

August 27, 1976

Docket No.: 50-247

Consolidated Edison Company
of New York, Inc.
ATTN: Mr. William J. Cahill, Jr.
Vice President
4 Irving Place
New York, New York 10003

Gentlemen:

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Enclosed is a signed original of an Order for Modification of License dated August 27, 1976, issued by the Commission for the Indian Point Nuclear Generating Unit No. 2. This Order amends Facility Operating License No. DPR-26 requiring submittal of a corrected ECCS analysis as soon as possible.

A copy of the Order is being filed with the Office of the Federal Register for publication.

Sincerely,

Original signed by

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosure:
Order for Modification
of License

cc w/enclosure: See next page

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*from Ed
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Consolidated Edison Company

cc w/ enclosures:

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Staff Coordinator
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99 Washington Street
Albany, New York 12210

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
CONSOLIDATED EDISON COMPANY)
OF NEW YORK, INC .) Docket No. 50-247
)
(Indian Point Nuclear Generating)
Unit No. 2))

ORDER FOR MODIFICATION OF LICENSE

I.

Consolidated Edison Company of New York, Inc. (the Licensee), is the holder of Facility Operating License No. DPR-26 which authorizes the operation of a nuclear power reactor known as Indian Point Nuclear Generating Unit No. 2 (the facility) at steady state reactor power levels not in excess of 2758 thermal megawatts. The facility is a pressurized water reactor (PWR) located at the Licensee's site in Westchester County, New York.

II.

Evaluations of the performance of the Emergency Core Cooling System (ECCS) of the facility were submitted by the Licensee by letter dated September 6, 1974, as supplemented by letters dated October 21, 1974, November 6, 1974, December 2 and 6, 1974, January 29, 1975, April 21 and 29, 1975, May 21, 1975, July 9 and 21, 1975, February 4, 9, and 19, 1976, April 22, 1976, May 27, 1976, June 14, 1976, and July 13 and 15, 1976. The Commission's Order issued December 27, 1974, for the facility limits the reactor nuclear peaking factor (F_Q) to 2.32. The ECCS performance evaluation submitted by the Licensee was based upon a previously approved ECCS evaluation model

developed by the Westinghouse Electric Corporation (Westinghouse), the designer of the facility, to conform with the requirements of the Commission's ECCS Acceptance Criteria, 10 CFR Part 50, §50.46 and Appendix K. The evaluation indicated that with a total nuclear peaking factor limited as set forth above, and with the other limits set forth in the facility's Technical Specifications, the ECCS cooling performance for the facility would conform with the criteria contained in 10 CFR §50.46(b) which govern calculated peak clad temperature, maximum cladding oxidation, maximum hydrogen generation, coolable geometry and long term cooling.

Due to the configuration of the Westinghouse reactor vessel design, a small portion of reactor inlet water which is cooler than outlet water is directed through several nozzles located on the periphery of the vessel to cool the upper portion of the vessel head. Accordingly, upper head temperatures used in evaluating ECCS performance were assumed to be equal to the reactor inlet water temperature. However, recent operating data gathered at the Connecticut Yankee facility has indicated that, contrary to this expectation, the temperature of the water in the upper head is higher than the reactor inlet water temperature, by about 60% of the difference between reactor inlet and reactor outlet temperature. This higher upper head water temperature would have the effect of increasing the calculated peak clad temperature in the event of a loss of coolant accident.

In a meeting with the staff on August 9, 1976, Westinghouse presented generic evaluations of the effect on calculated peak clad temperature for the worst break identified in previous calculations for each type of Westinghouse reactor and fuel design using an upper head water temperature exceeding reactor inlet water temperature by an amount equal to 75% of the reactor inlet - reactor outlet differential. On August 12, 1976, the staff instructed the licensee to submit an analysis similar to the Westinghouse evaluation with the clearly conservative assumption of upper head water temperature equal to reactor outlet temperature (100% of the reactor outlet - reactor inlet differential) and to operate the facility in accordance with the results of this analysis. The results of the evaluation submitted for the Indian Point Unit No. 2 reactor indicated that with this modification of the upper head water temperature the calculated peak clad temperature for the worst case break would not exceed the Commission's ECCS performance criteria.

The staff expects that, when revised calculations for the facility are submitted using an approved evaluation model with correct input for upper head water temperature, or assuming that the upper head water temperature equals reactor vessel outlet water temperature, such calculations will demonstrate that operation with this total nuclear peaking factor would conform to the criteria of 10 CFR §50.46(b). Such revised calculations fully conforming to the requirements of 10 CFR §50.46 are to be provided for the facility as soon as possible. The limitations presently incorporated in the Technical Specifications for the facility continue to provide reasonable assurance that the public health and safety will not be endangered.

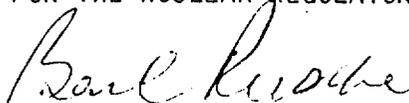
Copies of the following documents are available for public inspection in the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., 20555 and at the Hendrick Hudson Free Library, 31 Albany Post Road, Montrose, New York, (1) letter from Consolidated Edison dated September 6, 1974, and supplements relative to ECCS, (2) letter from Consolidated Edison dated August 17, 1976, and (3) This Order for Modification of License, In the Matter of Consolidated Edison Company of New York, Inc., Indian Point Nuclear Generating Unit No. 2, Docket No. 50-247.

III.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations in 10 CFR Parts 2 and 50, IT IS ORDERED THAT Facility Operating License No. DPR-26 is hereby amended by adding the following new provision:

As soon as possible, the Licensee shall submit a reevaluation of ECCS cooling performance calculated in accordance with an approved Westinghouse Evaluation Model, with appropriate correction for upper head water temperature.

FOR THE NUCLEAR REGULATORY COMMISSION


Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Dated in Bethesda, Maryland
this 27th day of August 1976.