



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 162 TO FACILITY OPERATING LICENSE NO. DPR-26
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247

1.0 INTRODUCTION

By letter dated April 8, 1993, as supplemented on April 12, 1993, and April 14, 1993, the Consolidated Edison Company of New York (the licensee) submitted a request for changes to the Indian Point Nuclear Generating Unit No. 2, Technical Specifications (TS). The requested changes would revise Technical Specifications (TS) Section 3.3.D, Weld Channel and Penetration Pressurization System (WCPPS), to permit disconnecting a portion of the weld channel pressurization system if that portion became inoperable and it was determined that it was not repairable by any practicable means. The amendment would also revise the associated TS Bases.

2.0 EVALUATION

The WCPPS seals the containment liner seam welds, penetrations and certain pipe penetrations not treated by the Isolation Valve Seal Water System. To ensure a high degree of leak-tightness, all plate to plate welds in the containment liner are covered with pressurization channels to assure that there is no containment leakage to the environment. The system continuously maintains a pressure in excess of containment accident pressure, thereby ensuring that there will be no out-leakage of the containment atmosphere through the penetration and liner welds. The WCPPS at Indian Point 2 is a unique design feature and provides added assurance that in the event of an accident, there will be no leakage of fission products from containment through containment liner welds and penetrations, when operated in conjunction with the isolation valve seal water system. The WCPPS provides for on-line monitoring in that, during operation, air consumption is monitored and is limited by TS requirements. Since the system is unique and provides additional defense-in-depth beyond that provided and required for other plants, the licensee does not take credit for the operability of this system in analysis of accidents to satisfy regulatory requirements. In addition, Integrated Leak Rate Tests performed in accordance with 10 CFR Part 50, Appendix J, are conducted with this system vented to the pressurized containment atmosphere. Thus, liner welds and penetrations are tested for leak tightness and are demonstrated to meet regulatory requirements independent of the operability of the WCPPS.

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On April 3, 1993, near the end of the current refueling outage, which began at the end of January 1993, a sensitive leak rate test on the WCPPS indicated increased air consumption on two portions of the system (W-10 and B-6) which supply air pressure to a portion of welded liner channels located on the containment liner beneath the concrete of the containment floor. Approximately 20% of all containment liner welds are located in the containment liner floor section which is over the containment base mat and which in turn is covered by the concrete necessary for component support, shield walls, etc. Attempts to effect repairs involved the use of a boroscope and plugging techniques through the system's 1/2-inch pipe and tubing. The attempts to repair the leaks were not successful and in fact caused an increase in air consumption which exceeded TS requirements. The licensee evaluated the effort required to effect a final repair at the areas of leakage which had been determined to be under approximately 3 feet of concrete for one leak and under approximately 6 inches of concrete for the second leak. It was concluded that relocation of major equipment, including cable trays, would be required to gain access to those areas where the concrete excavation could begin. The licensee made the determination that the repairs were not practicable under any circumstances and that, in this particular case, any attempts at further repair would significantly delay plant startup.

As indicated in the licensee's April 14, 1993, letter, as clarified during a telephone call between C. Jackson (Consolidated Edison) and F. Williams (NRC), the licensee determined that the increased leakage was from the air supply system and could not be attributed to leakage in the containment liner welds. This was based on satisfactory on-line monitoring during the previous operating cycle and an acceptable sensitive leak rate test of these portions of the system on April 3, 1993. The attempt to identify the sources of leakage and to effect repairs was based on a decision by the licensee to reduce the leakage to well below the acceptable limits. Leaks in the air supply lines were identified by boroscope and visual means. The licensee is, therefore, confident that the additional leakage, although still less than the TS requirements, was in the air supply system and not attributable to containment liner welds. The leakage in excess of the TS limits was a direct result of the attempted repair of the air supply line leaks. Based on the above, the NRC staff agrees with the licensee's conclusion that the increased leakage is due to leaks in the air supply lines and not in the containment liner welds.

The licensee's request for a license amendment would permit a section of the weld channel pressurization system which was determined to be inoperable and not repairable by any practicable means to be disconnected from the system. The acceptability of removing a portion of the weld channel pressurization system on-line monitoring is based on the continued testing of the liner welds for leak tightness as part of the Integrated Leak Rate Tests performed in accordance with 10 CFR Part 50, Appendix J. Disconnecting sections W-10 and B-6 would remove approximately 4% of the containment liner welds from on-line monitoring. This change to the technical specifications, based on an

impracticability of repair determination, would limit the disconnecting of any additional weld channel sections to those sections on the floor liner buried below concrete (approximately 20% of all liner welds). The licensee would also be permitted to disconnect inoperable weld channel sections where repairs to the air supply lines above the concrete would involve very high radiation exposures. The air supply lines enter the concrete floor in the area between the crane wall and the containment wall. It is possible that leaks could develop in supply lines in close proximity to components or floor drains with radiation hot spots not easily decontaminated. The disconnect would be made in a way to permit future repairs in the event that reduced radiation levels were achieved. This change to the TS would not affect the operability requirement for the on-line monitoring of containment penetrations.

The NRC staff agrees that there are areas of the weld channel pressurization system for which there are no practicable means to effect repairs. Based on the fact that no credit is taken for the on-line monitoring feature in the accident analyses to show that regulatory requirements are met and that the liner welds will continue to be leak tested in accordance with 10 CFR Part 50, Appendix J, through periodic Integrated Leak Rate Tests, the NRC staff finds the proposed change to be acceptable.

3.0 STATEMENT OF EMERGENCY CIRCUMSTANCES

The licensee satisfied the operability requirements of the WCPPS at the start of the current refueling outage of Indian Point Unit 2, which began at the end of January 1993. After achieving cold shutdown, the system was taken out of service to permit maintenance activities to be performed on plant components and permit access to containment by removal of the main hatch. Near the end of the outage, in preparation for heatup of the Reactor Coolant System above 200 °F, a sensitive leak rate test was initiated to verify that the WCPPS met TS requirements. The applicable portion of this test was performed on April 3, 1993. The test could not have been conducted earlier because of work being performed on components served by the system.

During the test, increased air consumption was noted on two portions of the WCPPS (W-10 and B-6) which supply air pressure to welded liner channels located beneath the concrete of the containment floor. On April 6, 1993, an attempt was made to identify the sources of air leakage and effect repairs. The attempt involved use of a small boroscope and plugging techniques through the system's 1/2-inch pipe and tubing. The licensee determined that the air leaks were in WCPPS air lines going to the welded channels. Attempts to plug the air leaks were unsuccessful, and actually caused the leakage to increase such that these two portions of the system alone had air consumption exceeding TS limits for the entire system.

To effect repairs, major equipment relocation (cable trays, tanks, steel support column) on the 46-foot elevation of containment would be required to gain access to begin concrete excavation. The licensee determined that these

repairs were not practicable and took immediate steps to submit a license amendment request which would provide relief from the current TS requirements. This request was submitted on April 8, 1993, as supplemented April 12, 1993, and April 14, 1993. The anticipated date to exceed 200 °F is April 15, 1993. The WCPPS is required to be operable above 200 °F.

Based on the sequence of events, it is concluded that the licensee has made a timely request and that the emergency conditions needed to satisfy 10 CFR 50.91(a)(5) exist.

4.0 STAFF CONCLUSION

The NRC staff has concluded that the licensee has made a timely amendment application once the full scope of the problem was analyzed. The NRC staff has determined that if the change is not granted, the facility TS would not allow the plant to be restarted. Pursuant to 10 CFR 50.91(a)(5), the staff has concluded that the licensee has justified the need for emergency action. The NRC staff has also concluded that the requested changes are necessary and proper and, therefore, finds the proposed TS changes acceptable.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from an accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The following evaluation, by the licensee and with which we agree, demonstrates that the proposed amendment does not involve a significant hazards consideration.

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

The accident analyses in the UFSAR do not rely on the operation of the weld channel pressurization system to demonstrate compliance with 10 CFR [Part] 100. In addition the 10 CFR [Part] 50 Appendix J Integrated Leak Rate Test is performed with this system vented to the pressurized containment atmosphere in order to show that containment leakage under post-accident conditions is within requirements with no credit available for the weld channel system. Therefore operation

with a portion of the system inoperable can have no effect on the probability or consequences of a previously evaluated accident.

2. The possibility of a new or different kind of accident from any previously evaluated has not been created.

As discussed above, since the UFSAR accident analyses and containment leak rate testing are performed with no consideration of the existence of the weld channel system, operation of the plant with a portion of that system inoperable cannot create the possibility of any new accident.

3. There has been no reduction in the margin of safety.

This proposed change does not have any effect on the plant's margin of safety as utilized in evaluations and tests performed to show compliance with the requirements of all applicable regulations.

Based on the foregoing, the Commission has concluded that the standards of 10 CFR 50.92 are satisfied. Therefore, the Commission has made a final determination that the proposed amendment does not involve a significant hazards consideration.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in a requirement with respect to the installation or use of the facility components located within the restricted areas as defined in 10 CFR Part 20. The NRC staff has determined that this amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to this amendment. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

8.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) the amendment does not (a) significantly increase the probability or

consequences of an accident previously evaluated, (b) increase the possibility of a new or different kind of accident from any previously evaluated or (c) significantly reduce a safety margin and, therefore, the amendment does not involve significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor:
F. Williams

Date: April 14, 1993

April 14, 1993

Mr. Stephen B. Bram
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, New York 10511

Dear Mr. Bram:

SUBJECT: ISSUANCE OF EMERGENCY AMENDMENT FOR INDIAN POINT NUCLEAR GENERATING
UNIT NO. 2 (TAC NO. M86134)

The Commission has issued the enclosed Amendment No. 162 to Facility Operating License No. DPR-26 for the Indian Point Nuclear Generating Unit No. 2. The amendment was processed under an emergency basis per 10 CFR 50.91(a)(5). The amendment consists of changes to the Technical Specifications (TS) in response to your application transmitted by letter dated April 8, 1993, as supplemented on April 12, 1993, and April 14, 1993.

The amendment revises TS Section 3.3.D (Weld Channel and Penetration Pressurization System) to permit disconnecting a portion of the weld channel system if that portion became inoperable and repairs to that portion of the system were determined to be not practicable. The amendment also revises the associated TS Bases. Acceptability is based on the fact that no credit is taken for on-line monitoring in the accident analyses to show that regulatory requirements are met and that the liner welds will continue to be leak tested in accordance with 10 CFR Part 50, Appendix J, through periodic Integrated Leak Rate Tests.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity For Hearing will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,
Original signed by:
Francis J. Williams, Jr., Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 162 to DPR-26
2. Safety Evaluation
cc w/enclosures:
See next page
Distribution:
See attached sheet

LA:PDI-1	PM:PDI-1	SCSB*	RGN-I*	OGC*	D:PDI-1
CVogan <i>CV</i>	<i>FW</i> smm	RBarrett	JWiggins		RACapra <i>roc</i>
4/14/93	04/14/93	04/14/93	04/14/93	04/14/93	4/14/93
AD <i>JAC</i>					
JCalvo					
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