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Docket No. 50-244

Rochester Gas & Electric Corporation
ATTN: Mr. Leon D. White, Jr.
Vice President
Electric & Steam Production
89 East Avenue
Rochester, New York 14604

Gentlemen:

Enclosed is a signed original of an Order for Modification of License, dated August 27, 1976, issued by the Commission for the R. E. Ginna Nuclear Power Plant. This Order amends Facility Operating License No. DPR-18 by 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

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosure:
Order for Modification
of License

cc: See next page

ORB#2
MFletcher
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BRusche
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of Rochester Gas and Electric Corporation R. E. Ginna Nuclear Power Plant	Docket No. 50-244

ORDER FOR MODIFICATION OF LICENSE

I.

The Rochester Gas and Electric Corporation (the Licensee), is the holder of Provisional Operating License No. DPR-18 which authorizes the operation of a nuclear power reactor known as R. E. Ginna Nuclear Power Plant (the facility) at steady state reactor power levels not in excess of 1520 thermal megawatts (rated power). The facility is a pressurized water reactor (PWR) located at the Licensee's site near Rochester, New York.

II.

In conformance with evaluations of the performance of the Emergency Core Cooling System (ECCS) of the facility submitted by the Licensee on March 11, 1975, the Technical Specifications issued May 14, 1975 for the facility limit the reactor total 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 Westinghouse

Electric Corporation (Westinghouse), the designer of the facility, to conform to 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 to 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 relatively cooler reactor inlet water is directed through several nozzles located on the periphery of the vessel to cool the upper portion of the head. Accordingly, upper head temperatures were assumed in evaluating ECCS performance 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 warmer than the reactor inlet water temperature, by about some 60% of the reactor inlet - reactor outlet temperature differential. This increase in upper head water temperature over that used in ECCS performance calculations would have the effect of increasing the calculated peak clad 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 directed 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 inlet - reactor outlet differential) and to operate the facility in accordance with the results of this analysis. The results of the evaluation submitted for the R. E. Ginna 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 the 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 incor-

porated 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 Lyons Public Library, 67 Canal Street, Lyons, New York 14489, (1) Licensee letter dated March 11, 1975, (2) NRC letter dated May 14, 1975, (3) Licensee letter dated August 18, 1975, and (4) This Order for Modification of License, In the Matter of R. E. Ginna Nuclear Power Plant, Docket No. 50-244.

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 Provisional Operating License No. DPR-18 is hereby amended by adding the following new provision:

1. 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 27 day of August 1976