February 13, 2001

Mr. Michael Kansler
Sr. Vice President and Chief
Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 - REQUEST FOR ADDITIONAL INFORMATION REGARDING THIRD 10-YEAR INSERVICE INSPECTION PROGRAM (TAC NO. MA9757)

Dear Mr. Kansler:

By letter dated, July 18, 2000, you submitted your third 10-year Inservice Inspection Program. Before we can complete our review, we request that you respond to the enclosed questions. These questions were discussed with members of your staff on November 28, 2000 and January 9, 2001, and were forwarded to you electronically on February 7, 2001. We understand that you anticipate having a response to these questions 30 days from the date of this letter.

On November 21, 2000, the Power Authority of the State of New York (PASNY) transferred ownership of the Indian Point Nuclear Generating Unit No. 3 (IP3) to Entergy Nuclear IP3, LLC, to possess and use IP3 and to Entergy Nuclear Operations, Inc., to possess, use and operate IP3. By letter dated January 26, 2001, Entergy Nuclear Operations, Inc. adopted submittals made by the Power Authority of the State of New York. The NRC staff will continue to review and act on all requests before the Commission which were submitted by PASNY before the transfer.

Sincerely,

/RA/

George F. Wunder, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure: As stated

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

The information requested below is required to complete the evaluation of the subject requests for relief.

Request for Relief No. 3-2 (H) Revision 1 - Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee proposed an alternative essentially identical to Code Case N-546, *Alternative Requirements for Qualification of VT-2 Examination Personnel, Section XI, Division 1*. The licensee's proposed alternative contains one exception to Code Case N-546. The licensee proposed to use the vision test requirements of IWA-2321, 1989 Edition, which is the Inservice Inspection Code in effect for Indian Point 3 in lieu of the vision test requirements of IWA-2321, 1995 as required by Code Case N-546.

To find this alternative acceptable for use, the staff has determined that the following conditions must be met:

1) Use the Vision test requirements of IWA-2321, 1995 Edition;

2) Develop procedural guidelines for obtaining consistent, quality VT-2 visual examinations in accordance with IWA-2210;

3) Document and maintain records to verify the qualification of persons selected to perform VT-2 visual examinations, in accordance with IWA-1400(k);

4) Implement independent review and evaluation of detected leakage by persons other than those that performed the VT-2 visual examinations, in accordance with IWA-1400(n);

5) Qualify VT-2 examination personnel by examination on the material covered under item b of the requirements of Code Case N-546; and

6) Re-qualification of VT-2 examination personnel by examination every three (3) years to the requirements of item b of Code Case N-546.

Confirm that these conditions will be met.

Request for Relief No. 3-3 (H) Revision 1 - Paragraph IWA-5242(a) requires the removal of all insulation from pressure-retaining bolted connections in systems borated for the purpose of controlling reactivity when performing VT-2 visual examinations during system pressure tests. The licensee has proposed the following alternative examinations requirements (similar to those found in Code Case N-533) in lieu of the Code requirements as stated in IWA-5242(a) for Class 1 and Class 2 systems/components:

a) A system pressure test and VT-2 visual examination shall be performed each inspection **period** without removal of insulation.

b) The insulation shall be removed from the bolted connections each inspection **period**, and a visual examination shall be performed. The connections are not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with the requirements specified in IP3 relief request RR 3-1.

The proposed alternative submitted by the licensee is similar to Code Case N-533, *Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections*, with the exception that "(a), (b)" of the Code Case requires:

a) A system pressure test and VT-2 visual examination shall be performed each **refueling outage** without removal of insulation.

b) **Each refueling outage** 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.

In order for the proposed alternative for Class 1 and Class 2 bolted connections to be found acceptable, the following conditions must be met.

a) A system pressure test and VT-2 visual examination shall be performed each refueling outage for Class 1 connections and each period for Class 2 and 3 connections.

b) The insulation shall be removed from the bolted connections each refueling outage for Class 1 connections and each period for Class 2 and 3 connections, 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.

In addition, neither the licensee or Code Case N-533, provides details of the examination parameters for the system pressure test. As an additional condition, the system pressure test and corresponding VT-2 visual examination with the insulation in place will have to be performed with a minimum 4-hour hold time after attaining a test pressure of not less than the nominal operating pressure associated with 100 percent rated reactor power. The 4-hour hold allows time for leakage to penetrate the insulation, providing a means of detecting any significant leakage with the insulation in place.

Confirm that these conditions will be met.

Request for Relief No. 3-4 (H) Revision 1 - It appears that this request is seeking relief from the same examination requirements as Request for Relief No. 3-3, Revision 1. Therefore, it is unclear what purpose this relief serves. Provide clarification/information describing the need for this relief as opposed to Request for Relief No. 3-3, Revision 1. Considering the conditions stated above for Request for Relief No. 3-3, Revision 1, determine if this request for relief is still required.

Request for Relief Nos. 3-1 (H) Revision 1 and 3-5 (H) Revision 1 - The licensee submitted Requests for Relief Nos. 3-1, Revision 1, and 3-5, Revision 1, from the examination requirements of IWA-5250(a)(2). ASME Section XI, IWA-5250(a)(2) requires that if leakage occurs at a bolted connection, the bolting shall be removed, VT-3 examined for corrosion, and evaluated in accordance with IWA-3100.

Request for Relief No. 3-1, Revision 1 contained an alternative to evaluate the leakage at bolted connections taking into account the:

1. Location of leakage
2. History of leakage
3. Fastener materials
4. Evidence of corrosion, with the connection assembled.
5. Corrosiveness of the process fluid and
6. Other components in the vicinity that may be degraded due to the leakage.

Request for Relief No. 3-5, Revision 1 proposes no alternative but essentially states that removal and visual inspection of bolting at a bolted connection will not be performed when leakage is discovered during a system pressure test when the bolting was replaced or inspected and found satisfactory during the same outage as the pressure test.

Considering that the licensee, in RR No. 3-1, Revision 1, proposed an alternative for leakage at bolted connections which takes into account multiple (see above items 1-6) items to be considered prior to removal of bolting, the need for Request for Relief No. 3-5, Revision 1 is unclear. Furthermore, it is the staff's opinion that an evaluation of each bolted connection found leaking is more appropriate, rather than generic acceptance of the bolted connection based solely on the fact that the bolting is either new or was recently inspected.

Provide additional information concerning the need for multiple requests for relief from the same Code requirement.

In addition, if Request for Relief No. 3-5, Revision 1 is deemed necessary, recognize that 10 CFR 50.55a(a)(3)(i) requires an alternative equivalent to the Code requirements or an explanation describing how the licensee's proposed alternative will provide an acceptable level of quality and safety. Request for Relief No. 3-5, Revision 1, as currently written provides no alternative examination. Therefore, provide:

1) An alternative equivalent to the Code requirements or,
2) An explanation describing how the licensees proposed alternative will provide an acceptable level of quality and safety, or,
3) Resubmit the Request for Relief under 10 CFR 50.55a(a)(3)(ii) [hardship], or 10 CFR 50.55a(g)(6)(i) [impracticality]

Request for Relief No. 3-7 (I) - The licensee's proposed alternative states "...JAF will implement ASME Code Case N-532...". It is understood that the licensee's submittal is for IP3, not the James A. FitzPatrick Nuclear Power Plant. Provide clarification to the licensee's alternative examinations.

Request for Relief No. 3-10 (I) - This Request for Relief is for all components subject to ultrasonic examination in accordance with the 1995 Editions and 1996 Addenda of ASME Section XI, Appendix VIII.

Appendix VIII, Subarticle VIII-2200 requires that personnel shall meet the requirements of Appendix VII. Subarticle VII-4240 of the 1995 Edition with the 1996 Addenda of ASME XI requires that supplemental training be performed on an annual basis to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by the employer. The extent of this training shall be a minimum of 10 hours per year. A record of attendance and the topics covered during the training shall be maintained; however, no examination is required.

Paragraph 2.4.1.1.1 in the Federal Register (dated September 22, 1999) contains the following statement, "The NRC had determined that this requirement *(10 hours of training on an annual basis)* was inadequate for two reasons. The first reason was that the training does not require laboratory work and examination of flawed specimens. Signals can be difficult to interpret and, as detailed in the regulatory analysis for this rulemaking, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within approximately 6 months if skills are not maintained. Thus, the NRC had determined that 10 hours of annual training is not sufficient practice to maintain skills, and that an examiner must practice on a more frequent basis to maintain proper skill level...".

Based on public comments the NRC reconsidered its position. The Performance Demonstration Initiation (PDI) program has adopted a requirement for 8 hours of training, but it is required to be hands-on practice. In addition, the training must be taken no earlier than 6 months prior to performing examinations at a licensee's facility. PDI believes that 8 hours will be acceptable relative to an examiner's abilities in this highly specialized skill area because personnel can gain knowledge of new developments, material failure modes, and other pertinent technical topics through other means. Thus, the NRC has decided to adopt in the final rule the PDI position on this matter. These changes are reflected in 10 CFR 50.55a(b)(2)(xiv), which states. "All personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility."

It is the staff's opinion that the training requirements stipulated in 10 CFR 50.55a(b)(2)(xiv) is a stand alone requirement, independent of VII-4240 and CC-583.

Based upon the submittal it is unclear whether the licensee's intent is to obtain relief from the regulatory requirements as listed in 10 CFR 50.55a(b)(2)(xiv) for Appendix VIII examinations, or from the Code requirements as listed in Subarticle VII-4240 or another annual training program.

Provide additional information clarifying this request for relief.

Request for Relief No. 3-12 (I) - Examination Category B-A, Item Numbers B1.21, and B1.22 require volumetric examinations of the accessible length of all circumferential and meridianal

head welds. Note 2 of Table IWB-2500-1 for Examination Category B-A states; "Includes essentially 100% of the weld length".

The licensee states that "Note 2 requires that the volumetric examination coverage stipulated by Figure IWB-2500-3 be provided for essentially 100% of one weld."

The staff believes that the licensee's statement is a non-conservative interpretation of the Code requirement. The staff interprets Note 2 as requiring volumetric examination of 100% of the accessible weld length for all circumferential and meridianal head welds. While this interpretation of Note 2 does not change the need for relief for the B1.21 and B1.22 welds, the licensee should recognize and utilize this interpretation for other Item Numbers which reference Note 2, (i.e. B1.10, B1.30, B1.40).

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject welds is limited by physical obstructions, such as, interference from CRDM penetrations, or incore instrumentation. Information supplied in the licensee's submittal appears generic to multiple welds. In order to evaluate this request for relief provide weld identifications for the subject welds including the percentage of examination coverages achievable (if any). In addition provide drawings or sketches showing the specific configurations of the subject welds to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-14 (I) - Examination Category B-B, Item Numbers B2.11, and B2.12
The Code requires 100% volumetric examination of Pressurizer Circumferential and Meridional Head Welds.

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject welds is limited by physical obstructions, specifically the subject welds are enclosed in a biological and missile shield. The information supplied in the licensee's submittal is generic to multiple welds. In order to evaluate this request for relief provide weld identifications for the subject welds. In addition provide drawings or sketches showing the specific configurations of the subject welds to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-16 (I) - Examination Category B-D, Item Number B3.120
The Code requires 100% volumetric examination of Pressurizer Nozzle Inner Radius Sections.

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject areas are limited by the physical characteristics of the nozzles, specifically nozzle geometry and as-cast properties . It appears that the information supplied in the licensee's submittal is generic to multiple nozzles. In order to evaluate this request for relief provide nozzle/component identifications for the subject areas. In addition provide drawings or sketches showing the specific configurations of the subject inner radius sections to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-18 (I) - Examination Category B-F, Item Number B5.10
The Code requires 100% volumetric and surface examination of Reactor Vessel Nozzle to Safe End Welds.

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject welds is limited by physical obstructions, specifically the subject welds are enclosed with limited access through the refueling cavity floor. In addition, the RPV Nozzle to Safe End welds are covered with fixed (non-removable) insulation.

The information supplied in the licensee's submittal is generic to multiple welds. In order to evaluate this request for relief provide weld identifications for the subject welds. In addition provide drawings or sketches showing the specific configurations of the subject welds to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-21 (I) - Examination Category B-J, Item Number B9.11, of the Code requires 100% volumetric and surface examination of Circumferential Welds in Piping NPS 4 or Larger.

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject welds is limited by physical obstructions, specifically the subject welds are enclosed with limited access through the refueling cavity floor. In addition, the welds are covered with fixed (non-removable) insulation.

The information supplied in the licensee's submittal appears to be generic to multiple welds. In order to evaluate this request for relief provide weld identifications for the subject welds. In addition provide drawings or sketches showing the specific configurations of the subject welds to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-22 - Examination Category C-A, Item Number C1.30, of the Code requires 100% volumetric examination of Tubesheet-to-Shell Welds.

To support the determination that the subject Code requirements are impractical in accordance with 10 CFR 50.55a(g)(6)(i), the licensee must provide an adequate description/information to support that determination. The licensee states that complete examination of the subject weld is limited by physical obstructions, specifically the proximity of the nozzle weld interferes with access to the subject weld.

In order to evaluate this request for relief provide weld identification for the subject weld. In addition provide drawings or sketches showing the specific configurations of the subject weld to demonstrate the impracticality of meeting the Code examination coverage requirements.

Request for Relief No. 3-26 (I) Revision 1 - The licensee has stated that: "The following alternative testing requirements will be implemented as defined by ASME Section XI Code

Case N-573, Transfer of Procedure Qualification Records [PQRs] Between Owners, Section XI, Division 1.

1. NYPA will perform a technical review of the supplying Owner's PQR.

2. The supplying Owner will state in writing that the PQR was performed under an acceptable Nuclear Quality Assurance program that meets ASME Section XI, IWA-1400 and that it was performed in accordance with ASME Section XI.

3. NYPA will generate a NYPA WPS [Welding Procedure Specification] using the variables established in the supplied PQR(s). NYPA PQR's may supplement these or other Owner supplied PQR's.

4. The WPS will be approved and signed by NYPA.

5. The WPS will be demonstrated successfully by NYPA by completing a welder performance qualification test using the parameters of the NYPA WPS.

6. NYPA will not transfer the supplied PQR to any other Owner.

7. NYPA will document the use of this Code Case on the appropriate NIS-2/2A form."

The alternative items listed above are similar to requirements (a)-(h) listed in the Code Case. However, it is not clear if the items listed by the licensee entirely meet the requirements of the Code Case. Confirm that Items (a)-(h) as listed in Code Case N-573 will be met.