

Docket No. 50-219

NOV 13 1969

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Jersey Central Power & Light Company  
 Madison Avenue at Punch Bowl Road  
 Morristown, New Jersey 07960

Attention: George H. Ritter  
 Vice President

Change No. 1  
 License No. DPR-16

Gentlemen:

We have reviewed your Change Request No. 1 dated November 11, 1969, and Supplement No. 1 dated November 12, 1969, requesting a change to Figure 2.1.1 and Section 2.1.B of the Technical Specifications to Provisional Operating License No. DPR-16. The proposed change would extend the fuel cladding safety limit, based on a minimum critical heat flux ratio of 1.0, to include the region of operation between 5% core coolant flow and 20% core coolant flow.

We have concluded that the proposed change does not present significant hazards considerations not described or implicit in the safety analysis report and that there is reasonable assurance that the health and safety of the public will not be endangered. A copy of the related Safety Evaluation is enclosed.

Accordingly, Figure 2.1.1 is replaced by the attached Figure TS-1 and Section 2.1.B is changed to read:

"B. When the reactor pressure is less than 600 psia or reactor flow is less than 5 percent of design, the reactor thermal power shall not exceed 320 Mwt."

Sincerely,

151

Peter A. Morris, Director  
 Division of Reactor Licensing

Enclosures:

- 1. Safety Evaluation
- 2. Figure TS-1

*dispatched*  
 11-14-69

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UNITED STATES  
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

November 13, 1969

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SAFETY EVALUATION BY THE DIVISION OF REACTOR LICENSING

DOCKET NO. 50-219

JERSEY CENTRAL POWER AND LIGHT COMPANY

PROPOSED CHANGE NO. 1 TO TECHNICAL SPECIFICATIONS

INTRODUCTION

By Change Request No. 1 dated November 11, 1969, Jersey Central Power and Light Company proposed a change to the Technical Specifications regarding the safety limit on fuel cladding integrity.

DISCUSSION

The safety limit on fuel cladding integrity for the Oyster Creek reactor is dependent on power level, coolant flow, pressure, water level and peaking factor. That part of the safety limit defining the relationship of power to flow is given in two regions: (1) 20% flow and greater and (2) below 20% flow. The safety limit in the region of 20% flow and greater is based on the critical heat flux correlation given in APED-3892. For core coolant flow below 20%, Section 2.1.B of the Technical Specifications states "When the reactor pressure is less than 600 psia or reactor flow is less than 20 percent of design, the reactor thermal power shall not exceed 320 Mwt." (320 Mwt corresponds to 20% power for initial operations.) This safety limit is far more conservative than one established on the basis of the critical heat flux correlation of APED-3892. However, this safety limit was chosen because it was expected that the natural circulation of the reactor coolant would be greater than 20% flow at 20% power and that no operational transient could exceed this limit.

Recent data taken at the Oyster Creek reactor indicate that natural circulation flow may be less than had been expected. As a result, during the transient following a five-pump trip, reactor flow may be as low as 15% when 21% power is achieved. The proposed safety limit, based on the critical heat flux correlation of APED-3892, establishes a limit which would permit operation with as little as 5% flow between 20% and 30% power. Below 5% flow, the safety limit would be established at 20% power.

EVALUATION

The basis for applying the critical heat flux correlation given in APED-3892 to the Oyster Creek reactor has already been established in

the safety analysis report (SAR). This correlation is more conservative in the low-flow region, 5% to 20% flow, than it is for greater flow. This basis provides sufficient justification for the establishment of the proposed safety limit.

Because limiting safety system settings will not be changed, the measure of safety provided by the reactor protection system is not changed.

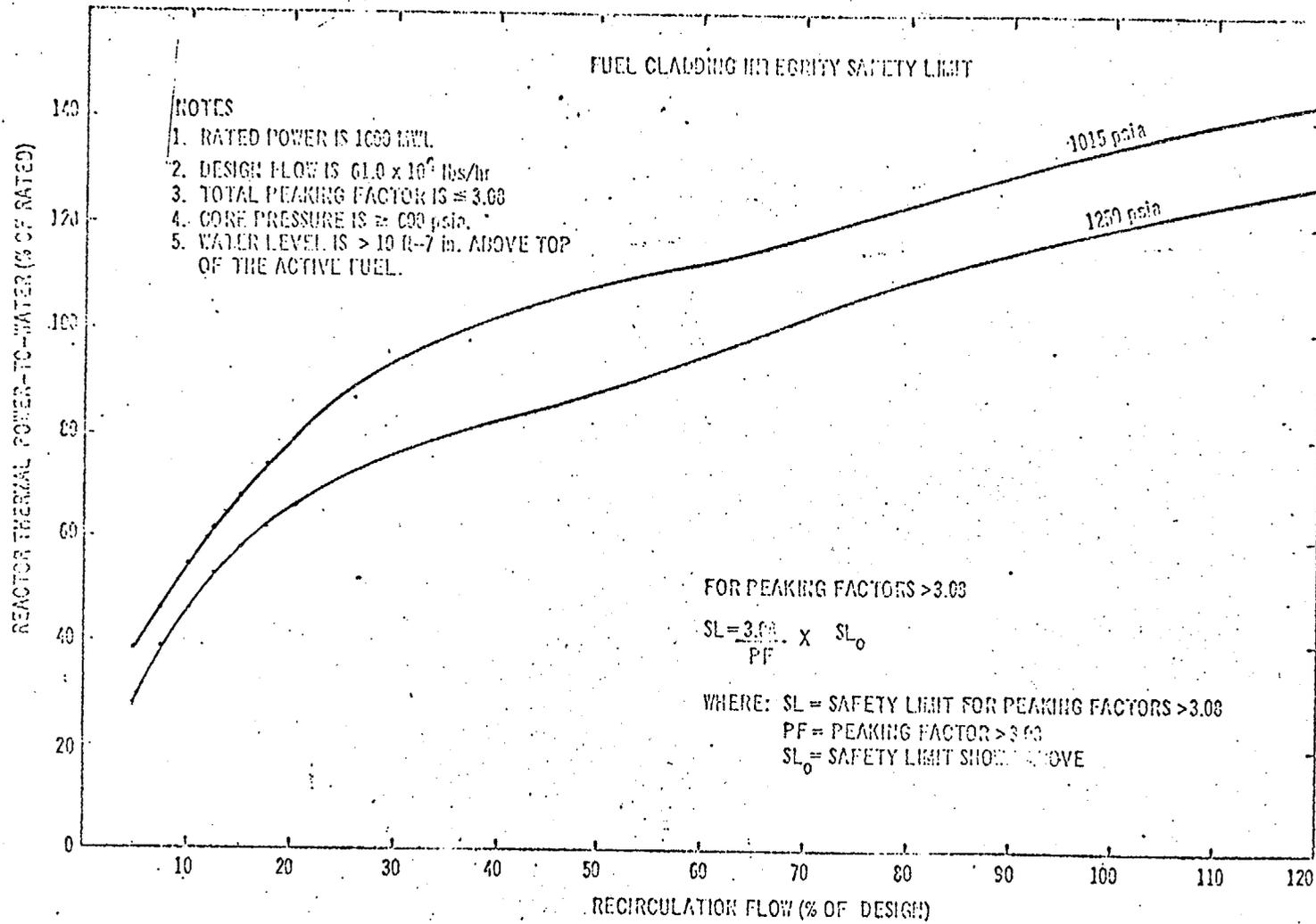
In light of the knowledge that the natural recirculation flow may be less than anticipated, the applicant has reconsidered the reactor transients given in the SAR. He has reported in Supplement No. 1 to Change Request No. 1 that the minimum critical heat flux ratio resulting from these transients will be equal to or greater than that calculated in the SAR, thus providing a margin of safety no less than is given in the SAR.

#### CONCLUSION

We have concluded that the proposed change does not present significant hazards considerations not described or implicit in the safety analysis report, and that there is reasonable assurance that the health and safety of the public will not be endangered.

  
Donald J. Skovholt  
Assistant Director for Reactor Operations  
Division of Reactor Licensing

Date: November 13, 1969



**FIGURE TS-1 FUEL CLADDING INTEGRITY SAFETY LIMIT.**