PDR-016

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 12 1984

Mr. Lyle Graber
Licensing Engineer
Licensing Information Service
NUS Corporation
2536 Countryside Boulevard
Clearwater, FL 33515-2094

IN RESPONSE REFER
TO FOIA-84-888

Dear Mr. Graber:

This is in response to your letter dated November 26, 1984, in which you requested, pursuant to the Freedom of Information Act, that the following documents be placed in the Public Document Room (PDR):

> Enclosures to NRC Letter to Consolidated Edison Company (50-247), "Reactor Vessel Flaw at the Indian Point Nuclear Generating Plant, Unit No. 2," dated September 19, 1984. (Accession No. 8410110554)

The subject documents, as identified on the enclosed appendix, are being placed in the PDR, 1717 H Street, NW, Washington, DC 20555, for your inspection and copying. The records will be filed in folder FOIA-84-858 under your name.

Sincerely,

John Phelan for

J. M. Felton, Director
Division of Rules and Records
Office of Administration

Enclosure: As stated

APPENDIX

1. LETTER FROM VARGA TO O'TOOLE, SUBJECT: REACTOR VESSEL FLAW AT THE INDIAN POINT NUCLEAR GENERATING PLANT, UNIT NO. 2 (IP-2) - (2 pages) (DATED: 9/19/84)

2. ATTACHMENT 1 to 9/18/84 VARGA LETTER, SUBJECT: QUESTIONS AND CONCERNS REGARDING THE SAFETY MARGIN BETWEEN THE ASME CODE ALLOWABLE FLAW AND THE POTENTIAL FLAW IN THE IP-2 BELTLINE - (2 pages)

3. ATTACHMENT 2 TO 9/19/84 VARGA LETTER, SUBJECT: DRAFT REGULATORY GUIDE 1.99, REV. 2 - RADIATION DAMAGE TO REACTOR VESSEL MATERIALS. (11 pages) - W/ATTACHED 9/19/84 LAINAS TO JOHNSTON MEMORANDUM, SUBJECT: STEAM GENERATOR TUBE PLUGGING TECHNICAL SPECIFICATION CHANGE (TAC #55812) - (5 pages)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

84-888

September 19, 1984

Docket No. 50-247

Mr. John D. O'Toole
Vice President
Nuclear Engineering and Quality Assurance
Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003

Dear Mr. O'Toole:

SUBJECT: REACTOR VESSEL FLAW AT THE INDIAN POINT NUCLEAR GENERATING PLANT, UNIT NO. 2 (IP-2)

By letter dated Sepember 7, 1984 you submitted the fracture mechanics evaluation regarding the above subject. Our evaluation is based upon the review of the Westinghouse Report WCAP-10651, "Fracture Mechanics Evaluation of Inservice Inspection Indication, Indian Point Unit 2 Reactor Vessel".

In order to determine the safety margin between the ASME Code allowable flaw and the potential flaw in the IP-2 beltline, we request that you respond to the questions and concerns which are contained in Attachment 1. In addition, attachment 2, Draft Regulatory Guide 1.99, Rev. 2, dated July 23, 1984, is the staff's most "up-to-date" method of estimating the amount of irradiation damage to base metal and weld metal. Although the Draft Regulatory Guide has not been formally approved, its effect upon the safey margins for the potential flaw in the IP-2 reactor vessel should be evaluated.

You earliest response is requested.

The reporting and/or recordkeeping requirements of this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Steven A. Varga, Branch Chief
Operating Reactors Branch #1
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

8410110554

Mr. John D. O'Toole
Consolidated Edison Company
of New York, Inc.

Indian Point Station, Unit 1
Indian Point Nuclear Generating Unit 2

cc: Mayor, Village of Buchanan
236 Tate Avenue
Buchanan, New York 10511

Michael Blatt
Director Regulatory Affairs
Consolidated Edison Company
of New York, Inc.
Braodway and Bleakley Aveunues
Buchanan, New York, 10511

Robert L. Spring
Nuclear Licensing Engineer
Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003
U.S. Nuclear Regulatory Commission
Post Office Box 38
Buchanan, NY 10511

Brent L. Brandenburg
Assistant General Counsel
Consolidated Edison Company
of New York, Inc.
4 Irving Place - 1822
New York, NY 10003

Regional Administrator - Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Carl R. D'Alvia, Esquire
Attorney for the Village of
Buchanan, New York

Ms. Ellyn Weiss
Sheldon, Harmon and Weiss
1725 I Street, N.W., Suite 506
Washington, DC 20006

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Post Office Box 38
Buchanan, NY 10511

Regional Radiation Representative
EPA Region II
26 Federal Plaza
New York, New York 10007

Director, Technical Development
Programs
State of New York Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223

Dr. Lawrence R. Quarles
Apartment 51
Kendal at Longwood
Kennett Square, PA 19346

Mr. Charles W. Jackson
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenues
Buchanan, New York 10511

Mr. Frank Matra
Resident Construction Manager
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenues
Buchanan, New York 10511

Ezra I. Bialik
Assistant Attorney General
Environmental Protection Bureau
New York State Department of Law
2 World Trade Center
New York, New York 10047

Attachment 1

Consolidated Edison Company of New York
Indian Point Unit No. 2 (IP-2)
Docket No. 50-247

To demonstrate the safety margins against brittle fracture for the potential flaw indication in the IP-2 reactor vessel beltline, the licensee has provided to the staff a fracture mechanics analysis which is contained in Westinghouse Report WCAP 10651 (Proprietary Class 2), "Fracture Mechanics Evaluation of Inservice Inspection Indication Indian Point Unit 2 Reactor Vessel." The Westinghouse report was submitted for staff review in a letter from J. D. O'Toole to S. A. Varga dated September 7, 1984. The following questions and comments relate to the analysis documented in the report.

1. The events analyzed in determining the ASME Code allowable flaw indication should include the Turkey Point Unit 4 LTOP event which occurred on November 28 and 29, 1981. Based upon the frequency of this type of event in all operating PWRs, the licensee should determine whether the event is considered upset or emergency and faulted. In analyzing this event for the IP-2 vessel, the pressures and temperatures to be considered should be those which would occur if the event were terminated by lifting of the IP-2 Pressurizer Safety Valve. If the Turkey Point set of events had occurred at IP-2, without operator action to terminate the transient, how much time would it take for the pressure to reach the Pressurizer Safety Valve set point?

2. If the flaw indication were located in the adjacent HAZ or base metal (Plate B 2003-1), what would be the ASME Code allowable flaw indication during normal, upset, test, emergency and faulted conditions?

3. Compare the end-of-life RT_{NDT} and ASME Code allowable flaw indication using the amount of increase in RT_{NDT} predicted by the "Guthrie" formula in Commission Report SECY 82-465 and the model in Draft Regulatory Guide 1.99 Rev. 2 (Attachment 2).

4. Indicate the references and heat numbers, and lot numbers for the weld wire and flux for each weld chemistry in Table 3-1.

5. Indicate the heat number and lot number for the weld wire and flux for the weld in Table 3-2.

6. Figure 3-2 indicates that the current fast neutron exposure at the inside surface - 345° Azimuthal Angle is 1.5×10^{18} n/cm^2. Consolidated Edison has reported to the staff in a telecon that after completing the sixth fuel cycle using a low leakage core, the current fast neutron exposure at the inside surface - 345° Azimuthal Angle is 1.77×10^{18} n/cm^2. Explain the difference in these estimates and use the more accurate number in the analysis.