July 13, 2001

Mr. A. Alan Blind
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

SUBJECT: INSERVICE TESTING PROGRAM RELIEF REQUEST NO. 42, INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 (TAC NO. MB1772)

Dear Mr. Blind:

In a letter dated April 19, 2001, Consolidated Edison Company of New York, Inc. (Con Edison) requested relief from certain requirements in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Inservice Testing," for the Indian Point Nuclear Generating Unit No. 2. Specifically, Con Edison requested that the U.S. Nuclear Regulatory Commission (NRC) authorize an alternative to the requirements of the ASME Operations and Maintenance Standard, Part 10 (OM-10), paragraph 4.3.2.4(c), when performing exercise testing of check valves in the nitrogen supply to the condensate storage tank.

The NRC staff reviewed the proposed alternative in Relief Request No. 42 against the requirements of Section XI of the 1989 Edition of the ASME Code and OM-10. The results are provided in the enclosed safety evaluation.

The NRC staff has concluded that the proposed alternative provides an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the staff authorizes the proposed alternative test for testing of check valves CT-714, CT-715, CD-631, and CD-632 for the remainder of the third 10-year inservice test interval.

If you should have any questions, please contact Patrick Milano at 301-415-1457. This completes the NRC staff's action on TAC No. MB1772.

Sincerely,

/RA/

Richard P. Correia, Acting Chief, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INSERVICE TESTING PROGRAM PLAN

REQUEST FOR RELIEF

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

DOCKET NO. 50-247

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code (the Code), except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance with the requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance with the requirements is impractical for its facility. Section 50.55a authorizes the Commission to authorize alternatives and to grant relief from ASME Code requirements upon making the necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which the staff finds acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

2.0 BACKGROUND

In a letter dated April 19, 2001, Consolidated Edison Company of New York, Inc. (the licensee) submitted Relief Request No. 42 for the IST program for pumps and valves for the Indian Point Nuclear Generating Unit No. 2 (IP2). The IP2 IST program was developed in accordance with the requirements of the 1989 Edition of the ASME Code by implementation of the 1987 ASME/ANSI Operations and Maintenance (OM) Standards Part 1, Part 6, and Part 10 (OM-1, OM-6, and OM-10, respectively) for IST of safety and relief devices, pumps, and valves.

Nitrogen is supplied to the Condensate Storage Tank (CST) to purge air from the tank as part of the steam generator water chemistry control. This nitrogen is supplied from two separate tank locations to obtain good nitrogen distribution in the CST. In this regard, check valves CD-631 and CD-632 are installed in series in the supply to the 8-inch CST fill line, and check valves CT-714 and CT-715 are installed in a line to the 2-inch CST drain line. These valves open when nitrogen is supplied to the CST and must close to prevent the CST from draining if

there is a loss of nitrogen system integrity. There are no test connections between the two valves in series that would allow the individual testing of each check valve.

3.0 RELIEF REQUEST NO. 42

3.1 Current IST Requirement

The licensee requested relief from the requirements of OM-10 paragraph 4.3.2.2(a) which states that each check valve shall be exercised in a way which verifies obturator travel to its required position.

3.2 Proposed Alternative Testing

As an alternative, the licensee proposes to test pairs of check valves in series using a test method which will verify that the pairs of valves are capable of closing as a unit. The check valves for which relief is requested are in the nitrogen supply line to the CST.

Specifically, the licensee states that:

> Each pair of series check valves will be exercised in the reverse direction by positive means at cold shutdown frequency to verify the closure capability of at least one of the valves. Both valves in each tested pair will be considered inoperable if the testing indicates that the valves do not close on reverse flow.

3.2 Licensee's Basis for Relief

The licensee states:

> Each pair of check valves (CT-714/CT-715 and CD-631/CD-632) is in a nitrogen supply line to the CST. In each case, only one check valve is required to meet the safety class boundary requirements of Regulatory Guide 1.26, Footnote 4. The installation of two check valves provides additional reliability but is not required to meet safety class interface criterion. Closure of one of the valves in each pair is adequate to prevent gross leakage from the CST in the event of a loss of nitrogen system integrity. No individual or combined valve leakage limit is required to meet the system design basis. Both sets of valves are included in the IST Program. These check valves are not provided with intermediate test connections or other indicators that would allow verification that the disks move to the closed position promptly upon cessation or reversal of flow. Removing the associated lines from service during normal operation could adversely affect the chemistry in the CST. Valve closure can be verified during cold shutdown when nitrogen can be isolated from the CST and the N_2 [nitrogen] system can be opened and vented.

3.3 Evaluation

The licensee requested relief from the requirements of OM-10 paragraph 4.3.2.2(a), which state that each check valve shall be exercised in a way which verifies obturator travel to its required position. As an alternative to the Code-required testing, the licensee proposes to exercise the series check valves using a test method which will verify the closure capability of at least one of the valves.

Closure verification for check valves in-series without intermediate test connections is addressed in NUREG-1482, Section 4.1.1. The staff recommends that licensees with no practical means for verifying the ability of each valve in a series to close, review the safety analysis to determine if both valves are required to function. If only one of the two valves is credited in the safety analysis, then verification that the pair of valves is capable of closing is acceptable for IST. If relief is requested on this basis, both series check valves should be included in the IST program and be subject to equivalent assurance criteria. Testing is required during each quarter or at an extended interval in accordance with the Code. No additional testing needs to be performed unless the licensee finds indication that the closure capability of the pair of valves is questionable. If so, both valves should be declared inoperable and corrective actions taken for both valves, as necessary, before returned to service.

The licensee stated that the plant safety analysis does not require that both valves in the series function. Both pairs of check valves are included in the IST program and are subject to the plant quality assurance criteria. For these reasons, the licensee's proposed alternative meets the guidance in NUREG-1482 for testing series valves as a pair and, therefore, provides reasonable assurance of the valves' operational readiness.

The 1998 Edition of the OM Code, ISTC-5223, includes requirements for testing series valves in pair. The Code states:

> If two check valves are in series configuration without provisions to verify individual reverse flow closure (e.g., keepfill pressurization valves) and the plant safety analysis assumes closure of either valve (but not both), the valve pair may be operationally tested closed as a unit.

The licensee's proposed alternative is also consistent with the 1998 Edition of the Code.

4.0 CONCLUSION

The staff concludes that, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's proposed alternative test as described in IST Relief Request No. 42 is authorized for the remainder of the third 10-year interval on the basis that it provides an acceptable level of quality and safety.

Principal Contributor: A. Park

Date: July 13, 2001