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Vice President

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February 6, 1995

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

Document Control Desk
US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

SUBJECT: Relief Requests No. 35 & 36, Third Ten-Year Interval ISI
Program (TAC No. M88559)

Con Edison letter dated January 24, 1994 submitted the Inservice Inspection (ISI) Program Summary for the third ten-year interval. Requests for relief were included in accordance with 10 CFR 50.55a(a)(3) and (g)(6) and Technical Specification 4.2.2.

Telephone discussions with the NRC staff in late December 1994 and January 1995 have indicated that Relief Request Number 29, submitted in January 1994, is expected to be denied. This request concerned the new requirement to remove insulation from bolted connections for visual examination VT-2 during pressure tests of borated systems. Since we believe that this requirement would impose a hardship without a compensating increase in the level of quality and safety, we submit (attached) Relief Request Number 35. This new relief request is intended to be consistent with the NRC position provided in the August 20, 1993 Safety Evaluation Report for Toledo Edison's second ten-year interval Inservice Inspection Program Plan for Davis-Besse Unit 1. Relief is sought for Code Class 1 systems for the third ten-year interval.

We further find a particular hardship in meeting this new requirement for the Class 1 system pressure test required during the refueling outage scheduled to start this month. Because we were only very recently informed that our original Relief Request Number 29, submitted on January 24, 1994, is expected to be denied, it would be extremely difficult to properly plan and conduct during this outage the insulation removal project that would be required the first time that we perform the examination without insulation. Hence, we submit (attached) Relief Request Number 36, which requests deferral of the imposition of this new requirement until our next refueling outage, scheduled for early 1997. This deferral would allow time for a walkdown to obtain as-installed insulation information during the 1995 outage and for detailed planning of the insulation removal and redesign/replacement project for 1997.

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This walkdown can only practically be done while the plant is shutdown because entry inside the shield wall is necessary. During plant operation, this area presents a high level of personnel hazard from high radiation fields and high ambient temperature. Deferral would also allow an estimated radiation dose savings of at least 5 1/2 worker-rems for this outage. This relief is sought for Code Class 1 systems only and for this refueling outage only.

We request a prompt response to these two new relief requests because it will determine the actions we need to take during the current refueling outage to maintain compliance with 10 CFR 50.55a and with our Technical Specifications Section 4.2.2.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



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ENCLOSURE I

RELIEF REQUESTS NO. 35 and 36
FOR
THE THIRD TEN-YEAR INSERVICE INSPECTION PROGRAM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
FEBRUARY, 1995

RELIEF REQUEST NUMBER 35
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COMPONENT IDENTIFICATION

Code Class: 1
References: IWA-5242(a)
Examination Category: B-P
Item Number: Various
Description: Insulation Removal at Mechanical Joints of Borated Systems

CODE REQUIREMENT

IWA-5242(a), states "For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2".

BASIS FOR RELIEF

Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Relief is requested from the removal of insulation from pressure retaining bolted connections during the conduct of the pressure testing and visual examination VT-2 in the ASME Class 1 systems.

There are approximately 45 insulated Class 1 bolted flanges or valves in piping larger than one inch and approximately 14 insulated Class 1 bolted connections on vessels and pumps. There are a presently unknown additional number of bolted connections on piping smaller than or equal to one inch. Class 1 pressure tests must be conducted at elevated temperature in order to satisfy the pressure/temperature limits of Technical Specification 3.1.B.

It is estimated that approximately two days would be added to the critical path of a refueling outage, if insulation removal and re-installation were to be required at these bolted connections. This is due to the logistics of providing the necessary scaffolding before and after the test and the need for containment integrity during the elevated temperature condition in accordance with Technical Specification 3.6.A.

With the system above ambient temperature and insulation removed, there is also an increased hazard to personnel performing the VT-2 examination and the insulation work in an over-heated ambient environment as well as with no material barrier between the hot

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piping and the personnel for burn prevention.

The requirement to remove insulation at bolted connections in hot piping systems would also impose potentially deleterious stress effects in the piping system. Localized cooling at the uninsulated portions of piping and vessels would cause thermal gradients, inducing added stress. Although small, inducement of any unnecessary stressing and thermal cycle fatigue is not a good practice.

The intended purpose of removing insulation from bolted connections during pressure tests is to more readily detect boric acid leakage and potential corrosion of fasteners. Because boric acid leakage leaves boric acid crystal residue when it evaporates, as well as insulation discoloration, it is not necessary to pressurize the system in order to examine for evidence of boric acid leakage. Additionally, Class 1 leakage tests are conducted at normal operating pressure and the Class 1 hydrostatic test is conducted at 102% of normal operating pressure. This pressure would not significantly increase the leakage rate beyond that which would occur during normal operation. Leakage during normal operation would be evident due to the presence of boric acid residue and/or wet or discolored insulation.

A leakage/bolting inspection program was established in 1981 and further enhanced as a result of NRC Bulletin 82-02. The leakage/bolting inspection program for borated water systems provides for visual examination for evidence of boric acid leakage and material degradation at all bolted connections 1" NPS and larger in Class 1 systems and 2" and larger in Class 2 systems. The visual examination is performed at the bolted connection and is directed at determining whether there is evidence of boric acid crystal accumulation or wetting of insulation indicative of leakage. It is our experience that leakage of borated water during plant operation is obviously discernable during outage examinations either by boric acid accumulation on the outside of the insulation or wetting of the insulation. In either case, the leakage is obvious without the need to remove the insulation. The examinations have been performed for all bolting in the program every refueling outage except that connections exhibiting no leakage for two successive outages may be examined every other outage.

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In addition, the Reactor Coolant System (RCS) and portions of the Chemical and Volume Control System (i.e., Charging, Letdown and Reactor Coolant Pump Seal Return) are continuously monitored for leakage in order to satisfy Technical Specifications. During plant operations the RCS leak rate is limited by Plant Technical Specification 3.1.F.2.c(1) to 1 GPM for unidentified sources and 10 GPM total for identified sources. The various diverse means of leak detection are described in the associated Technical Specification Basis.

PROPOSED ALTERNATE EXAMINATION

1. System pressure testing and VT-2 visual examination shall be performed at the Code-required frequency without removal of insulation, and
2. At the same Code-required frequency and during the same outage as the system pressure test, the insulation shall be removed from the bolted connection, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.

PERIOD FOR WHICH RELIEF IS REQUESTED

Relief is requested for the third inspection interval, July 1, 1994 thru June 30, 2004.

JUSTIFICATION FOR RELIEF

The proposed alternate examination will detect damage resulting from boric acid corrosion. This program, combined with system pressure testing, and with operational leakage monitoring in accordance with Technical Specifications, provides an acceptable level of quality and safety. Our experience with the less rigorous leakage/bolting inspection program described above in the Basis for Relief section gives us confidence in this approach.

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COMPONENT IDENTIFICATION

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CODE REQUIREMENT

IWA-5242(a), states "For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2".

BASIS FOR RELIEF

Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that compliance with the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

The specified requirement would be extremely difficult to meet during the Class 1 system pressure test required for the refueling outage which starts in February 1995. We learned only in late December 1994 that our original Relief Request Number 29, submitted on January 24, 1994, is expected to be denied. It would thus be an undue burden to properly plan and conduct during this outage the insulation removal and upgrade project that would be required the first time we perform this examination with the insulation removed from all bolted connections.

In order to do proper and orderly planning for such a task, a plant shutdown is required to gain access inside the crane wall inside containment. During plant operation, this area would impose a high degree of personnel hazard due to high radiation fields and high ambient temperature. Access is necessary in order to determine the actual locations and types of insulation on bolted connections. This information is needed to plan scaffolding requirements for insulation removal and reinstallation, as well as determine the types of insulation-handling procedures that will have to be used at each location.

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Insulated bolted connections in piping larger than one inch number approximately 59. Most of these are expected to be non-asbestos, due to much past replacement of the original insulation. However, certain precautions in handling this material are still necessary. In addition, the walkdown would have to determine the quantity and insulation details of bolted connections in smaller piping. Because this small size piping was field run and is not depicted in detail drawings, the existence and number of bolted connections involved is not presently known. For any insulation not positively known to be non-asbestos, samples will have to be taken and evaluated. If the insulation is determined to be asbestos, then special costly and time-consuming asbestos abatement procedures will have to be used.

The necessary walkdown was not performed during the 1993 refueling outage because some degree of relief, either industry-wide or plant-specific, had been anticipated. Various Code Cases were being proposed, and our own plant-specific relief request was submitted. Since system pressure testing is required each refueling outage for Code Class 1 systems, a major effort would be required in the next several weeks to fully meet this new requirement. In summary, the following activities would be necessary:

- o System walkdowns to identify insulated bolted connections in piping 1" and smaller
- o System walkdowns to determine locations and scaffolding requirements for access to all insulated bolted connections
- o Erection of scaffolding
- o Sampling and evaluation of insulation materials for asbestos content
- o Removal of the insulation over bolted connections, using appropriate precautions, conforming to asbestos abatement regulations as necessary
- o Performance of the VT-2 visual examination
- o Construction of new insulation where the existing material contains asbestos or is difficult to remove
- o Re-installation of the insulation
- o Removal of scaffolding

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We believe that introduction of such a large new work scope into the outage at this late date would be very inefficient, disruptive and costly. The outage has already been planned in great detail, with dozens of carefully coordinated activities taking place inside containment. There would be many cases of interferences with current work plans, requiring iterative changes to current work schedules, potentially extending the outage.

In addition, the scaffolding and insulation work would increase personnel radiation exposure significantly compared with the proposed alternative. Estimating four worker-hours per bolted connection for the forty-five known bolted flanges and valves, and approximately 30 mr/hour at the Code Class 1 piping, approximately 5 1/2 worker-rems dose would be added for this outage due to insulation work alone.

In consideration of the hardship and difficulty as described above, relief is required from the requirement to remove insulation at the bolted connections of borated Code Class 1 systems for the purpose of VT-2 visual examination during system pressure testing. We request deferral of the applicability of this requirement until the next refueling outage, scheduled for early 1997. This deferral will allow adequate time for orderly planning for efficient implementation coordinated with other outage requirements, while minimizing personnel radiation exposure.

PROPOSED ALTERNATE EXAMINATION

The alternative proposed is:

- 1) System pressure testing and VT-2 visual examination shall be performed during this refueling outage without removal of insulation, and
- 2) A VT-2 visual examination shall be performed on all bolted connections in borated Class 1 systems. Insulation will not be required to be removed, and the connection will not be required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.

A leakage/bolting inspection program was established in 1981 and further enhanced as a result of NRC Bulletin 82-02. The leakage/bolting inspection program for borated water systems provides for visual examination for evidence of boric acid leakage and material degradation at all bolted connections 1" NPS and larger in Class 1 systems and 2" and larger in Class 2 systems. The visual examination is performed at the bolted connection and is directed at determining whether there is evidence of boric acid crystal accumulation or wetting of insulation indicative of leakage. It is our experience that leakage of borated water during plant operation is obviously discernable during outage examinations either by boric acid accumulation on the outside of the insulation or wetting of the insulation. In either case, the leakage is obvious without the need to remove the insulation. The

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examinations have been performed for all bolting in the program every refueling outage except that connections exhibiting no leakage for two successive outages were allowed to be examined every other outage.

As part of this proposed alternate examination, during the refueling outage which begins in February, 1995, all insulated Code Class 1 bolted connections will be VT-2 visually examined for evidence of leakage.

Past leakage/bolting inspections have been effective. For example, during the last refueling outage, in 1993, a total of 269 bolted connections were examined, 94 in Code Class 1 systems and 175 in Code Class 2 systems. As a result of these examinations, one or more bolts were replaced on 16 connections, packing repairs were made on 55 connections and gasket repairs were made on 22 connections. In total, one or more corrective actions were performed on 82 connections. Similar examinations and corrective actions were accomplished during prior refueling outages, although the exact numbers varied from outage to outage.

In addition, the Reactor Coolant System (RCS) and those portions of the Chemical and Volume Control System (i.e., Charging, Letdown and Reactor Coolant Pump Seal Return) located inside containment are continuously monitored for leakage in order to satisfy Technical Specifications. During plant operation the RCS leak rate is limited by plant Technical Specification 3.1.F.2.c(1) to 1 GPM from unidentified sources and 10 GPM total from identified sources. The various diverse means of leak detection are described in the associated Technical Specification Basis.

PERIOD FOR WHICH RELIEF IS REQUESTED

Relief is requested for the first refueling outage in the third inspection interval. This outage is scheduled to start in February, 1995.

JUSTIFICATION FOR RELIEF

The leakage/bolting inspection program is expected to detect damage resulting from boric acid corrosion. This program, combined with system pressure testing, and with operational leakage monitoring in accordance with Technical Specifications, provides an acceptable level of quality and safety for the pressure integrity function of bolting hardware.