

DEC 7 1970

Peter A. Morris, Director  
Division of Reactor Licensing

DUKE POWER COMPANY - OCONEE NUCLEAR STATION 1 DOCKET  
NO. 50-269

The enclosed review of the Technical Specifications for the Oconee Nuclear Station, concerns the operating limitations with respect to heatup and cooldown procedures for the reactor coolant system. Our recommendations are based on the specified operating limitations as determined or limited fracture toughness data submitted by the applicant and are intended to apply for the initial two years of plant operation.

Original signed by  
E. G. Case

Edson G. Case, Director  
Division of Reactor Standards

*Dkt 50-269*

Enclosure:  
Review of the Technical Specifications  
for the Oconee Nuclear Station

- cc w/encl.
- S. H. Hanauer, DR
- R. S. Boyd, DRL
- R. DeYoung, DRL
- R. R. Maccary, DRS
- C. Long, DRL
- S. Pawlicki, DRS
- A. Schwencer, DRL

*Memorandum*

OFFICE	DRS:MEB	DRS:AD/E	DRS:DIR			
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DATE	12/4/70	12/4/70	12/5/70			

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DUKE POWER COMPANY - OCONEE NUCLEAR STATION  
DOCKET NO. 50-269  
TECHNICAL SPECIFICATION - OPERATING LIMITS

We have reviewed the recently proposed heatup and cooldown procedures for the Oconee Nuclear Station, Unit 1 (dated November 14, 1970), for compliance with the AEC fracture toughness criteria. We find that:

1. For the first two years, the Oconee 1 reactor coolant system should be operated and hydrotested in such a manner that at temperatures below 275°F, (a) the pressure does not exceed 550 psig (i.e., 25 percent of the normal operating pressure), and (b) the rate of temperature change does not exceed 50°F/hr.
  
2. Full pressurization of the reactor coolant system is acceptable during the first two years at temperatures above 275°F.

The above limits should be used as a basis for the Technical Specifications for the Oconee Plants and are shown in a dashed line on the attached figure. Our proposed operating limits are intended to apply to both heatup and cooldown procedures.

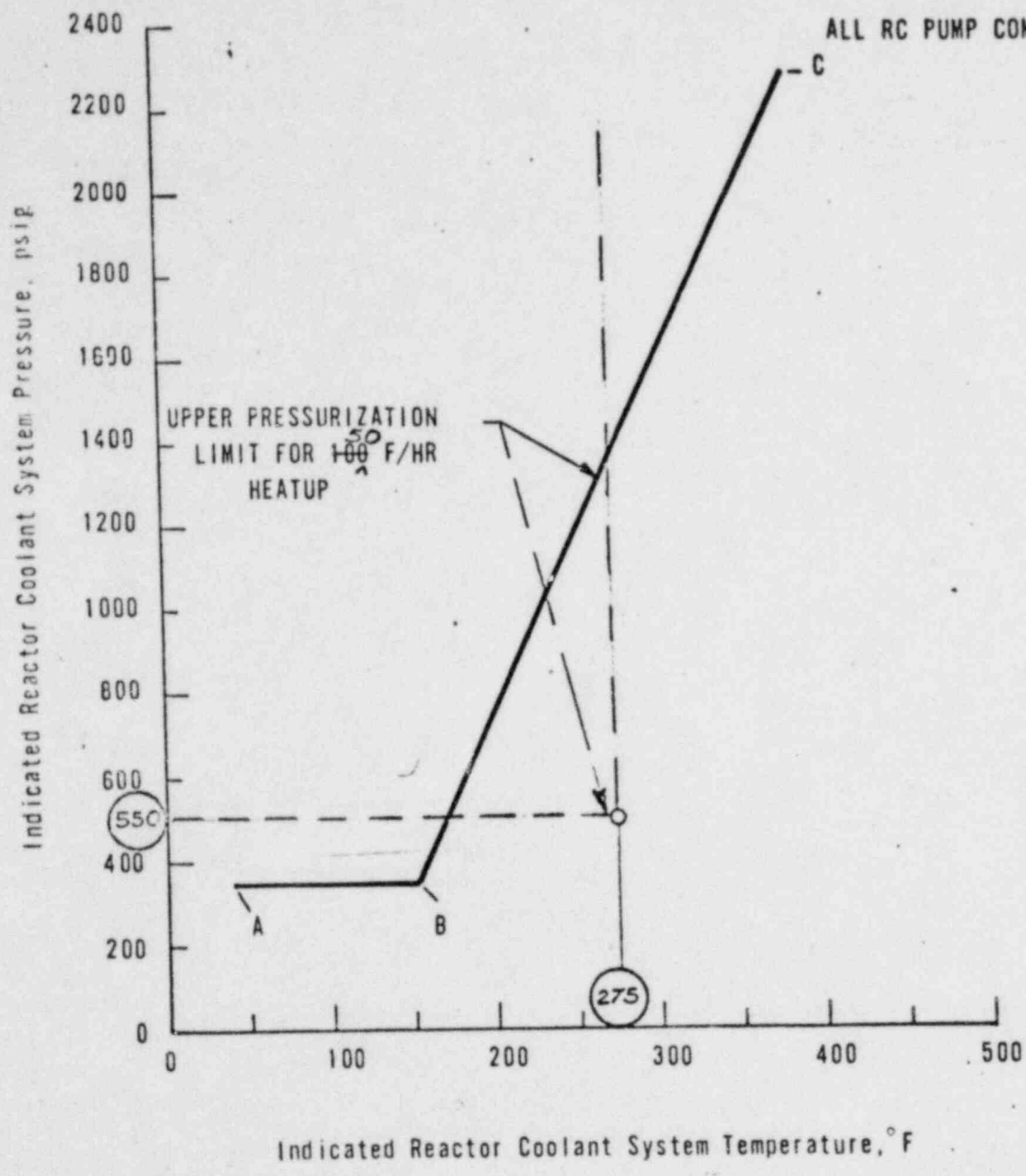
Our evaluation was based on the material fracture toughness data furnished by B&W and on several, most likely conservative, assumptions. These assumptions related primarily to the adjustment of the Charpy V-notch data submitted by B&W and were necessary since these data do not include the Drop-Weight test results, weld material properties, or the Charpy V-notch upper shelf levels. Should the applicant be able to demonstrate that the actual properties are better than we have assumed, we can review the data and recommend lower operating limits for the Oconee 1 plant.

These limits will require review, and probably revision, when the data is made available from the material surveillance program test results following the first capsule withdrawal. We recommend additional testing of the reactor vessel belt-line material by means of Drop-Weight tests to establish the NDT temperature, and by Charpy V-notch specimens to establish upper shelf levels. We believe also that a surveillance program which includes transverse specimens may provide a basis for the applicant to improve on our recommended operating limits and to demonstrate compliance with the AEC fracture toughness requirements for the operating periods beyond the first two years.

POINT TEMP. PRESS.

A	40	345
B	152	345
C	380	2275

ALL RC PUMP COMBINATIONS ALLOWABLE



REACTOR COOLANT SYSTEM HEATUP LIMITATIONS  
 (APPLICABLE UP TO AN INTEGRATED EXPOSURE  
 OF  $1.7 \times 10^{18}$  n/cm<sup>2</sup> OR DTT - 144 °F)



OCONEE NUCLEAR STATION

Figure 15 - 3  
 10/1/70