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March 22, 2001

Re: Indian Point Unit No. 2
Docket No. 50-247
NL-01-032

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555-0001

Subject: Relief Request to Allow Use of ASME Code Case N-597 (Relief Request No. 58)

Pursuant to 10 CFR 50.55a(a)(3), Consolidated Edison Company of New York, Inc. (Con Edison) hereby requests relief from certain requirements of the American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel Code for Indian Point Unit 2. Specifically, relief is requested to allow the use of ASME Code Case N-597 for evaluations to determine the structural capability of components degraded by non-uniform localized pipe wall thinning. Attachment 1 contains the basis for this relief request.

No new regulatory commitments are being made by Con Edison in this correspondence.

Should you or your staff have any questions regarding this matter, please contact Mr. John McCann, Manager, Nuclear Safety & Licensing at (914) 734-5074.

Very truly yours,

A. Alan Blind

Attachment

A047

C: Mr. Hubert J. Miller
Regional Administrator-Region I
US Nuclear Regulatory Commission
475 Allendale Road
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Mr. Patrick D. Milano, Senior Project Manager
Project Directorate I-1
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ATTACHMENT 1

Relief Request No. 58

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March 2001

RELIEF REQUEST NUMBER 58

COMPONENT IDENTIFICATION

Code Class:	1, 2 & 3
References:	IWA-4000
Examination Category:	N/A
Item Number:	N/A
Description:	Piping

CODE REQUIREMENT

ASME Boiler and Pressure Vessel Code Section XI, IWA-4300, "Defect Removal" states that if the resulting section thickness is below minimum design thickness, the component shall be repaired. Alternatively, the component may be evaluated and accepted in accordance with the design rules of either the construction code, or ASME Section III, if the construction code was not Section III. Additionally, IWA-3000, "Standards for Examination Evaluation," also provides standards for evaluation of planar flaws detected during the course of inservice examinations. However, neither the construction code Section III nor Section XI provide a methodology for evaluating localized or other types of non-uniform wall thinning resulting from flow-accelerated or other corrosion phenomena.

BASIS FOR RELIEF

ASME Section XI, IWA-4000, "Repair Procedures," provides the process for assessing the suitability of a component for continued service after a defect has been removed. This provision stipulates that where the section thickness has been reduced below the minimum design thickness, the component shall be repaired. As an alternative, the component may be evaluated and accepted in accordance with the design rules of either the construction code or ASME Section III. Section XI does not provide analytical methods to evaluate non crack-like defects of limited width and length.

Since neither ASME III nor other construction codes were intended for use on non-uniform pipe sections, these evaluations are normally performed by assuming that any wall thinning extends around the entire pipe circumference, even if the thinning is confined to a localized area of the pipe cross section. Depending on the extent of the thinned area, these assumptions can result in significantly underestimating the structural capabilities of the degraded section. Since Code Case N-597, "Requirements for Analytical Evaluation of Pipe Wall Thinning Section XI, Division 1," was explicitly developed to evaluate localized and other forms of non-uniform wall thinning, it provides a more accurate method to calculate the structural capabilities of a degraded section.

RELIEF REQUEST NUMBER 58

PROPOSED ALTERNATIVE PROVISIONS

As an alternative to the requirements of IWA-4000, Con Edison proposes to use the provisions of ASME B&PV Code Case N-597, "Requirements for Analytical Evaluation of Pipe Wall Thinning Section XI, Division 1," for the analytical evaluation of Class 1, 2 and 3 piping materials that have experienced wall thinning as a result of flow-accelerated or other corrosion phenomena. Evaluations performed in accordance with Code Case N-597 will include an evaluation of the wall thickness measurements to determine the appropriate component thinning rate. The actual wall thickness used in the evaluation will account for any additional thinning expected before the next inspection period. Planar flaws will continue to be evaluated in accordance with the corresponding IWA-3000 requirements and will be outside of the scope of this relief request. The ASME approved Code Case N-597 on March 2, 1998.

PERIOD FOR WHICH RELIEF IS REQUESTED

Relief is requested for the third inspection interval, July 1, 1994 through June 30, 2004. Furthermore, this interval has been extended to April 3, 2006 as discussed in Con Edison's Letter to the NRC dated February 1, 2001.

JUSTIFICATION FOR RELIEF

ASME Section XI, IWA-3000 provides the standards for evaluation of flaws detected during inservice examinations. However, IWA-3000 does not provide a methodology to evaluate non-planar flaws similar to those expected as a result of flow-accelerated corrosion degradation. The only analytical method explicitly sanctioned by ASME XI to evaluate pipe wall thinning and other non-planar flaws is the original construction code or ASME Section III.

Code Case N-597 is not identified in the most recent listing of approved Code Cases contained in Revision 12 of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability – ASME Section XI, Division 1." However, the NRC has approved the use of Code Case N-597 for other licensees[1,2]. Con Edison believes that use of Code Case N-597 to evaluate wall thinning will provide a level of safety and quality consistent with the requirements of Section XI.

[1] Safety Evaluation by the Office of Nuclear Reactor Regulation, "Millstone Nuclear Power Station, Units Nos. 2 and 3 – Request for an Alternative to the Requirements of the ASME Code (TAC Nos. MA3889 and MA3884), dated February 23, 1999."

[2] Safety Evaluation by the Office of Nuclear Reactor Regulation, "Hope Creek Generating Station and Salem Nuclear Generating Station, Unit Nos. 1 and 2 – Evaluation of Relief Request – Use of ASME Code Case N-597 as an Alternative Analytical Evaluation of Wall Thinning (TAC Nos. MA8595, MA8600, and MA8601), dated October 12, 2000."