UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DECEMBER 07 1979

Docket No. 50-338

Mr. W. L. Profitt
Senior Vice President - Power
Operations
Virginia Electric and Power Company
P. O. Box 26666
Richmond, Virginia 23261

Dear Mr. Profitt:

Subject: Information Request for North Anna Power Station, Unit 1,
Cycle 2 Reload

Our review of your November 2, 1979 submittal for the North Anna Unit 1 Cycle 2 reload amendment requires that additional information be provided so that we can complete our review. Our request for information is provided in the attachment to this letter.

On November 28, 1979, we telecopied the attached request for information to your Mr. E. Grechek and we also had telephone conversations with the appropriate VEPCO staff to assure that our requests for information were clearly understood.

We understand that your submittal to the NRC staff is presently scheduled for December 12, 1979. We request that you expidite this submittal, if possible, so that we can complete our review of these matters.

Sincerely

A. Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors

Enclosure:
Request for Additional
Information

1656 301

7912310 199

Attachment 1

Re: Section 2.4

1. You state that the minimum fuel temperature at power predicted for cycle 2 is lower than values used in the FSAR. Please provide, explicitly or by reference, the revision of your calculational methodology that has lead to this conclusion. Provide the predicted values for cycle 2 and compare these values to those used in the FSAR analyses.

2. You state that the maximum linear power density calculated for any over-power transient resulting from allowable Cycle 2 operating conditions does not exceed this limit (sic 21.1 kw/ft). You imply that new thermal analyses have been performed. Since allowable cycle 2 operating conditions, e.g. thermal limits, rod insertion limits, operating temperatures and pressures, control strategy, are the same as cycle 1, only post transient initiation peaking factors should be in question. If these factors are less than or equal to values in the FSAR analyses, revised thermal analyses need not have been performed. Please state explicitly the basis for your assertion. If new thermal analyses have in fact been performed, please submit.

Re: Section 2.6

3. You state that a report of the startup test program will be made available to the NRC "in a timely manner." Committment to a startup test report within 45 days after completion of the startup physics test program is requested.

Re: Section 3.1

4. The least negative doppler-only power coefficient and the most negative doppler-only power coefficient for cycle 2 shown in Table 3 differ by only approximately 3%. Since the doppler-only power coefficient is the product of the doppler temperature coefficient and the change in fuel temperature with power (°F/% power) both of which have significantly large uncertainties please justify the 3% spread.

5. You state that the trip reactivity insertion function differs slightly from the corresponding function used in the FSAR. Please submit on one graph the revised and FSAR trip reactivity functions. Please submit your quantitative evaluation which forms the basis for your assertion that reanalysis of transients was not required. We concur with your qualitative comments.

6. Present your analyses which support an increase in planar peaking factors Fxy (z). Assuming continued use of a constant axial offset control strategy, present computed values of total peaking factor as a function of core heat, Fq (z), using the increased values of Fxy (z). Please show actual computed values as well as your typical bounding curve.

7. Based on our meeting with Westinghouse of November 19, 1979, we do not concur that the NIS High Negative Rate Protection System will provide adequate protection for all dropped RCCA incidents. Pending resolution of this issue, please commit to the operating restrictions agreed to at the November 19th meeting. Specifically please commit to operation in the manual control mode, or in the automatic mode above 90% of rated power with bank D withdrawn at least 215 steps.

Re: Section 3.2.1

8. Please provide the quantitative basis for revision of the feedback reactivity weighting factor shown in Table 4 of your submittal and used in your revised ejected rod accident analyses.

9. Table 6 of your submittal shows a predicted return to power during the MSLB accident of 6.92% for cycle 2 versus 13.70% of rated power for the previous analysis. Provide the quantitative bases for the significant reduction of the predicted peak core average power.

10. You state that "a limiting statepoint analysis was performed using a detailed reactivity feedback calculation which was conservative for cycle 2 but more realistic than that used in the FSAR analysis." What have you done? If you have revised the reactivity feedback of your TURTLE model please explain your revisions.

Re: Section 3.2.3

11. Revision of the minimum calculated fuel temperature will change the heat flux during cooldown transients. For the Feedwater System Malfunction and Excessive Load Increase anticipated operating occurrences which you have reanalyzed, please show the pressurizer pressure, core average temperature, reactor coolant loop ΔT, neutron flux, and DNBR as a function of time. Comparison with FSAR predicted values would be most useful. It is assumed that the kinetics parameters used in your analyses have not been revised to reflect the reduced fuel temperature. Please confirm.

Meeting Summary for Virginia Electric and Power Company

Docket Files
NRC PDR
Local PDR
ORB1 Reading
NRR Reading
H. Denton
E. Case
D. Eisenhut
R. Tedesco
G. Zech
B. Grimes
W. Gammill
L. Shao
J. Miller
R. Vollmer
T. J. Carter
A. Schwencer
D. Ziemann
P. Check
G. Lainas
D. Crutchfield
B. Grimes
T. Ippolito
R. Reid
V. Noonan
G. Knighton
D. Brinkman
Project Manager
OELD
OI&E (3)
C. Parrish/P. Kreutzer
ACRS (16)
NRC Participants
NSIC
TERA
Licensee
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