

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-247/82-22

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: October 19-22, 1982

Inspectors: W A Rekito 11/12/82
W. A. Rekito, Reactor Engineering Inspector date signed

Approved by: J A Bettenhausen 11/17/82
L. H. Bettenhausen, Chief, Test Programs date signed
Section, Engineering Programs Branch

Inspection Summary: Inspection on October 19-22, 1982 (Report No. 50-247/82-22)

Areas Inspected: Routine announced licensing action review and inspection of the Inservice Testing surveillance program for pumps and valves. The inspection involved 33 hours on-site by one region based NRC inspector.

Results: No Violations were identified.

DETAILS

1. Persons Contacted

The technical and supervisory personnel listed below were contacted.

- * M. Blatt, Acting Director, Regulatory Affairs
- W. Carson, Test Engineer
- * C. Jackson, Vice President
- * J. Lomm, Engineer, Nuclear Licensing
- * J. Quirk, Test and Performance Engineer
- * M. Smith, Acting General Manager Technical Support
- L. Volpe, Test Supervisor
- * G. Wasilenko, QA&R Consultant

NRC Personnel

- * T. Foley, Senior Resident Inspector
- P. Koltay, Resident Inspector
- T. Rebelowski, Senior Resident Inspector

*denotes those present at the exit meeting on October 22, 1982.

2. Inservice Testing Program for Pumps and Valves

2.1 Documents Reviewed

- Inservice Inspection and Testing Program Description, Supplement No. 3, submitted to the NRC on February 28, 1979.
- "DRAFT" Inservice Tests Program Description, Supplement No. 4
- Procedure PT-M17, Revision 16, Safety Injection Pumps Functional Test
- Procedure PT-R16, Revision 6 "DRAFT", Recirculation Pumps Functional Test
- Procedure PT-M19, Revision 11, Containment Spray Pump Functional Test
- Procedure PT-M18, Revision 11, Residual Heat Removal Pumps Functional Test
- Procedure PT-M20, Revision 12, Auxiliary Component Cooling Pumps Functional Test
- Procedure PT-M21, Revision 14, Diesel Generator Functional Test
- Procedure PT-R27, Revision 7, Containment Isolation Valve Leakage Rate Determination Test Type C

- Procedure PT-M37, Revision 10, Steam Driven Auxiliary Feedwater Pump Functional Test
- Procedure PT-M41, Revision 6, Service Water Pumps Operability Test
- Procedure PT-M43, Revision 3, Component Cooling Water Pumps Functional Test
- Procedure PT-M23, Revision 14, Motor Driven Auxiliary Feed Pump Functional Test
- Procedure PT-Q13, Revision 1, Inservice Valve Tests
- Procedure PT-R35, Revision 1, Inservice Valve Tests
- Sixteen selected system drawings, Piping Diagrams
- Selected test records and personnel training records

2.2 Scope of Review

The inspector reviewed the above documents to ascertain compliance with 10 CFR 50.55a(g) which requires Inservice Testing (IST) of pumps and valves in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. A major portion of this review was intended to finalize an NRC Staff evaluation of the licensee's IST program and, pursuant to 10 CFR 50.55a(g)(6)(i), determine acceptability of requested relief from certain code testing requirements found to be impracticable.

During this review it was noted that many of the previous relief requests were no longer needed because the licensee had upgraded the IST program and was currently meeting the code testing requirements. In other cases the relief requests were found to be unacceptable or needed additional justification detail. The licensee recognized most of these program deficiencies and was in the process of correcting them as evident from a revised program description (Supplement 4) in preparation for submittal to the NRC. However, not all of the necessary test procedure changes are completed.

Problems identified with the certain relief requests and program implementation are described below.

2.3 Pump Test Acceptance Criteria

Relief requests for alternate acceptance criteria documented as Notes 1,2,3,6 and 7 of the pump test program description and the special relief request for Service Water Pumps submitted to the NRC on June 28, 1982, are no longer needed. The existing test procedures use IST acceptance criteria which meet the code subsection IWP

requirements. This fact is reflected in the "Draft" Supplement 4 program description. The licensee also explained a plan to modify certain pump full flow tests, which are performed only during refuelings, to establish an additional set of test reference values as permitted by IWP-3112.

2.4 Valve Testing Frequency

IWV-3000 requires valves to be full-stroke exercised quarterly during normal plant operations where practical or, if only limited operation is practical, a valve shall be part-stroke exercised, then and full-stroked during each period of cold shutdown. The licensee's general relief request Supplement 3 stated that no category C (check) valves could be exercised during normal plant operations. Additionally relief request Supplement 4 stated that approximately half of the category A and B valves could not be exercised during normal plant operations and, because of time limitations, off normal valve testing would be done at shutdowns for long refueling outage only.

The inspector explained the NRC position that testing of valves not exercised during normal operations must commence within 48 hours after each cold shutdown but need not be completed before the next startup if there is insufficient time to perform all valve tests.

The licensee recognized this program deficiency and is in the process of correcting it, as evident in the "Draft" Program Description and in the fact that certain valve testing per procedure PT-R35 has been initiated during each cold shutdown period within the past year. In addition, the licensee has recognized the possibility of full-stroke testing some category C check valves and is revising procedures to accomplish this. This matter is unresolved pending licensee revision of procedures to test check valves quarterly where practical and identification of any valves which cannot be full-stroke exercised both during normal operations and cold shutdown periods. (Unresolved Item 50-247/82-22-01).

2.5 Stroke Time Testing of Air Operated Valves

IWV-3410 requires that maximum allowable stroke times be established and that all power operated Category A and B valves be stroke time tested. The licensee's general relief request No. 2 stated that only certain air-operated valves will be tested for stroke time.

The inspector stated that the licensee's general position was not acceptable. If this test requirement was determined to be not practical for certain valves, then specific relief requests would be necessary. The licensee acknowledged this requirement and stated that appropriate revisions would be made to procedures PT-Q13 and PT-R35 and that this measurement would be taken during the next scheduled test for applicable valves. Required performance trending

will be accomplished thereafter. However, establishment of maximum allowable times will necessitate engineering analysis and may take several months. The corrective action plan described satisfied the inspector's concern. The matter is considered unresolved, pending implementation of the required testing. (Unresolved Item 247/82-22-02).

2.6 IST Program Update

During interviews with licensee personnel it was recognized that newly installed or modified safety related valves were not automatically being incorporated into the IST program. Examples of these are; Sample System valves 5132, 5133, 5134, 4399 and 5018 thru 5025; City Water supply valves to the Auxiliary Feedwater Pumps; Hydrogen Recombiner System valves; and Reactor Vessel Head vent valves.

The inspector explained that the inservice testing requirements applied to all safety-related pumps and valves and that the IST program must be maintained current with the existing plant design. The licensee acknowledged this requirement and stated that the applicable IST procedures would be revised to implement the required testing of subject valves. The inspector noted that the "Draft" program description supplement did appear to satisfy this concern. However, the matter is considered unresolved, pending revision of the applicable procedures and implementation of the required testing (Unresolved Item 247/82-22-03).

2.7 Valve Leak Rate Testing (LRT)

IWV-3420 requires that values for maximum permissible leakage rates be established and leak rate tests be conducted for all Category A valves. The licensee program description states that performance of Type C local leakage rate testing in accordance with 10 CFR 50 Appendix J satisfies this test requirement for all Containment Isolation Valves.

The inspector explained the current NRC position that Appendix J leakage rate testing is an acceptable alternate for IWV-3420 (a) thru (e) but not (f) and (g) which require the specification of individual maximum permissible leakage rates and trending of test results. A review of procedure PT-R27 revealed that some, but not all, valves have individual leakage acceptance criteria and that required trend evaluations are not currently being accomplished in a formal acceptable manner. The inspector also reviewed the list of Reactor Coolant System pressure isolation valves (PIV's) currently being leak rate tested and identified two more subject isolation valves (730, 731) which should be classified as Category A and leak rate tested. The licensee agreed and stated that these valves would be re-classified as Category A and leak rate tested during the current outage. The licensee further stated that specifying individual limits for all valves would necessitate an engineering

analysis which would be completed prior to the next refueling outage at which time full conformance would be achieved. This matter is unresolved pending completion of the described plan and appropriate revisions made to the IST program description (Unresolved Item 247/82-22-04).

2.8 Analysis of Results

IWP-3200 specifies that the maximum allowable test data analysis time is 96 hours and that a pump be declared inoperative if the results fall within the required action range of table IWP-3100-2. The inspector stated the NRC position that a pump be declared inoperative and appropriate Technical Specification Action Statement time period started when the determination is made that pump IST data are within the required action range. Further, the NRC requires that the method of results analysis permit the shift supervisor or other first reviewer to make the determination whether or not the test data meets the IST requirements. The inspector explained that the NRC regards the provisions of IWP-3230 to recalibrate instruments and rerun the test to show the pump is still capable of fulfilling its function is an alternative to replacement or repair, not an addition action that can be taken before declaring the pump inoperative.

The licensee's method of analyzing pump IST data does not fully satisfy the above NRC position. In each of the pump IST procedures reviewed sufficient information existed to make an immediate determination of results falling within the required action range. However, the acceptance criteria section permits the option of performing an analysis and retest within 96 hours before taking the required Technical Specification Action. The licensee representatives did not fully agree with the above position and commented that they have never yet experienced a situation where test results were in the required action range and they had to use the optional provisions.

This matter is considered unresolved pending licensee action to conform to the described NRC position (Unresolved Item 247/82-22-05).

2.9 IST Program Scope

The regulation and code require the IST program include all class 1, 2 and 3 pumps and valves. By letter dated January 10, 1978 the NRC staff issued guidance limiting the IST program scope, but including all safety related pumps and valves. The inspector acknowledged some previous confusion on this subject, but explained to the licensee the current NRC:RI position that applicable components in the Fire Protection and Emergency Diesel Generator Auxiliary systems be included in the IST program. The current IST program does not include these components. The licensee acknowledged the NRC

position and stated that a review of these systems for applicable components and their testability would be conducted with appropriate changes to the IST program. This statement, along with discussions of possible alternate tests considered acceptable, satisfied the inspector's concern. The inspector informed the licensee that this matter would be carried as an open item in the Safety Evaluation Report (SER) approving the IST program and that a formal response would be expected sometime after issuance of the SER (Followup Item 247/82-22-06).

3. Facility Tour

The inspector made tours of the facility including the Auxiliary Feed-water Pump Rooms, Auxiliary Building, and the Service Water Intake Structure.

During these tours, the inspector observed operations and activities in progress, implementation of radiological controls, and general condition of safety-related equipment. In addition the inspector examined certain pumps and valves in the Containment Spray and Component Cooling Systems to assess their accessibility and adequacy of test instrumentation.

No unacceptable conditions were identified.

4. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 2.4, 2.5, 2.6, 2.7 and 2.8 contain unresolved items.

5. Exit Interview

The inspector met with licensee representatives (See paragraph 1 for attendees) on October 22, 1982. The inspector summarized the scope and findings of the inspection at that time.

With regard to the unresolved items of this inspection, the Vice President confirmed the specific planned corrective actions described in this report. Recognizing that this inspection's findings revealed IST programmatic weaknesses, the inspector requested that the licensee; 1) Thoroughly review the IST program implementation and provide the NRC:RI with a plan for achieving conformance with the code; and 2) Expedite the final review of the revised "Draft" IST program description along with any necessary program implementation changes and submit it to the NRC for review in lieu of the out-of-date Supplement No. 3. The Vice President acknowledged the inspector's concern and stated that this matter would be given priority and a plan for achieving conformance with the code would be submitted to the NRC:RI by November 17, 1982.

The inspector also stated his plans to postpone the completion and issuance of a SER, giving final approval of the IST program, until after

the revised program description with relief requests containing more detailed information is submitted to the NRC.