

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL  
(TEMPORARY FORM)

CONTROL NO: 5632

FILE: \_\_\_\_\_

FROM: Virginia Electric & Pwr. Richmond, Va. 23261 C.M. Stallings		DATE OF DOC 5-20-75	DATE REC'D 5-22-75	LTR XX	TWX	RPT	OTHER
TO: Mr. Goller		ORIG 1 signed	CC 1	OTHER	SENT AEC PDR, <u>XXX</u> SENT LOCAL PDR <u>XXX</u>		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-280/281		
DESCRIPTION: Ltr. ref our letter of 5-15-75 providing additional comments concerning our review of thier ECCS Analysis...				ENCLOSURES:  <b>ACKNOWLEDGED</b>  <b>Do Not Remove</b>			
PLANT NAME: <u>SURRY 1 &amp; 2</u>							

FOR ACTION/INFORMATION WTM 5-27-75

BUTLER (L) W/ Copies	SCHWENCER (L) W/ Copies	ZIEMANN (L) W/ Copies	REGAN (E) W/ Copies
CLARK (L) W/ Copies	STOLZ (L) W/ Copies	DICKER (E) W/ Copies	LEAR (L) W/ Copies
PARR (I) W/ Copies	VARSALLO (I) W/ Copies	KNIGHTON (E) W/ Copies	SPFIS W/ Copies
KNIEL (L) W/ Copies	<input checked="" type="checkbox"/> PURPLE (L) W/ Copies	YOUNGBLOOD (E) W/ Copies	LICENSING PROJECT MANAGER W/ Copies

INTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> REG FILE NRC PDR	<input checked="" type="checkbox"/> TECH REVIEW SCHROEDER	DENTON GRIMES	<input checked="" type="checkbox"/> LIC ASST. R. DIGGS (L)	<input checked="" type="checkbox"/> A/T IND. BRAITMAN
<input checked="" type="checkbox"/> OGC, ROOM P-506A	<input checked="" type="checkbox"/> MACCARY	GAMMILL	H. GEARIN (L)	SALTZMAN
<input checked="" type="checkbox"/> GOSSICK/STAFF	<input checked="" type="checkbox"/> KNIGHT	KASTNER	E. GOULBOURNE (L)	MELTZ
<input checked="" type="checkbox"/> CASE	<input checked="" type="checkbox"/> PAWLICKI	BALLARD	P. KREUTZER (E)	
<input checked="" type="checkbox"/> GIAMBUSSO	<input checked="" type="checkbox"/> SHAO	SPANGLER	J. LEE (L)	<input checked="" type="checkbox"/> PLANS MCDONALD
BOYD	<input checked="" type="checkbox"/> STELLO		M. MAIGRET (L)	CHAPMAN
MOORE (L)	<input checked="" type="checkbox"/> HOUSTON	<input checked="" type="checkbox"/> ENVIRO MULLER	S. REED (E)	DUBE (Ltr)
DEYOUNG (L)	<input checked="" type="checkbox"/> NOVAK (3)	DICKER	M. SERVICE (L)	E. COUPE
SKOVHOLT (L)	<input checked="" type="checkbox"/> ROSS	KNIGHTON	<input checked="" type="checkbox"/> S. SHEPPARD (L)	PETERSON
GOLLER (L) (Ltr)	<input checked="" type="checkbox"/> IPPOLITO	YOUNGBLOOD	M. SLATER (E)	HARTFIELD (2)
P. COLLINS	<input checked="" type="checkbox"/> TEDESCO	REGAN	H. SMITH (L)	KLECKER
DENISE	<input checked="" type="checkbox"/> J. COLLINS	PROJECT LDR	S. TEETS (L)	EISENHUT
REG OPR	<input checked="" type="checkbox"/> LAINAS		G. WILLIAMS (E)	WIGGINTON
<input checked="" type="checkbox"/> FILE & REGION (2)	<input checked="" type="checkbox"/> BENAROYA	HARLESS	V. WILSON (L)	<b>VARGA</b>
MPTC	<input checked="" type="checkbox"/> VOLLMER		R. INGRAM (L)	
STEELE				

EXTERNAL DISTRIBUTION

- |  |                                |   |
|--|--------------------------------|---|
| 1 - LOCAL PDR <u>Williamsburg, VA.</u>                       | 1 - NATIONAL LABS              | 1 - PDR-SAN/LA/NY                       |
| 1 - TIC (ABERNATHY) (1)(2)(10)                               | 1 - W. PENNINGTON, Rm E-201 GT | 1 - BROOKHAVEN NAT LAB                  |
| 1 - NSIC (BUCHANAN)  | 1 - CONSULTANTS                | 1 - G. ULRIKSON, ORNL                   |
| 1 - ASLB   | NEWMARK/BLUME/AGBABIAN         | 1 - AGMED (RUTH GUSSMAN)<br>Rm B-127 GT |
| 1 - Newton Anderson  |                                | 1 - J. D. RUNKLES, Rm E-201<br>GT       |
| <del>14</del> - ACRS <del>NOT SENT</del><br>To L.A. Sheppard |                                |   |

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KNIEL (L) W/ Copies	✓ PURPLE (L) W/ Copies	YOUNGBLOOD (E) W/ Copies	LICENSING PROJECT MANAGER W/ Copies

INTERNAL DISTRIBUTION

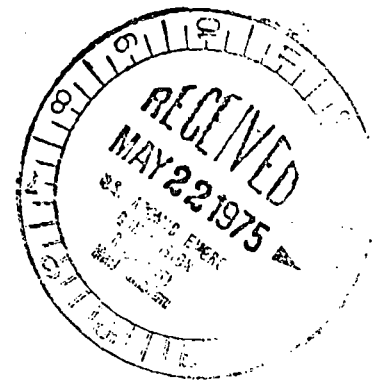
<u>REG FILE</u> NRC PDR OGC, ROOM P-506A GOSSICK/STAFF CASE GIAMBUSSO BOYD MOORE (L) DEYOUNG (L) SKOVHOLT (L) GOLLER (L) (Ltr) P. COLLINS DENISE REG OPR FILE & REGION (2) MPIC STEELE	TECH REVIEW SCHROEDER MACCARY KNIGHT PAWLICKI SHAO STELLO HOUSTON NOVAK (3) ROSS IPPOLITO TEDESCO J. COLLINS LAINAS BENAROYA VOLLMER	DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER  ENVIRO MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR  HARLESS	LIC ASST. R. DIGGS (L) H. GEARIN (L) E. GOULBOURNE (L) P. KREUTZER (E) J. LEE (L) M. MAIGRET (L) S. REED (E) M. SERVICE (L) S. SHEPPARD (L) M. SLATER (E) H. SMITH (L) S. TEETS (L) G. WILLIAMS (E) V. WILSON (L) R. INGRAM (L)	A/T IND. BRAITMAN SALTZMAN MELTZ  PLANS MCDONALD CHAPMAN DUBE (Ltr) E. COUPE PETERSON HARTFIELD (2) KLECKER EISENHUT WIGGINTON <b>VARGA</b>
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| <del>14</del> - ACRS <del>HOLDERS</del> SENT<br>To L.A. Sheppard |                                |   |

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

May 20, 1975



Mr. K. R. Goller, Assistant Director  
for Operating Reactors  
Division of Reactor Licensing  
Office of Nuclear Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Serial No. 535/051575  
PO&M/JTB:clw

Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

Dear Mr. Goller:

We have reviewed your letter of May 15, 1975 concerning your review of our report, "Emergency Core Cooling System Analysis Required by 10 CFR 50.46," submitted with our letter of April 15, 1975, Serial No. 500. As you know, this letter was sent at our request during a telephone conversation between members of the Vepco and NRC staff on May 14, 1975 during which you raised several questions. We requested the letter in order to assure that we knew what the specific requests being made by the NRC were and their relevancy to our ECCS submittal of April 15, 1975. We were surprised to learn during the telephone conversation of May 14, 1975 that you intended for us to submit the information required in Items 1 through 3 of your May 15, 1975 letter and have it approved prior to the return of Unit No. 2 to service in early June. With regard to your specific requests, we make the following comments:

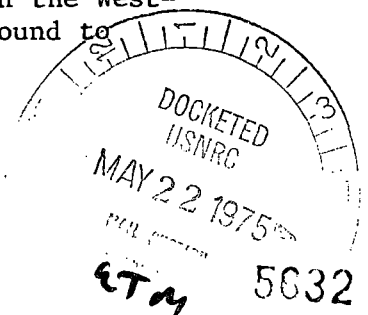
NRC COMMENT

1. Use was made of the unapproved Westinghouse December 25, 1974 evaluation model rather than the approved March 15, 1975 version.

VEPCO COMMENT

In its letter of September 6, 1974, Serial No. 268, Vepco submitted an evaluation of ECCS cooling performance calculated in accordance with an evaluation model developed by the Westinghouse Electric Corporation to fulfill the requirements of 10 CFR 50.46. The model used for this evaluation was the August model.

In your letter of December 27, 1974 and attached "Order for Modification of License" you notified Vepco that its analysis of September 6, 1974 was deficient because it was based on the Westinghouse August model which the Regulatory Staff had found to



be deficient in that it did not fully comply with Appendix K, 10 CFR 50. Consequently, it was ordered that: "As soon as practicable, but in no event later than six months from the date of publication of this order in the Federal Register, or prior to any license amendment authorizing any core reloading, whichever occurs first, the licensee shall submit a re-evaluation of ECCS cooling performance calculated in accordance with an acceptable evaluation model which conforms with the provisions of 10 CFR Part 50, §50.46. Such evaluation may be based upon the vendor's evaluation model as modified in accordance with changes described in the Staff Safety Evaluation Report to the Surry Power Station, Units 1 and 2 dated December 27, 1974. (Emphasis added)

In the Staff Safety Evaluation Report dated December 27, 1974, on page 1, it is stated: "As reflected in the Supplement\*, for some items adequate additional information was provided to enable the staff to accept the Westinghouse approach. For certain other items, the staff concluded that adequate justification had not been provided and that further modifications of the model were required. Westinghouse agreed to modify its model in accordance with the Staff's comments. Since that time Westinghouse has made the model adjustments required, which are discussed in Section 2.0 of this SER Supplement, and has evaluated the impact of all model changes upon previously submitted analyses. Accordingly, the Westinghouse evaluation model with the modifications described in Section 2.0 of this Safety Evaluation is acceptable and would conform to Appendix K." (Emphasis added) The revision referred to above is the December version of the model.

Pursuant to the Order dated December 27, 1974, Vepco requested the Westinghouse Electric Corporation to perform another analysis using the latest model, i.e. the December model. The results of this analysis were submitted to you by letter dated April 15, 1975, Serial No. 500. This submittal conformed fully with the requirements in that it used the December model and it was being submitted forty-five (45) days prior to start-up following a core reload as stated in your December 27, 1974 letter. At the time of submittal, the December model was the NRC "approved" version as demonstrated from the above excerpt. The Westinghouse Electric Corporation also stated it was the "approved" version when they conducted the re-analysis. Indeed, there was no indication to Vepco, either by the NRC or Westinghouse, that anything but the "approved" version was being used.

\*Federal Register, "Supplement to the Status Report by the Directorate of Licensing in the Matter of Westinghouse Electric Company ECCS Evaluation Model Conformance to 10 CFR 50, Appendix K, November 1974.

It appears that the status of the model used, i.e. approved or unapproved, is a time dependent factor which is subject to change at any time. Having fulfilled all requirements of the order, we find that you require another re-analysis using another "approved" version of the model. You advised us during the telephone conversation that the NRC recently approved the latest version on April 29, 1975, fourteen days after our submittal on April 15, 1975 of the then approved version. We have not received any other notification in this regard. We find it most difficult to understand, as stated in your May 15, 1975 letter, the statement that "Use was made of the unapproved Westinghouse December 25, 1975, evaluation model rather than the approved March 15, 1975 version." Even if you had advised us of your April 29, 1975 model approval, it would have been impossible to have satisfied your requirements stated in the December 27, 1974 letter to submit the analysis forty-five days before the date that a unit would be returned to service following a reload, i.e. June 1, 1975.

In summary, we do not concur that we used an unapproved model. At the time the analysis was submitted, based on information available to us from the NRC and Westinghouse, the model was approved. We will, as soon as possible, perform another analysis using the currently approved April model; however, based on information available to us at this time from Westinghouse, there may not be sufficient time to perform, review and submit the analysis and receive NRC approval prior to the time Unit No. 2 is scheduled to be returned to service.

#### NRC COMMENT

2. Insufficient information has been submitted in regard to long term core cooling and the potential effects of boron components precipitating out of solution.

#### VEPCO RESPONSE

As you are aware, the Commission recently identified this to Vepco as a concern in your letter of March 14, 1975. In its Safety Evaluation of December 27, 1974, the Staff did not identify it as a concern; therefore, it was not addressed in our April 15, 1975 letter.

As a result of your letter of March 14, 1975, we have reviewed the matter. In our letter of April 18, 1975, Serial No. 467, we notified you that we had just received a report from Westinghouse treating the subject on a generic basis and that we desired to review it in detail. We have had a number of discussions concerning the report with Westinghouse personnel. As a result of these discussions, Vepco has concluded that the Westinghouse analysis was overly conservative. Based on our telephone conversations with your Staff on May 14, 1975 it was stated by one of your Staff members that the boron precipitation analysis was not conservative. Before proceeding further on our

submittal with this subject we propose to meet with Westinghouse and the Regulatory Staff to discuss the matter to determine what is acceptable.

In summary, we submitted the information requested by your December 27, 1974 Order. You did not inform us that our September 6, 1974 ECCS submittal was insufficient, specifically in regard to the effects of possible boron precipitation. While we recognize that possible boron precipitation is a concern, we do not agree that it follows that it was a deficiency in our April 15, 1975 submittal. Upon resolution of the disagreement between the Regulatory Staff and Westinghouse concerning their boron precipitation analysis, we plan to make a submittal specifically for the Surry Power Station, Unit Nos. 1 and 2, shortly thereafter.

NRC COMMENT

3. Insufficient information has been submitted in regard to how the emergency core cooling system satisfies the Appendix K single failure criterion in regard to motor operated valves.

VEPCO COMMENT

This particular concern was not identified in the Regulatory Staff's evaluation of December 27, 1974; therefore, it was not addressed in our April 15, 1975 submittal. It should be noted that this concern was only identified as a condition of your acceptance of our ECCS analysis on May 14, 1975 in the aforementioned telephone conversation. The concern had not been identified in any of your correspondence concerning Surry until you refer to it in your May 15, 1975 letter.

While we believe it is a concern which should be reviewed, we do not feel it should be a prerequisite for the approval of our analysis. Our systems were reviewed by the AEC staff, now the NRC, in regard to their acceptability in meeting the single failure criterion as a condition of the issuance of an operating license. As a result of this review the Staff determined the systems to be satisfactory in this regard.

It is recognized that the Staff has taken a new position regarding single failure based on our knowledge of other pending license applications. Before performing the evaluation, it is necessary for us to know your specific concern. The information in your letter does not adequately describe your concern. The original licensing review established that the single failure criterion was met. Any specific additional information required should be clearly identified in order that we may provide a proper response. After receipt of

the details of your specific concerns we will be in a better position to answer this question.

I would like to make a few comments regarding the method in which the items contained in your letter were handled. Although you state that the four concerns have been discussed over the past few weeks by members of the NRC staff and Vepco, we do not believe this to be the case, for the specific reasons outlined below:

1. The first notification which we received from the NRC that the December Westinghouse model was unacceptable was in a telephone conversation between the respective staffs on May 13, 1975. Our letter of April 15, 1975 clearly stated what model had been used; however, we were not informed of your position until about a month later, which is critical timing when you consider that the submittal was made expeditiously to allow forty-five (45) days for NRC review prior to returning Unit No. 2 to power.
2. The notification stating that insufficient information in regard to how the emergency core cooling system satisfies the Appendix K single failure criterion in regard to motor operated valves was also brought to our attention in the telephone call of May 13, 1975. We had been notified several weeks earlier by telephone that the NRC had a concern in this matter, although it was not associated with approval of our analysis. You further indicated that a letter providing the details of your request would be forthcoming; however, to date we have not received your request.
3. In regard to the concern of possible boron precipitation, it is important to recognize that this is a generic concern and Westinghouse has held discussions with you and has submitted analyses for your review. Based on our discussions with Westinghouse, it is indicated that as of May 16, 1975 you had not been in contact with them concerning possible deficiencies in their generic analysis. However, in the telephone conversation of May 13, 1975 we understand that the Commission believed the Westinghouse boron precipitation analyses not to be conservative. Following the conversation on May 13, 1975, we notified Westinghouse of your general concern and requested that they contact you directly to determine the exact nature of the deficiency and determine its disposition.

In summary, we are astounded that just prior to completing the refueling outage on Unit No. 2, you have made resolution of Items 1, 2 and 3 in your letter a condition for returning Unit No. 2 to power. While we plan to review your comments and prepare the appropriate response, we do not believe that any

conditions exist which require that the items be resolved before return to power. We would be pleased to meet with the Staff to discuss your comments and questions in more detail. In the meeting which has been arranged between your Staff and the Vepco Staff members for Wednesday (May 21, 1975), we hope that your questions may be finalized so that we may answer them in due time.

Very truly yours,

*C. M. Stallings*

C. M. Stallings  
Vice President-Power Supply  
and Production Operations

cc: Mr. Norman C. Moseley