

JAN 17 1973

J. G. Keppler, Chief, Reactor Testing and Operations Branch, RO

OCONEE CORE FLOW BY-PASS VERIFICATION

B&W has recalculated the core by-pass flow for Oconee Unit 1 using the present internals as built configuration and tolerances and found the leakage flow calculation to be 50% below the original design allowance. Duke plans to include this information in its next application amendment. Since neither of the options discussed in the September 2, 1970 Report No. 2 to the ACRS are technically feasible at this time, we will accept this information when formally submitted as satisfying the requirement mentioned in the ACRS report.

Enclosed is a copy of a Duke internal note dated January 12, 1973, transmitting the B&W information to J. E. Smith, Superintendent, Oconee Nuclear Station.

Original Signed by
Albert Schwencer

A. Schwencer, Chief
Pressurized Water Reactors Branch No. 4
Directorate of Licensing

Enclosure:
Duke note dtd 1/12/73

cc: R. C. DeYoung
V. Stello
I. A. Peltier

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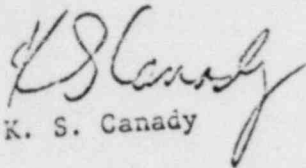
January 12, 1973

Mr. J. E. Smith, Supt.
Oconee Nuclear Station

Subject: Oconee Nuclear Station
AEC/RO
Outstanding Item 16.D

Please find attached for your information, and to share with AEC/RO upon their next visit, a copy of a January 4, 1973 letter from R. V. Straub. This letter discusses bypass flow around the reactor core. B&W has recalculated the bypass flow using as built dimensions and determined that the flow is within the FSAR values.

This information is sufficient to resolve this item with the AEC.



K. S. Canady

KSC:jv
Attachment

cc: Mr. P. H. Barton

POOR ORIGINAL

January 4, 1973

B73-5

Mr. P. H. Barton
Duke Power Company
P. O. Box 2178
Charlotte, N. C. 28201

Attention: Mr. K. S. Canady

Subject: Ccone 1 R-40000
Outstanding Compliance Items
16.D

Dear Mr. Barton:

Per our agreements with Irv Peltier of DOL, the following discussion is provided to complete our commitment regarding verification of core bypass flow rate:

Introduction

The expected leakage flows (as defined in the FSAR section 3, pages 3-43 and 3-43a) have been recalculated and updated to reflect current core and system pressure drop information and reported as built dimensions.

Leakage flow is defined as that part of the system flow that does not contact the active heat transfer surface. The reactor core flow is the reactor system flow less the leakage flow. There are three major leakage paths plus an additional leakage allowance to account for calculational uncertainties. The three major leakage paths are (1) through the core shroud, (2) through the control rod guide tubes and instrument tubes, and (3) between all interfaces separating the inlet and outlet regions.

Summary

The following table shows the breakdown of the updated leakage calculations:

<u>Path</u>	<u>% of System Flow</u>
1) Shroud	1.64
2) Control rod guide tubes & instrument guide tubes	1.67
3) Inlet to outlet interfaces	0.36
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Total	3.67

POOR ORIGINAL

Babcock & Wilcox

Mr. P. H. Barton
Outstanding Compliance Items
16.D

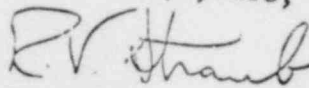
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January 4, 1973

The 5.4% leakage flow was the original design allowance and was established to be conservative. The design allowance is approximately 50% greater than the established leakage flow rate of 3.67% reported above.

We expect that this information will resolve the subject compliance item.

Very truly yours,



R. V. Straub
Project Manager

RVS/slb

CC: S. K. Blackley
G. M. Baccich
W. Faasse
R. J. McConnell

POOR ORIGINAL