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50-265/270/287

NRC FORM 196
(2-78)

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FILE NUMBER

TO:
Mr. Edson G. Case

FROM:
Duke Power Company
Charlotte, North Carolina
William O. Parker, Jr.

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DESCRIPTION

PLANT NAME: Oconee Units 1-2-3
RJL 1/6/78 (2-P)

ENCLOSURE

License Nos. DPR-39, DPR-47 and DPR-55
Appl for Amend: tech specs proposed change
concerning computer software currently
used to process the incore detector signal..
..notorized 1/3/78.....

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FOR ACTION/INFORMATION

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DUKE POWER COMPANY

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POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE AREA 704
373-4083

January 3, 1978

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Oconee Units 1, 2, and 3
Docket Nos. 50-269, -270, -287

Dear Mr. Case:

Recently an error has been identified in the computer software currently used to process the incore detector signal, as reported in RO-269/77-27. The error pertained to the application of the background correction on the incore detector signal. The existing software obtains the background corrected signal after the raw signal has been corrected for detector depletion whereas the correct formulation should have been to apply the background correction on the raw signal and then to apply the detector depletion correction. The incorrect application of the background correction could cause a negative bias in the core axial imbalance measured by the incore detector system when the incore system contains a large number of detectors with significant detector depletion. Based on the number and amount of depletion of old detectors in Oconee 1, 2, and 3, it has been determined that the incorrect application of the background correction in the plant computer software could cause the full incore system measured positive imbalance values to be underestimated by .2%, 2.5%, and 2.5% for Oconee 1, 2, and 3, respectively, at the present time.

An evaluation of the impact of this incident on applicable Technical Specification limits has been made, and it has been determined that in the case of Oconee 1 the RPS and LOCA imbalance limits and in the case of Oconee 2 and 3 the LOCA imbalance limits have been determined to have adequate margin to offset the effects of the bias in the positive imbalance. For Units 2 and 3 it has been determined that the RPS positive trip setpoints (Technical Specification Figures 2.3-2 B and C) should be reduced by 2.5% to provide the necessary conservatism. The positive imbalance trip setpoints in Units 2 and 3 have been reduced appropriately, and these reduced setpoints would have to be maintained until the plant

Mr. Edson G. Case
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computer software is corrected for the proper background signal processing. Therefore, a revision of the Oconee Nuclear Station Technical Specifications is proposed herein pursuant to 10CFR §50.90. The attached proposed revision includes the modified power-imbalance trip setpoints for Oconee 2 and 3 (Technical Specification Figures 2.3-2 B and C) in order to account for the bias in the positive imbalance measured by the current incore detector system.

Very truly yours,

s/William O. Parker, Jr.
William O. Parker, Jr.

FMA:vr

Attachment