

APR 15 1971

Docket No. 50-244

Rochester Gas and Electric Corporation  
ATTN: Mr. Edward J. Nelson, President  
89 East Avenue  
Rochester, New York 14604

Change No. 5  
License No. DPR-18

Gentlemen:

Your letter dated February 17, 1971, requested a change in the Technical Specifications of Provisional Operating License No. DPR-18 for the Robert Emmett Ginna Unit No. 1 to permit operation with an end-of-life reactivity shutdown margin of 1.9%. Your request has been designated Proposed Change No. 5.

We have reviewed the proposed change and have determined that the proposed reduction in shutdown margin will maintain an acceptable safety margin. Therefore, we conclude that the change does not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered. A copy of our related Safety Evaluation is enclosed.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, Section 3.10 of the Technical Specifications of License No. DPR-18 is hereby changed as indicated below:

1. In paragraph 3.10.1.3, change "75%" to read "70%".
2. Replace Figures 3.10-1 and 3.10-2 with the revised figures dated 2/17/71.
3. Change portions of the second paragraph of the Basis as indicated below:
  - a. In the third sentence, change "75%" to read "70%".

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- b. In the seventh sentence, change "2.2%" to read "1.9%".
- 4. Change reference (2) at the end of the Basis to read:  
"Technical Supplement Accompanying Application to Increase Power, Section 14"

Sincerely,

Peter A. Morris, Director  
Division of Reactor Licensing

Enclosures:

- 1. Safety Evaluation
- 2. Revised Figures 3.10-1 & 3.10-2

cc w/enclosures:

LeBoeuf, Lamb, Leiby & MacRae  
1821 Jefferson Place, N. W.  
Washington, D. C. 20036

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*dispatched 4-19-71.*

OFFICE ▶	DRL	DRL	DRL	DRL	DRL	DRL
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DATE ▶	4/13/71	4/13/71	4/14/71	4/14/71	4/15/71	4/15/71

*CPY file*



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

April 15, 1971

Docket No. 50-244

Rochester Gas and Electric Corporation  
ATTN: Mr. Edward J. Nelson, President  
89 East Avenue  
Rochester, New York 14604

Change No. 5  
License No. DPR-18

Gentlemen:

Your letter dated February 17, 1971, requested a change in the Technical Specifications of Provisional Operating License No. DPR-18 for the Robert Emmett Ginna Unit No. 1 to permit operation with an end-of-life reactivity shutdown margin of 1.9%. Your request has been designated Proposed Change No. 5.

We have reviewed the proposed change and have determined that the proposed reduction in shutdown margin will maintain an acceptable safety margin. Therefore, we conclude that the change does not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered. A copy of our related Safety Evaluation is enclosed.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, Section 3.10 of the Technical Specifications of License No. DPR-18 is hereby changed as indicated below:

1. In paragraph 3.10.1.3, change "75%" to read "70%".
2. Replace Figures 3.10-1 and 3.10-2 with the revised figures dated 2/17/71.
3. Change portions of the second paragraph of the Basis as indicated below:
  - a. In the third sentence, change "75%" to read "70%".

Rochester Gas and Electric  
Corporation

- 2 -

April 15, 1971

- b. In the seventh sentence, change "2.2%" to read "1.9%".
- 4. Change reference (2) at the end of the Basis to read:

"Technical Supplement Accompanying Application to Increase  
Power, Section 14."

Sincerely,



Peter A. Morris, Director  
Division of Reactor Licensing

Enclosures:

- 1. Safety Evaluation
- 2. Revised Figures 3.10-1 & 3.10-2

cc w/enclosures:

LeBoeuf, Lamb, Leiby & MacRae  
1821 Jefferson Place, N. W.  
Washington, D. C. 20036

UNITED STATES ATOMIC ENERGY COMMISSION

SAFETY EVALUATION BY THE DIVISION OF REACTOR LICENSING

DOCKET NO. 50-244

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA ATOMIC POWER STATION

By letter dated February 17, 1971, Rochester Gas and Electric Corporation requested a change in the Technical Specifications of Provisional Operating License No. DPR-18 for the Robert Emmett Ginna Unit No. 1 to permit a reduction in the end-of-life reactivity shutdown margin from 2.2% to 1.9%. The change is required to accommodate a partial refueling, which is being performed to remove fuel assemblies with defective cladding and to add reactivity, thereby extending the period of power operation before the first major refueling.

The fuel assemblies to be added during the partial refueling differ slightly from the assemblies initially installed. The internal gas pressure in the new fuel rods is similar to that in fuel rods being used successfully in other reactor facilities and therefore is acceptable. The fuel enrichment is higher than the initial core average enrichment (2.9 w/o) but is within the range of enrichments authorized by the Technical Specifications (3.5 w/o) and therefore is acceptable.

The end-of-life reactivity shutdown margin for the initial core loading was calculated to be 2.2% with the most reactive control rod fully withdrawn. The licensee has calculated that the replacement of 12 fuel assemblies with the more reactive fuel would decrease the shutdown margin to 1.9%. The decrease is attributed to an increase of 0.2%  $\Delta k$  in the reactivity worth of the most reactive control rod, and a reduction of 0.1%  $\Delta k$  in the total control rod reactivity worth. The most severe transient associated with a change in reactivity shutdown margin is that occurring with an uncontrolled steam release and the resulting primary coolant temperature decrease such as from a steam line break. Assuming that the minimum reactivity shutdown margin is reduced to 1.9% and the most pessimistic combination of circumstances exist, an uncontrolled steam release could lead to a postulated transient in which the reactor power increases and the margin to burnout is reduced. The peak heat flux

that might occur during the transient would be increased from approximately 40% to 50% of rated heat flux and the departure from nucleate boiling ratio (DNBR) would be reduced from 2.0 to 1.4. A DNBR of 1.3 corresponds to a 95% probability at a 95% confidence level that DNB will not occur, and is considered an appropriate margin to DNB for all operating conditions. Therefore, the calculated DNBR of 1.4 provides reasonable assurance that fuel damage will not occur.

Based on the preceding, we conclude that operation with the reduced shut-down margin, as proposed, does not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered.

*Richard H. Wollmer*  
for Donald J. Skovholt  
Assistant Director for  
Reactor Operations  
Division of Reactor Licensing

Date: April 15, 1971

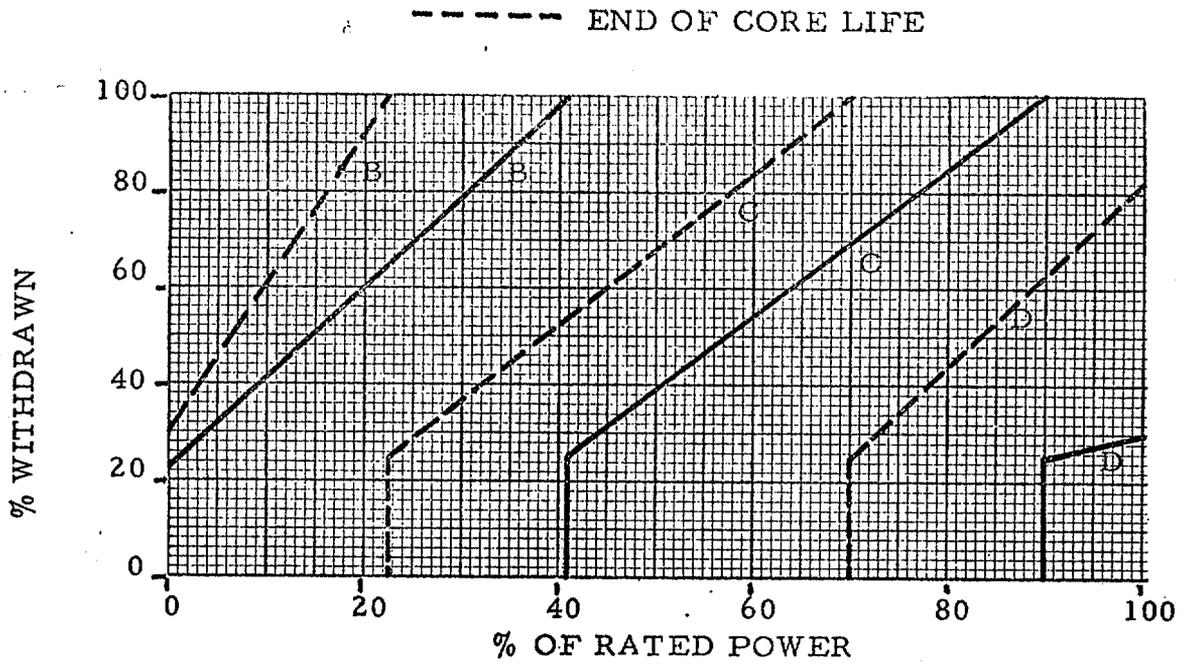


FIGURE 3.10-1  
CONTROL BANK INSERTION LIMITS

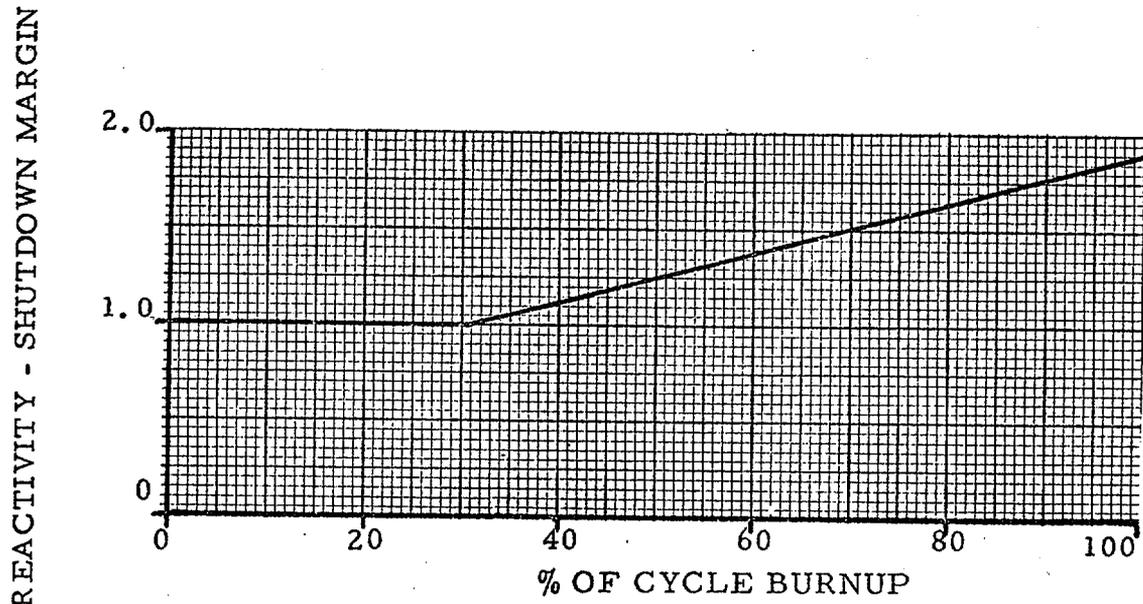


FIGURE 3.10-2  
REQUIRED SHUTDOWN MARGIN