

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 23, 1981

R. H. LEASBURG
VICE PRESIDENT
NUCLEAR OPERATIONS

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Robert A. Clark, Chief
Operating Reactors Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 450
NO/RMT:rhk
Docket No. 50-339
License No. NPF-7

Gentlemen:

This letter is to provide the report of changes to the Surry Simulator model as a result of Low-Power Testing required by Section 22.2, Item I.G.1 of Supplement No. 11 to the Safety Evaluation Report (NUREG-0053) for North Anna Power Station, Unit 2, dated August 1980.

Should you have any questions or require additional information, please contact this office.



Very truly yours,

R. H. Leasburg
R. H. Leasburg

Vice President - Nuclear Operations

Attachment

cc: Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
Region II

*Acc'd
8/1/81*

NATURAL CIRCULATION TEST
ON SURRY SIMULATOR

A preliminary test conducted on the Surry Simulator following the training during low-power testing conducted on North Anna Unit 2 disclosed a need for model changes. The following model changes were made:

1. Improved simulation of natural circulation
2. Modified incore thermocouple response to indicate the effects of core heat, instead of following T_{ave} .
3. Modified RTD bypass temperature indication to respond to low flow conditions.
4. Added representation of heat stored in the reactor head during low flow conditions.

Figure 1 compares the results of the natural circulation test on the Surry Simulator to the results of the North Anna Unit 2 test following the model changes.

TIME IN MIN

0 10 20 30 40 50 60 70 80 90

540

550

560

570

580

Attachment
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FIGURE 1

FIGURE 1

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SUPRY
NORTH ANNA

SUPRY

NORTH ANNA

