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 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.

DOCKET #  
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AUTH. NAME: PARKER, W. O. AUTHOR AFFILIATION: Duke Power Co.  
 RECIP. NAME: REID, R. W. RECIPIENT AFFILIATION: Operating Reactors Branch 4

SUBJECT: Ack NRC 791123 ltr re implementation of control rod tube insp program. Program results presented in 791220 meeting show control rod guide wear is not significant problem in B&W fuel. Requests approval of extension of Cycle 4.

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To: Storyl Wootkey  
From: Ken Wilson  
DPC

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28202

WILLIAM C. BARBER, JR.  
VICE PRESIDENT  
NUCLEAR PRODUCTION

December 28, 1979

DUKE-100 100-100  
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Mr. Harold E. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. Robert W. Reid, Chief  
Operating Reactors Branch No. 4

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

Dear Sir:

Your letter of November 23, 1979 requested development and implementation of a control rod guide tube inspection program which was to be required in support of reload-related licensing actions taken after January 1, 1980. In later telephone conversations with members of the Staff it has been made known that the Oconee 2, Cycle 4 "extension" approval (submitted by my letter of December 13, 1979) would also be contingent upon favorable results of at least a preliminary program to establish the fact that no through-wall wear was present in already discharged Oconee fuel.

The results of this program were presented to the Staff at a Thursday, December 20, 1979 meeting also requested by your letter. The overhead projector slides, provided at that meeting are hereby incorporated into this submittal by reference. Support for the proprietary nature of these slides is provided in the affidavit included as Attachment 1. The affidavit will be notarized and transmitted to your offices, directly from Babcock and Wilcox, on January 2, 1980.

The results of this preliminary program as described in the slides show that there is no through-wall wear in any of the tubes examined and that the maximum degradation experienced was no greater than 24% through-wall. Babcock and Wilcox has reviewed the strength aspects of such degradation. This review considered three cases: 1) uniform circumferential wear; 2) one-sided wear (including shift of neutral axis) and; 3) two-sided wear. The limiting wear scenario is the

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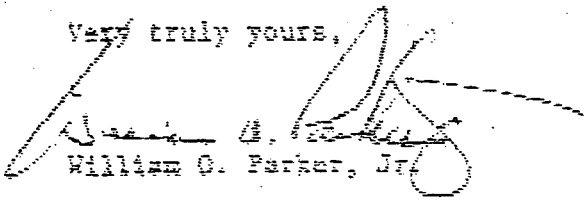
Mr. Harold R. Denton, Director  
December 23, 1979  
Page Two

"safety position" is compressive loading during a LOCA on a uniform circumferentially worn tube. Preliminary results indicate that the allowable wear would be in excess of 30%. A detailed description of the stress analysis as well as information from the full inspection program will be provided later as discussed in the December 20, 1979 meeting.

However, since the wear observed at Oconee was substantially less than through-wall and was well within preliminary stress results, it is considered that control rod guide tube wear is not a significant problem in Babcock and Wilcox fuel. Furthermore, the extension of Oconee 2, Cycle 4 will in no way reduce current levels of safety. It is therefore requested that the extension be granted expeditiously as requested.

This is provided as a supplement to our December 13, 1979 submittal and therefore no license fees are provided.

Very truly yours,

  
William O. Parker, Jr.

KRW:arc

from  
Ken Wilson  
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