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 FACIL: 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.
 AUTH. NAME: TUCKER, H. B. AUTHOR AFFILIATION: Duke Power Co.
 RECIP. NAME: DENTON, H. R. RECIPIENT AFFILIATION: Office of Nuclear Reactor Regulation, Director
 STOLZ, J. F. Operating Reactors Branch 4

DOCKET #
 05000287

SUBJECT: Forwards addl info re 850411 emergency Tech Spec amend to permit unit to operate at full rated power for 7 addl days to replace reactor bldg Cooling Fan Motor 3A, per 850412 telcon.

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DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

April 12, 1985

TELEPHONE
(704) 373-4531

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: J. F. Stolz, Chief
Operating Reactors Branch No. 4

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Sir:

By a letter dated April 11, 1985, Duke Power Company requested an emergency Technical Specification amendment to permit Unit 3 to continue to operate at full rated power for seven additional days beyond the seven days allowed per Specification 3.3.4.c(2)(b), with the "A" Reactor Building Cooling (RBC) train inoperable. The seven additional days are required so that the "3A" RBC fan motor can be replaced while the Unit 3 is at power.

During an April 12, 1985, conference call members of your staff requested additional technical justification beyond the information that was provided in Duke's April 11, 1985 letter. Pursuant to this request please find enclosed the additional information requested.

Duke remains committed to installing the replacement fan motor and returning the inoperable RBC train to service prior to the expiration of the time interval allowed by Specification 3.3.4.c(2)(b).

Very truly yours,

H.B. Tucker
Hal B. Tucker

PFG:scs

Attachment

cc: Ms. Helen Nicolaras
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Mr. Harold R. Denton, Director

April 12, 1985

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cc: (continued)

Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. J. C. Bryant
NRC Resident Inspector
Oconee Nuclear Station

Additional Technical Justification

Single Failure:

In order to meet the design Reactor Building cooling capacity of 240×10^6 Btu/hr, any of the following must be operable: (1) two spray trains, (2) one spray train and two fan coolers, (3) three fan coolers. With the A fan cooler inoperable, the worst case single failure is the inoperability of the TD 4160 V switchgear which would render Reactor Building spray train A and the B fan cooler inoperable. This would leave the unit with the C fan cooler and Reactor Building spray train B operable (200×10^6 Btu/hr heat removal capability). However, this heat removal is needed only for long-term building cooling, not to meet the short-term pressure peak. An alternate supply of electrical power can be provided to the B fan cooler manually, either from the Unit Three TC switchgear or from a Unit Two transformer. Therefore, the long-term heat removal capability is assured. Furthermore, the 4160 V switchgear is a highly reliable piece of equipment, and the chance of a failure of it coincident with a large break LOCA is extremely low. Moreover, the required 240×10^6 Btu/hr design basis heat removal capability is a conservatively high figure. Realistically, one fan cooler and one spray train should provide adequate Reactor Building cooling.

Hydrogen Control:

Section 15.16.3.3.1 of the Oconee FSAR addresses mixing on the Reactor Building atmosphere as it relates to controlled hydrogen purging. The fan coolers are mentioned as one of several sources of mixing in the containment atmosphere; however, no credit is explicitly taken for any particular number of coolers operating. In the event of a design basis accident with a worst case single failure there would still be one spray train and one fan cooler operating, and they, coupled with other mechanisms, would be expected to provide good mixing. In addition, another fan cooler would be rapidly restored to operation by manual transfer to another power supply. There is also a 10% penalty taken in establishing the control limit for purging, even though near-perfect mixing is expected. Furthermore, Oconee now has a hydrogen recombiner which would be used to control the hydrogen concentration so that the purging limit would not be approached. Therefore, the inoperability of the A fan cooler has no deleterious affect on post-accident hydrogen control measures.

Additional Technical Justification

Effect of Single Failure on Reactor Building Design Pressure:

In the event of a design basis LOCA coupled with a worst case single failure, the 59 psig design pressure of the Reactor Building will not be exceeded. The effect of having only one fan cooler and one spray train available, rather than two fan coolers and one spray train, would be to slightly decrease the slope of the pressure decrease after the peak is reached. The heat removal capacity of one fan cooler and one spray train (200×10^6 Btu/hr) is orders of magnitude greater than the long-term energy release to the building from the break.