ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION CHANGES FOR NORTH ANNA UNITS 1 AND 2

Remove from the previous submittals (Serial Nos. 773 and 773A, dated 1/16/90 and 3/29/90,respectively) pages 5-4 for Unit 1 and 2 Technical Specifications and insert the attached.

DESIGN PRESSURE AND TEMPERATURE

5.2.2 The reactor containment building is designed and shall be maintained for a maximum internal pressure of 45 psig and a temperature of 280°F.

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 157 fuel assemblies with each fuel assembly nominally containing 264 fuel rods clad with Zircaloy-4, except that substitutions of Zircaloy-4 or stainless steel filler rods may be made in fuel assemblies if justified by the cycle specific reload analysis using an NRC-approved methodology. A maximum of 5 repaired fuel assemblies, with each repaired fuel asembly containing no more than 3 stainless steel or Zircaloy-4 filler rods may be used per core design. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment of 3.2 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.3 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 full length control rod assemblies. The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. All control rods shall be clad with stainless steel tubing.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 157 fuel assemblies with each fuel assembly nominally containing 264 fuel rods clad with Zircaloy-4, except that substitutions of Zircaloy-4 or stainless steel filler rods may be made in fuel assemblies if justified by the cycle specific reload analysis using an NRC-approved methodology. A maximum of 5 repaired fuel assemblies, with each repaired fuel assembly containing no more than 3 stainless steel or Zircaloy-4 filler rods may be used per core design. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment of 3.2 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.3 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 full length control rod assemblies. The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. All control rods shall be clad with stainless steel tubing.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

a. In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements.

b. For a pressure of 2485 psig, and

c. For a temperature of 650°F, except for the pressurizer which is 680°F.

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 9957 ± [illegible] cubic feet at a nominal T_{avg} of 525°F.

ATTACHMENT 2

MARKUP OF THE NORTH ANNA MERITS

4.0 DESIGN FEATURES (continued)

4.3 REACTOR CORE

4.3.1 Fuel Assemblies

"Insert (A)"

The reactor core shall contain 157 fuel assemblies with each fuel assembly containing 264 fuel rods clad with Zircaloy-4. Each fuel rod shall have a nominal active fuel length of 144 inches and contain a maximum total weight of 1780 grams uranium. The initial core loading shall have a maximum enrichment of 3.2 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.3 weight percent U-235.

NOMINALLY

4.3.2 Control Rod Assemblies

The reactor core shall contain 48 full length control rod assemblies. The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. All control rods shall be clad with stainless steel tubing.

(continued)

(A) EXCEPT THAT SUBSTITUTIONS OF ZIRCALOY-4 OR STAINLESS STEEL FILLER RODS MAY BE MADE IN FUEL ASSEMBLIES IF JUSTIFIED BY THE CYCLE SPECIFIC RELOAD ANALYSIS USING AN NRC-APPROVED METHODOLOGY. A MAXIMUM OF 5 REPAIRED ASSEMBLIES, CONTAINING NO MORE THAN 3 RODS PER ASSEMBLY, MAY BE USED PER CORE DESIGN.

ATTACHMENT 3

Discussion of Proposed Changes and
10 CFR 50.92 SIGNIFICANT HAZARDS DETERMINATION

Discussion of Proposed Changes

The current operating philosophy at Virginia and Electric Power Company prohibits the use of fuel assemblies with known failed rods. Failed rods are defined as fuel rods having cladding defects allowing fission products to be released to the coolant. By replacing the failed rods with solid filler rods made from either stainless steel or Zircaloy-4 during a fuel assembly reconstitution, the Company is able to recover cost from fuel assemblies that are prematurely discharged because of the existence of failed rods.

The current Technical Specifications for each Unit preclude the use of solid filler rods. The Design Features Section of the North Anna Units 1 and 2 Technical Specifications (Section 5.3.1 of each Unit's Technical Specifications) states that each fuel assembly will contain 264 fuel rods clad with Zircaloy-4.

The proposed changes supplement our initial amendment request dated January 16, 1990 which proposed an unlimited use of filler rods and allows the use of open water channels. However, after discussion with the NRC it is our understanding that NRC Generic Letter 90-02, which dealt with this issue, will be revised to disallow an unlimited use of filler rods and open water channels.

The attached changes propose a limit of 5 repaired fuel assemblies per core containing no more than 3 solid stainless steel or Zircaloy-4 filler rods per assembly. The limit of 5 repaired fuel assemblies was chosen for core symmetry reasons to allow a potential of 4 symmetrical assemblies and 1 center assembly to be replaced if necessary. The limit of no more than 3 rods per assembly was chosen based on experience. To date, we have not had need to reconstitute more than 3 rods per assembly. Open water channels will not be permitted per the attached amendments.

Accordingly, Section 5.3.1, Fuel Assemblies is revised to state "A maximum of 5 repaired fuel assemblies, with each repaired fuel assembly containing no more than 3 stainless steel or Zircaloy-4 filler rods may be used per core design."

The analysis discussed in our original license amendment proposal submitted January 16, 1990 envelopes the limited application now proposed.

Significant Hazards Determination

It has been determined that the proposed changes to revise the previously submitted licensing amendments (letters dated January 16, 1990 and March 29, 1990) do not involve a significant hazards consideration as defined in 10 CFR 50.92. This determination was based on the following points.

1. The proposed changes do not significantly increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report. In fact, the proposed change will have no impact on the probability of occurrence or the consequences of an accident or malfunction of equipment. The only changes from the original submittal (dated January 16, 1990) are the restriction on the number of stainless steel or Zircaloy-4 filler rods to be used per cycle and the disallowance of open water channels.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated. No physical changes or modifications are being made to the plant or its equipment. As noted above, the only changes are an additional restriction on the number of stainless steel or Zircaloy-4 filler rods and the disallowance of open water channels from our original submittal.

3. The proposed amendment does not involve a significant reduction in a margin of safety. No physical changes or modifications are being made to the plant or its equipment. No changes are being made to the cycle-specific reload analysis. As previously stated, the only changes are an additional restriction on the number of stainless steel or Zircaloy-4 filler rods and the disallowance of open water channels from our original submittal.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, we have determined that the amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore does not involve a significant hazards consideration.