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July 9, 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

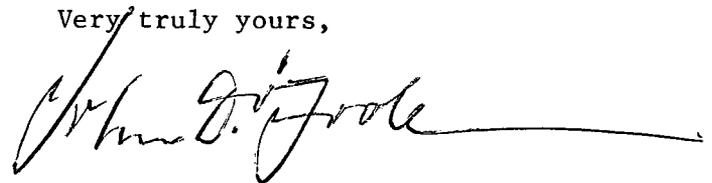
ATTN: Mr. Steven A. Varga, Chief  
Operating Reactors Branch No. 1  
Division of Licensing

Dear Mr. Varga:

Attachment A to this letter provides responses to questions regarding the Inservice Inspection Program for Indian Point Unit No. 2 resulting from a May 6, 1982 telephone conversation between members of our respective staffs.

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

Very truly yours,



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ATTACHMENT A

Responses to NRC questions  
on Inservice Inspection  
Program for Indian Point Unit No. 2

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

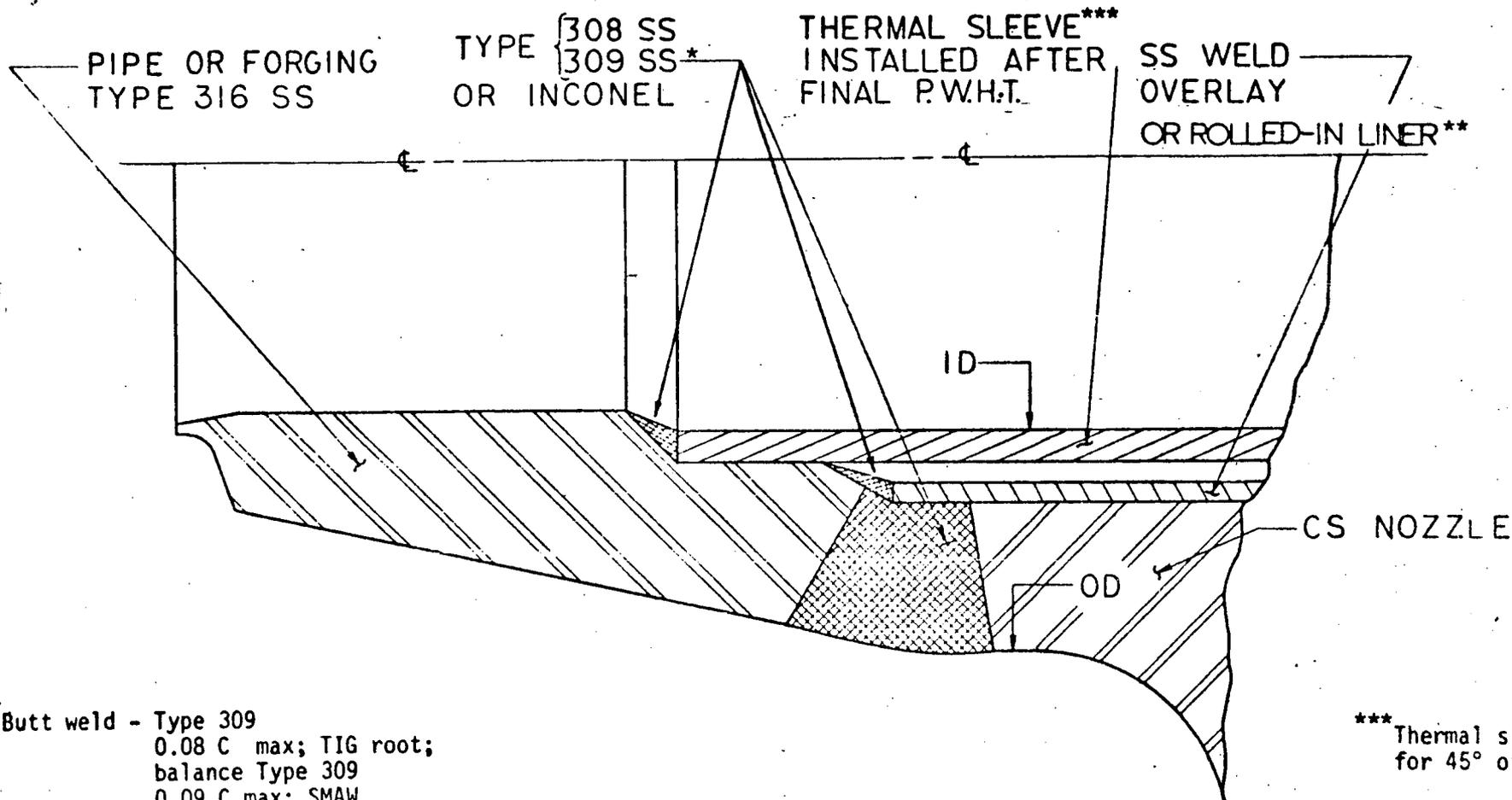
QUESTION

Item B2.4 Note 47 Page E1-16 (Reference 1)\*. Provide a sketch depicting typical pressurizer safe end welds for weld numbers PZRS 1, 2 & 6.

RESPONSE

Attached is a sketch typical of the referenced welds.

Reference 1 - Indian Point Unit No. 2 Inservice  
Inspection and Testing Program,  
Supplement 3, February 1979



\* Butt weld - Type 309  
 0.08 C max; TIG root;  
 balance Type 309  
 0.09 C max; SMAW

Attachment weld of thermal sleeve  
 and rolled-in liner - Type 308 L  
 0.04 C max; TIG (made after final  
 PWHT)

\*\* Rolled-in liner welded top and  
 bottom for spray, safety, and  
 relief nozzles - Type 309 followed  
 by Type 308 L weld overlay for surge  
 nozzle

\*\*\* Thermal sleeve welded  
 for 45° of 360°

SPRAY OR SURGE NOZZLE  
TAMPA PRESSURIZER

Figure 40-3

Supplement 12  
 7/70

1352

### QUESTION

Items C.2.1 and C.2.3, Note 27 Page E2-12 (Reference 1). For those welds which have restrictions identified in note 27 that are scheduled for inspection during the remaining inspection interval can a surface examination (magnetic particle or liquid penetrant) be performed on those areas of these welds and associated base metal where an ultrasonic examination is not practical?

### RESPONSE

For those C.2.1 and C.2.3 welds scheduled for examination during the remaining inspection interval a surface examination will be accomplished on those areas of the welds and associated base metal that cannot be readily ultrasonically tested. The surface examination will be conducted on the as-fabricated surface of the welds and base metal. Any resultant indications will be evaluated in accordance with the original engineering specifications. Minor surface indications resulting from the original welding process which are determined not to be cracks or lack of fusion and not service connected will not require further action. A minimum of 12 category C.2.1 welds are required to be inspected during the remaining inspection interval. The category C.2.3 welds were previously completed as reported in the Fourth Refueling Outage Inservice Inspection Report submitted by Con Edison letter (O'Toole) to NRC (Grier) dated August 12, 1981. In these latter cases a surface and a visual examination were accomplished in areas where a stipulated ultrasonic examination was not feasible.

QUESTION

Item C.3.1 Note 30 Page E2-12 (Reference 1).  
Provide additional information regarding the condition of the charging pump casing that preclude volumetric examination of welds.

RESPONSE

Note 30 was developed in anticipation of difficulty in inspecting potential welds because of the overall geometry of the pump casing. Subsequently, it was determined that the casing is fabricated from a solid block of material without welds. Note 30 therefore is not applicable and Code relief is unnecessary since the requirement to conduct volumetric examinations of welds on the pump casing is not applicable.

QUESTION

Paragraphs 4,5,6 Page 7 (Reference 1).  
Provide clarification as to which systems are subject to the relief requests identified in these paragraphs.

RESPONSE

This information will be developed and we presently plan to provide it to the staff by September 15, 1982

QUESTION

Q26 (Reference 2)\*

Explain the basis for the 500mR/HR value used in determining exceptions to performing particular inservice examinations or provide alternate criteria and bases.

RESPONSE

500 mR/HR was established to balance the requirements of conducting inservice examinations against the need to minimize personnel exposure. However, local fields are only one of a number of factors that influence personnel exposures. Accordingly, in lieu of the 500 mR/HR value previously discussed, the criteria identified below will be used for determining which inservice examinations may be excluded.

If it is anticipated that the exposure of personnel who are required to support or perform inservice examinations will exceed the following values for any single examination, then, at the option of Con Edison, exception may be taken to performing the examination and as appropriate, an alternate examination may be substituted:

1. 500 mR total exposure for all nondestructive examination (NDE) personnel, or
2. 500 mR total exposure for health physics personnel, or
3. 6500 mR total exposure to all other support personnel such as erectors, insulators, etc.

\*Reference 2-Con Edison letter of December 22, 1980 responding to questions contained in NRC's October 14, 1980 letter request for additional information.

The criteria would apply to examinations performed for Quality Group A, B and C components except for the Reactor Coolant (RC) pump casing welds (volumetric examination) the R.C. Pump Casing Internals (visual) and the Steam Generator tubing (eddy current and/or ultrasonic examinations).

Where the above criteria apply and exception is taken to performing the examination, or where alternate examinations are substituted, such action shall be documented with supporting technical information in the Inservice Inspection Report required by Section XI, IWA-6000.

The above criteria reflect the following considerations:

1. The availability of personnel who can perform inservice examinations is, in general, limited as compared to support personnel such as erectors, insulators, etc. because of special training and qualification requirements. The 500 mR total exposure limit for NDE personnel is intended to contribute to personnel availability by minimizing cases where individual exposure limits may be approached. For example, currently at Indian Point Unit 2 an individual who has reached 2500 mR/quarter is administratively precluded from working in areas (such as containment) where fields are 100 mR/HR or greater. The 500 mR limit would support completion of a number of examinations by personnel prior to an individual approaching 2500 mR during a quarter.

2. The 500 mR total exposure limit for health physics personnel is, in general, based on the same considerations of personnel availability, training, etc. as discussed above for examination personnel.
3. The 6500 mR total exposure limit for other support personnel such as erectors, insulators, etc. reflects an anticipated need for more such personnel as their exposure times typically exceed the exposure times required for NDE examiners and health physics personnel. This coupled with their greater availability warrants the higher total exposure limit for such support personnel.
4. Alternate inspections shall be performed when these limits are anticipated to be exceeded, and where such alternate inspections are appropriate and can substantially decrease exposures. For example, where a volumetric examination is required, an alternate surface examination may be substituted or where a surface examination is required, examinations per paragraphs IWA 2210 or IWA 5240 of ASME Section XI 1974 may be substituted.

5. The criteria would not apply to the examination of the Reactor Coolant Pump casing and internals and the Steam Generator tubing as these examinations are either infrequently accomplished or warranted because of operating history.
  
6. It is intended to apply the above criteria beginning with the Fall 1982 outage. Based on plant experience to date, it is anticipated that application of the criteria will preclude performing examinations on only a limited number of components such as:
  - A. Reactor Vessel Head Cladding
  
  - B. Residual Heat Removal Heat Exchangers
  
  - C. Regenerative Heat Exchanger
  
  - D. Filters (Reactor Coolant, Seal Water Injection, Seal Water Return)
  
  - E. Reactor Coolant Drain Lines

The rationale for not performing stipulated inspections on items A through D was previously identified and discussed in prior correspondence. Item E, the reactor coolant drain lines, was not specifically identified previously. These drain lines

are 2" socket welded bottom connected lines where radioactive material accumulation locally produces fields on the order of 8 R/HR. The stipulated examinations for the twenty nine (29) 2" welds involved are not planned to be accomplished, however, the welds will be examined for leakage during system pressure tests.

7. Although prior references were made to potential high fields in the areas around the volume control tank, the residual heat removal pumps and the charging pumps, inspections have been performed in these areas and it is anticipated that the application of the above criteria would not currently preclude inspections of these components.

In summary, the above criteria are considered to be a reasonable balance that take into account both the need to perform inservice examinations and the need to minimize personnel exposures. Based on plant experience to date it is anticipated that the application of the criteria would preclude only a limited number of components from inspections thus minimizing the impact on the overall plant inservice inspection program.