results.

8. Independent Effort

- a. As a result of reactor coolant being introduced into the nitrogen system at another facility, the inspector explored the possibility of such an occurrence at this facility. The inspector reviewed Station Procedure SOP 3.3 "Forming a Steam Bubble in the Pressurizer". Step 4.9 of that procedure removes a spool piece, from the nitrogen line to the pressurizer, and installs a blind flange on the pressurizer side of the nitrogen system. The valve in that line

is also closed by the procedure. The inspector has no further questions in this area.

- b. The inspector walked down the new Maintenance and Outage Building which will be utilized by contractors as an access and egress point to the containment and Primary Auxiliary Building during extended outages. The building will also be utilized by the licensee as a hot machine shop and a facility for compacting contaminated trash. The inspector noted the following:

- The building did not have any absolute filters or charcoal filters in the ventilation exhaust system. Also, the exhaust system did not have a radiation monitor. The inspector had a discussion with the licensee with respect to these matters. The licensee is conducting an engineering evaluation into the exhaust system to address the inspector's concerns. This item is unresolved. (50-247/81-03-08)
- The licensee is currently monitoring the atmosphere within the building with portable monitors for gaseous and particulate on a continuous basis and taking grab samples, as a back-up, daily.
- The building is being utilized by the licensee for office space and for limited functions at this time. No activities involving radioactive materials are being conducted within the building.

The inspector has no further questions in this area.

9. Unresolved Items

An item about which more information is required to determine acceptability is considered unresolved. Five paragraphs, 3b, 5c(2), 7a, 7d(3), and 8b contain unresolved items.

10. Exit Interview

At periodic intervals during the course of the inspection, meetings were held with senior facility management to discuss the inspection scope and findings.