William J. Cahill, Jr		OF NOV12
Consolidated Edison Company of New Yor 4 Irving Place, New York, N Y 10003 Telephone (212) 460-3819	k, Inc. Regulatory	File Cya

November 7, 1975

USNRC

Moil Section Docket Clark

Re Indian Point Unit No. 3 Docket No. 50-286 10

Mr. Ben C. Rusche, Director Office of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission Washington, D.C. 20555

Dear Mr. Rusche

8111190109 751107

0500

0286

PDR ADOCK

Pursuant to 10CFR 50.12(a) of the Commission's Reputations Consolidated Edison Company of New York, Inc. ("Con Edison") herewith requests exemption from certain requirements of Appendix J to 10CFR50 relating to reduced pressure leak testing of the Indian Point Unit No. 3 containment. In Support of this request, Con Edison states as follows:

In accordance with Appendix J to 10CFR50, both a peak and a reduced pressure pre-operational integrated leak rate test of the Indian Point Unit No. 3 containment were performed. The results of these tests were presented in a report entitled "Preoperational Integrated Leak Rate Test of the Reactor Containment Building; Consolidated Edison Corporation; Indian Point Unit No. 3" dated March 19, 1975. The report was submitted to the Commission on March 27, 1975, followed by a submittal dated May 12, 1975 containing revised pages for the report.

The results of the pre-operational peak pressure test have been accepted by the Regulatory Staff. These results demonstrate the leak-tightness of the containment. There is, however, a difference of opinion between the Regulatory Staff and Con Edison regarding the acceptability of the reduced pressure test results.

It is Con Edison's contention that the acceptance criteria for the reduced pressure test as presently formulated and interpreted by the Commission contain analytical anomalies which, under certain conditions. render it impossible for a facility to pass this test. These anomalies are as follows:

12961

Mr. Ben C. Rusche

November 7, 1975

(2)

Re Indian Point Unit No. 3 Docket No. 50-286

Appendix J Para. III A.3.c. states that "test leakage rates shall be calculated using absolute values corrected for instrument error". This interpreted by the Commission as adding root-mean-square instrument error to the average of the absolute measured leakage rate values. That is,

 L_{TM} (corrected) = L_{TM} (absolute) +e_i (1)

where: LT

$$L_{TM}$$
 (absolute) = $\sum_{N} \frac{L_{TI}}{N}$

- L_{TI} = absolute individual period measured leak rate adjusted to % mass leak per day
- N = number of periods

Appendix J Para. III.A.4.a.l.iii states that specified leak rate L_T at reduced pressure P_T is:

$$L_{T} = L_{TM} \\ L_{AM} \times L_{A}$$

where:

- L_{TM} = Absolute value of measured leakage rate at reduced pressure (P_T)
 - L_{AM} = Absolute value of measured leakage rate at DPA pressure (P_A)
 - L_A = Specified leakage rate limit at P_A

If the containment is very tight, then, within statistical probability, the measured leak rate at reduced pressure may be zero. ($L_{TM} = 0$). Under those conditions from Equation (2) L_T will also be zero.

From Equation (1)

 L_{TM} (corr) = L_{TM} (absolute) + e_i = 0 + e_i = e_i Mr. Ben C. Rusche

November 7, 1975

Re Indian Point Unit No. 3 Docket No. 50-286

Paragraph III.A.4.b.l of the acceptance criteria states: "Reduced Pressure Tests. The leakage rate L_{TM} shall be less than 0.75 L_{T} ".

Since under these conditions, $L_T = 0$ and L_{TM} (corr.) = e_i which cannot be zero, then

LTM (corrected)> 0.75 x L_m

which implies that the acceptance criterion has not been met.

The Commission has also taken a position regarding the acceptable statistical spread of the test data: namely that the upper limit of the 95% confidence interval of the "t" distribution about the mean of the absolute values of measured leakage rate ($L_{\rm TM}$) shall be less than the specified leakage rate at reduced pressure ($L_{\rm T}$). This additional acceptance criterion does not appear in Appendix J or even a Regulatory Guide and contains analytical anomalies similar to those in the aforementioned criterion. That is, under the conditions where $L_{\rm TM}$ (absolute) = 0 and $L_{\rm T}$ = 0,

 L_{TM} (absolute) + t deviation (*95) L_T

as t deviation (95) must be greater than zero. Hence, this again implies failure to meet the acceptance criteria under the postulated conditions.

In summary, when there is a very tight containment with leakage approaching zero at reduced pressure, then, due to the error correction interpretation and statistical spread analysis assumed by the Commission, the reduced pressure test will consistently fail. This will be the case even though the peak pressure test verifies the leaktightness of the containment.

It is for this reason that Con Edison requests an exemption pursuant to 10 CFR 50.12(a) from those portions of Appendix J which relate to performance of a reduced pressure leak test: namely, paragraphs III A.4(a)(1), III A.4.(b)(1), III A.5(a)(1), and III A.5(b)(1). It is our belief that the successful performance of the pre-operational peak pressure leak test verifies the acceptability of the Indian Point Unit No. 3 containment, and that the purpose of the Appendix J has been satisfied through the demonstration of the containment's leak tightness. Mr. Ben C. Rusche

November 7, 1975

Re Indian Point Unit No.3 Docket No. 50-286

It is also our understanding that the requirement for pre-operational testing at reduced pressure was based on the licensee's option to perform subsequent periodic leak tests at reduced pressure rather than peak pressure. In light of the above-stated anomalies in the acceptance criteria for the reduced pressure test. Con Edison desires to conduct future periodic leak tests at peak pressure. The elimination of the reduced pressure will not endanger life or property or the common defense and security and is otherwise in the public interest. It is further requested that the Technical Specifications for Indian Point Unit No. 3, when issued, reflect this exemption.

Very truly yours

mrb

William J. Cahill, Jr. Vice President

Sworn to before me this /0 2 day of November, 1975.

Public Motary

ANGELA ROBERTI Notary Public, State of New York No. 03-8593813 Qualified in Bronx County Commission Expires March 30, 1976