April 2, 1996

Mr. J.P. O'Hanlon
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: NORTH ANNA UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO PROPOSED CHANGES FOR EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIMES (TAC NOS. M93415 AND M93416)

Dear Mr. O'Hanlon:

By letter dated September 1, 1995, you proposed changes to the plants' Technical Specifications. In order for us to continue our review we need additional information (see enclosure). The enclosed questions were discussed with Mr. T. Shaub of your staff on March 13, 1996. Please provide your response by April 13, 1996.

Sincerely,

(Original Signed By)

Gordon E. Edison, Sr. Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-338
and 50-339

Enclosure: As stated

cc w/enclosure: See next page

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REQUEST FOR ADDITIONAL INFORMATION

EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIME

NORTH ANNA UNITS 1 & 2

TAC NUMBERS M93415 AND M93416

1. On Page 4 of 10 of Attachment 1 to the licensee's September 1, 1995, letter, Paragraph 4 states: "If the AAC DG, any of the other three EDGs, or off-site power sources become inoperable during an EDG's maintenance inspection outage, the appropriate 72-hour action statement becomes effective." Discuss this apparent conflict with the proposed Technical Specification 3.8.1.1.b.2, which addresses only the inoperability of the AAC DG and the opposite unit's EDGs.

2. Proposed Specification 3.8.1.1.b.2 states that the provisions of Specification 3.0.4 are not applicable. The staff is concerned that this proposed statement would allow the plant to startup following a shutdown without all the EDGs operable, which increases vulnerabilty for a plant configuration such as North Anna. Provide justification for this statement and its use during the period that one EDG is inoperable for extended maintenance or consider withdrawing this specific requested change to the Technical Specifications.

3. On Pages 1-3 of the proposed Technical Specifications for Unit 2, the word "emergency" has been added to the last sentence of Definition 1.12. This change is also applicable to Unit 1 but has apparently not been included in the amendment request. Is this change also requested?

4. On Page 7 of Attachment 1 to the licensee's September 1, 1995, letter, the last sentence ends with "of that unit." That phrase has apparently not been included in the actual Technical Specifications contained in Attachment 2 to the September 1 letter. Address this apparent conflict.

5. As stated in the September 1, 1995, letter from the licensee, the purpose of the requested amendment is to allow an increased outage time during plant power operation for performing a preventive maintenance inspection of an EDG, which would include disassembly of the EDG. The staff is concerned that disassembly of an EDG would subsequently then require pre-operational testing of the EDG (such as full load rejection tests) to be performed following this maintenance while the plant is operating instead of during shutdown, which has been the past practice. In order to resolve this concern, the following should be addressed:

   a. What would be the typical and worse-case voltage transients on the 4160-V safety buses as a result of a full-load rejection?

ENCLOSURE

b. If a full-load rejection test is used to test the EDG governor after maintenance, what assurance would there be that an unsafe transient condition on the safety bus (i.e., load swing or voltage transient) due to improperly performed maintenance or repair of a governor would not occur?

c. Using maintenance and testing experience on the EDG, identify possible transient conditions caused by improperly performed maintenance on the EDG governor and voltage regulator. Predict the electrical system response to these transients.

6. Provide the current calculated total core damage frequency (CDF) resulting from all probabilistic safety assessment (PSA) sequences involving station blackout (SBO). Also provide the calculated total CDF from all SBO sequences after accounting for the increase in EDG unavailability due to the extended allowed outage time requested. Provide the instantaneous change in the CDF value for the worst-case plant configuration allowed under the proposed Specification 3.8.1.1.b.2.

7. Provide the values for the EDG reliability and availability values used in the PSA analysis to calculate the SBO CDF values requested in Question 6 above. Discuss these values in relationship to any goals associated with the implementation of the maintenance rule and in comparison to actual past performance of the EDG's at the plant. Also compare the values used in the PSA analysis to the target values committed to for SBO.

8. Proposed Specification 3.8.1.1.b.2 requires that the Alternate A.C. (AAC) Diesel Generator (DG) be demonstrated operable within 14 days prior to the performance of Specification 4.8.1.1.2.f. Bases 3/4.8.1 and 3/4.8.2 state that operability of the AAC DG is defined in administratively controlled station documents. Discuss how the AAC DG is verified to be operable including verification that it can be connected to the safety bus associated with the EDG undergoing the extended maintenance. Since the staff believes the ability of the AAC DG to be connected to the safety bus should be verified once per shift while in proposed Specification 3.8.1.1.b.2, the licensee should consider making this commitment.

9. Additional vulnerability may be created during the extended outage time for an EDG. Discuss how systems, subsystems, trains, components, and devices that depend on the remaining EDG as a source of onsite power are verified to be operable before removing an EDG for extended maintenance. Discuss what positive measures will be taken to preclude subsequent testing or maintenance activities on these systems, subsystems, trains, components, and devices while an EDG is inoperable. This discussion should include consideration of degraded or inoperable balance-of-plant equipment.

10. The condition of offsite sources of electrical power prior to and during the extended EDG outage time have additional importance. Discuss what considerations should be given to not performing the extended maintenance when the offsite grid condition or configuration is degraded or when adverse or extreme weather conditions (e.g., high winds, lightning, icing conditions) are expected. Discuss how planning of the extended EDG maintenance should consider the time needed to complete the extended EDG maintenance and the ability to accurately forecast weather conditions that are expected to occur during the maintenance. Discuss what, if any, contingency plans should be developed to restore the inoperable EDG in the event of unanticipated adverse weather or degraded grid conditions occurring which can significantly increase the probability of losing offsite electrical power.