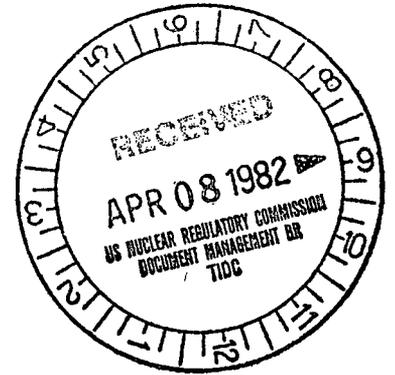


John D. O'Toole
Vice President

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4 Irving Place, New York, NY 10003
Telephone (212) 460-2533



March 31, 1982

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

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Dear Mr. Varga:

This letter is in response to your letters of February 22, 1982 and February 23, 1982 concerning the Inservice Inspection (ISI) Program for Indian Point Unit No. 2.

Attachment A contains our response to your February 23, 1982 letter requesting verification of the submittals you should be reviewing and certain other information regarding the program. Attachment B, contains our response to your February 22, 1982 letter requesting additional detailed information about the program.

Should you or your staff have any questions, please contact us.

Very truly yours,

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ATTACHMENT A

Response to NRC's February 23, 1982
letter concerning the Inservice Inspection Program

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March, 1982

NRC LETTER REFERENCE:

"Based on submittals, the proposed inspection interval for this unit is 11/77 to 2/81. We will be conducting the review against the requirements of the 1974 edition of Section XI of the ASME Code up to and including the S-75 Addenda.

You have proposed an inspection interval of 11/77 to 2/81. However, the regulations would permit an inspection interval of 11/77 to 6/84. You have the option of maintaining your proposed interval or formally requesting an extension of the inspection interval."

RESPONSE:

Consistent with applicable regulations, we request that our current inspection interval, November, 1977 to February, 1981, be extended to end in June, 1984.

NRC LETTER REFERENCE:

"Please determine if there are any additional previous submittals that we should be reviewing. Likewise, if there are any additional requests for relief that should be considered for the proposed inspection interval, please submit these requests within thirty days.

Note that such requests should deal with only the inservice inspection of pressure-bearing components including supports and with system pressure tests. The inservice testing of pumps and valves is being treated separately and you will receive information regarding it by separate correspondence.

Your requests should include both exempted components under the terms of the code as well as relief from the requirements of the code in accordance with paragraph g of 10 CFR 50.55a. Also please advise when you are using later code versions than the S-75 Addenda (per Item (g) (4) (iv) of 10 CFR 50.55a) for certain examinations, particularly how you are meeting "all related requirements" from the same version."

RESPONSE:

As indicated to your staff by telephone on March 5, 1982, the list of submittals identified in your letter of February 23, 1982 is complete. There are no other submittals requiring your review. The subject of additional requests for relief is discussed in response to question no. 1 of Attachment B to this letter. We assume that components exempted under provisions of the code do not require specific identification in our ISI Program or further identification in this letter.

ATTACHMENT B

Response to NRC's February 22, 1982
letter concerning the Inservice Inspection Program

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March, 1982

1. Under the change in regulation 10 CFR 50.55a effective November 1, 1979 your ISI program, when finally approved, will cover the last eighty months of your current 10-year inspection interval, i.e., from November 1977 to June 1984. Does this result in any changes you wish to make in your relief requests? Do you require other ISI relief?

RESPONSE:

Changing our inspection interval to end in June, 1984 does not result in an change in our relief requests. We currently do not require any additional code relief; however, the following clarifications are provided to assure a common understanding of our program.

- (1) For Quality Group B (ASME Class 2) components, the inspections required to be completed by June, 1984 will be equivalent to those required to be completed during the first two-thirds (2/3) of the ten-year interval under the provisions of the 1974 edition of Section XI of the ASME Code including the S-75 addenda. This clarification is provided because the provisions of the code for Quality Group B components were not applicable until September, 1976 when one-third (1/3) of the inspection interval had already expired.
- (2) As an alternate to the QA Program requirements identified in NA-4000 of ASME Section III - which is referenced in ASME Section XI - the QA Program provisions identified in Con Edison's letter to the NRC dated August 3, 1977, and applicable subsequent correspondence, will apply. This clarification is provided to assure uniformity of QA controls and to provide a single Con Edison QA Program source document for determining the applicability of these controls.

Although we request no additional code relief at this time, we shall continue to review the ISI Program and inspection results, and may request future relief, as necessary.

2. For Item Bl.2 (reactor vessel - longitudinal and circumferential welds in shell and meridional and circumferential welds in bottom head and closure head), category B-B, (pg E 1-1), volumetric examination of the weld is required. Code relief is explained in note 2 (pg E 1-11) which discusses the interference, states that welds accessible to the remote device will be volumetrically examined from the inside, and that visual examinations for leakage during the performance of system hydrostatic tests will be performed from the area below the vessel to the extent practical as personnel exposure levels permit.

The letter of December 22, 1980 (answer to Questions 12 and 13) does not identify which welds are inaccessible. Using the weld identifications given in Reference Dwg. A206913-1, please specify which welds cannot be examined and for which welds you have insufficient information to determine accessibility.

RESPONSE:

All or part of the following welds are inaccessible and cannot be volumetrically examined:

<u>Weld Identification (Re: Dwg. A206913-1)</u>	<u>Remarks</u>
RVHC-1	The entire weld is inaccessible
RPVC-5	The entire weld is inaccessible
RVHM-1,2,3,4,5 & 6	Parts of these welds are obstructed by the cooling shroud and the control rod drive mechanism
RPVM-1,2,3,4,5 & 6	Parts of these welds are obstructed by instrument penetrations
Meridional Welds	The total extent of inaccessible meridional welds has not yet been determined; however, the initial 10% of meridional welds required to be examined is scheduled to be completely examined by the end of the first ten year interval, June, 1984.

3. For Item B1.8 (reactor vessel closure studs and nuts), category B-G-1 (pg E 1-2), volumetric and surface examination is required. Code relief is explained in note 8 which discusses the problems with surface examination. In your letter of December 22, 1980 (answer to Question 16) you state that you are planning to conduct surface examinations utilizing a magnetic particle inspection technique. What progress has been made toward using this technique since your letter?

RESPONSE:

During the 1981 refueling outage, magnetic particle examination was successfully utilized to inspect Reactor Coolant Pump studs and nuts. As a result of those inspections the ten year inspection interval requirements for in-place examination of reactor coolant pump studs and nuts is complete. Our current ISI plans call for a portion of the reactor vessel studs and nuts to be examined during the 1982 refueling outage with the remaining reactor vessel stud and nut examinations scheduled for completion by the end of the first ten year inspection interval, of June 1984.

4. For Item B3-1 (regenerative heat exchanger - longitudinal and circumferential welds), category B-8, (pg E 1-6) volumetric examination is required. Code relief is explained in note 31 which states that support members may preclude ultrasonic examination. In your letter of December 22, 1980 (answer to Question 23), you indicate that six of the twelve welds may be accessible for volumetric examination but that you do not plan on making the examination because of personnel exposure rates. Is the 25-rem/hour exposure field discussed in the December 22, 1980 letter a measured value? To what do you estimate it could be reduced during an extended outage with flushing and decay? What do you estimate the total personnel exposure would be to (a) carry out the code requirements, and (b) to examine one weld 100%? Is this the Regenerative or RHR Heat Exchanger? Why is it Class 1 rather than Class 2?

RESPONSE:

The 25-rem/hour exposure field is a measured value. The field varies from 25-rem/hour at the tube sheet end of the heat exchanger to 10-rem/hour at the opposite end. No significant reduction in exposure rate is anticipated as a result of flushing or decay because the radioactive material is entrapped in crevices or deposits not amenable to flushing and has a long half-life.

We estimate the total personnel exposure rates to be as follows:

(a) To carry out the code requirements

The total personnel exposure that would be involved in performing the inspections required by the code during the current inspection interval is estimated at 1100 Rem based upon current radiation fields. This estimate is based upon performing inspections of welds in the current 25 Rem/hr and 10 Rem/hr fields. The estimate includes the time required for health physics surveys and monitoring, erecting and removing scaffolding, emplacing and removing,

shielding, removing and replacing insulation, performing the inspections, cleaning the welds, and general clean up.

(b) To examine one weld 100%

To ultrasonically examine 100% of one weld at the 25 Rem end would involve an estimated personnel exposure of 200 REM. This reflects the personnel time required for health physics surveys, removing and replacing insulation, cleaning the weld and performing the inspections.

Examining even one weld, however, is considered unnecessary at this time. In 1976 when radiation fields were not high, two circumferential vessel welds located at what now is a 25 Rem/hr field, were satisfactorily ultrasonically examined over 100% of their accessible area (equivalent to about 80% of the length of each weld). Additionally, two nozzle to vessel welds in the same area were liquid penetrant examined over 100% of each weld length. No indications were found at testing to the overall satisfactory quality of these welds.

This is the CVCS Regenerative Heat Exchanger. Because of the associated valve alignment, the Regenerative Heat Exchanger is a Quality Group A (ASME Class 1) component. The shell side of the heat exchanger can be isolated from the Reactor Coolant System (RCS) by only one automatic valve and is considered within the defined reactor coolant system pressure boundary (Re: ISI Flow Diagram; CVCS Dwg. A-206745-1).

5. For Item B4.5 (piping pressure boundary - circumferential and longitudinal pipe welds), category B-J (pg E 1-8), volumetric examination is required. Code relief for the 90-degree elbows in the crossover leg is explained in note 33, which states that the elbows are made of austenitic stainless steel and ultrasonic examination would not be effective and the welds will be subject to visual examination for leakage during hydrostatic tests. In your December 22, 1980 letter (answer to Question 24) you state that a representative casting will be evaluated at the 1980-81 refueling outage to determine if the surface finish is amenable to surface examination. What were the results of this evaluation?

RESPONSE:

A portion of one weld was visually examined and determined to be marginally suitable for liquid penetrant examination. Liquid penetration surface examinations will be attempted during the 1982 refueling outage. If these attempts prove successful, we intend to perform liquid penetrant surface examinations of the welds requiring inspections, in lieu of volumetric examination, by the end of the current ten year inspection interval, June, 1984.

6. For Item C2.3 (piping systems), category and C-G (pg E 2-6) volumetric examination of branch pipe to pipe weld joint is required. Code relief where restrictions exist is discussed in note 27 and it is proposed that these welds be examined to the extent practical. Since your last submittal what progress have you made in inspecting welds under this item or at least in cataloging them? What conclusions are you able to draw about what fraction of the required number of welds (or what portions of welds) you are able to inspect? If the results of any such inspections have been previously submitted to NRC, please supply references.

RESPONSE:

Branch pipe to pipe weld joints in this category are largely inaccessible because of the later addition of reinforcement welds at each joint. However, one representative reinforcement weld in the main steam line was successfully examined by magnetic particle inspection. The remaining reinforcement welds are planned to be examined using this technique. In addition, the branch welds will be further evaluated during the 1982 refueling outage to determine the feasibility of volumetric examination although the addition of reinforcement welds at each joint will minimize the value of such an examination.