ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION CHANGES

Virginia Electric and Power Company

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME (SEC.)
35. MOV-RS-101B*	Casing Cooling to Outside Recirculation Spray Pump	NA
36. TV-HC-108A*	Containment Atmosphere Sample Line	NA
37. TV-HC-108B*	Containment Atmosphere Sample Line	NA
38. TV-HC-100A	Suction Hydrogen Analyzer	NA
39. TV-HC-100B	Suction Hydrogen Analyzer	NA
40. TV-HC-101A	Discharge Hydrogen Analyzer	NA
41. TV-HC-101B	Discharge Hydrogen Analyzer	NA
42. TV-HC-102A	Suction Hydrogen Analyzer	NA
43. TV-HC-102B	Suction Hydrogen Analyzer	NA
44. TV-HC-103A	Discharge Hydrogen Analyzer	NA
45. TV-HC-103B	Discharge Hydrogen Analyzer	NA
46. TV-HC-104A*	Suction Hydrogen Recombiner	NA
47. TV-HC-104B*	Suction Hydrogen Recombiner	NA
48. TV-HC-105A*	Discharge Hydrogen Recombiner	NA
49. TV-HC-105B*	Discharge Hydrogen Recombiner	NA
50. TV-HC-106A*	Suction Hydrogen Recombiner	NA
51. TV-HC-106B*	Suction Hydrogen Recombiner	NA
52. TV-HC-107A*	Discharge Hydrogen Recombiner	NA
53. TV-HC-107B*	Discharge Hydrogen Recombiner	NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC.)
66. TV-IA201A	Containment Instrument Air Supply	60
67. TV-IA201B	Containment Instrument Air Supply	60
68. (DELETED)		
69. (DELETED)		
70. TV-DA203A	Post Accident Sample System Containment Return Line	60
71. TV-DA203B	Post Accident Sample System Containment Return Line	60
B. PHASE "B" ISOLATION		
1. TV-CC203A	Component Cooling Water from RHR System and Excess Letdown Heat Exchanger	60
2. TV-CC203B	Component Cooling Water from RHR System and Excess Let down Heat Exchanger	60
3. TV-CC201A	Reactor Coolant Pump Thermal Barrier Cooling Water Return	60
4. TV-CC201B	Reactor Coolant Pump Thermal Barrier Cooling Water Return	60

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER		FUNCTION	MAXIMUM ISOLATION TIME (SEC.)
17.	TV-CC202D	Reactor Coolant Pumps and Shroud Cooling, Cooling Water Out	60
18.	TV-CC202E	Reactor Coolant Pumps and Shroud Cooling, Cooling Water Out	60
19.	TV-CC202F	Reactor Coolant Pumps and Shroud Cooling, Cooling Water Out	60
20.	TV-BD200A	Steam Generator Blowdown	60
21.	TV-BD200B	Steam Generator Blowdown	60
22.	TV-BD200C	Steam Generator Blowdown	60
23.	TV-BD200D	Steam Generator Blowdown	60
24.	TV-BD200E	Steam Generator Blowdown	60
25.	TV-BD200F	Steam Generator Blowdown	60
26.	TV-IA202A	Instrument Air to Reactor Containment	60
27.	TV-IA202B#	Instrument Air to Reactor Containment	60
C.	CONTAINMENT PURGE AND EXHAUST (VENTILATION DUCTS)		
1.	MOV-HV200A*	Purge Supply	NA
2.	MOV-HV200B*	Purge Supply	NA
3.	MOV-HV202*	Alternate Supply	NA
4.	MOV-HV200C*	Purge Exhaust	NA
5.	MOV-HV200D*	Purge Exhaust	NA
6.	MOV-HV201*	Bypass	NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC.)
45. TV-HC-203B	Discharge Hydrogen Analyzer	NA
46. TV-HC-204A*	Suction Hydrogen Recombiner	NA
47. TV-HC-204B*	Suction Hydrogen Recombiner	NA
48. TV-HC-205A*	Discharge Hydrogen Recombiner	NA
49. TV-HC-205B*	Discharge Hydrogen Recombiner	NA
50. TV-HC-206A*	Suction Hydrogen Recombiner	NA
51. TV-HC-206B*	Suction Hydrogen Recombiner	NA
52. TV-HC-207A*	Discharge Hydrogen Recombiner	NA
53. TV-HC-207B*	Discharge Hydrogen Recombiner	NA
F. CHECK		
1. 2-CC-194	Component Cooling Water to RHR System and Excess Letdown Heat Exchanger	NA
2. 2-CC-199	Component Cooling Water to RHR System and Excess Letdown Heat Exchanger	NA
3. 2-SI-93	High Head Safety Injection, Boron Injection to RCS	NA
4. 2-CC-302	Component Cooling Water to Containment Air Recirculation Coils	NA
5. 2-CC-289	Component Cooling Water to Containment Air Recirculation Coils	NA

ATTACHMENT 2

SAFETY EVALUATION

Virginia Electric and Power Company

DISCUSSION

1. Technical Specification 3/4.6.3, Table 3.6-1 for North Anna Unit 2 lists the Containment Isolation Valves for containment instrument air supply (TV-IA 202A and TV-IA 202B) as shutting on receipt of a Phase A containment isolation signal. Although our letter serial #760 of October 24, 1979 designated Unit 1 containment instrument air as an essential Level 2 system which isolates on a Phase B signal, the similar letter for Unit 2 (serial # 806 of October 25, 1979) makes no mention of the containment instrument air system. Our response to NUREG 0737, Rev. 0 dated December 10, 1980 lists containment instrument air as a Phase B isolation system for both units, indicating that the omission of mention in the Unit 2 letter was an oversight. It is proposed to change the containment isolation signal from Phase A to Phase B to correct this oversight and bring Unit 2 instrument air containment isolation signal into compliance with NUREG 0737 and provide consistency with the homologous valves in Unit 1.

2. Technical Specification surveillance requirements as listed in T.S. 4.6.4.2.a for both units require a functional test of the hydrogen recombiners every six months. T.S. 3.6.1.1, on the other hand, requires that Containment Integrity be maintained in Modes 1-4 and specifies that the valves listed in Table 3.6-1 which do not receive automatic closure signals be maintained closed unless otherwise noted in Table 3.6-1. At present the valves not receiving automatic closure signals include the hydrogen recombiner remote-manual isolation valves. (Unit 1 - TV-HC-104A and B, 105A and B, 106A and B, and 107A and B; Unit 2 - TV-HC-204A and B, 205A and B, 206A and B, and 207A and B). It is proposed that Table 3.6-1 be changed by adding asterisks to these valves to provide for taking administrative control during limited periods in order to permit surveillance testing at power. During these periods (approximately four hours each six months), the operation of the affected valves will be administratively controlled via a Periodic Test (PT) procedure.

   In a letter from the NRC dated January 12, 1984, a safety evaluation was provided which accepted North Anna's action taken in response to NUREG 0737 item II.E.4.1 (Dedicated Hydrogen Penetrations). The safety evaluation found the licensee's request to add the remotely operated (HC Series) valves to Table 3.6-1 acceptable and that "opening of these valves will take place only under specific administrative control as specified in post-accident procedures."
   During the testing period, the recombiner would be connected directly to the containment atmosphere and the recombiner and associated piping could possibly be pressurized to 45 psig if an accident were to occur. For normal operation, the recombiner is designed for an operating pressure limit of 10 psig.

   A review of the hydrogen recombiner system design has been conducted to evaluate conducting the test at power. The hydrogen recombiners and their associated piping systems are seismically designed and missile protected. The piping and components are designed to ASME III, Class 2 through Summer 1973 Addendum. The recombiner system piping is 150 lb. carbon steel. The recombiner pressure-retaining boundary is 304 stainless steel and is designed to withstand 50 psig and was originally tested to 75 psig.

The recombiner technical manual specifies a 10 psig rating for operating conditions (1300-1400°F) and 50 psig for non-operating conditions. Rockwell International was contacted and stated that the 10 psig operating pressure limit is imposed to limit the mass flow through the recombiner to provide assurance that effluent hydrogen concentration meets specifications, and that there is no overstress concern with a pressure excursion to 45 psig at operating temperatures.

Further analysis and evaluation has concluded that the recombiner could withstand a DBA since sufficient design margin existed to preclude a breech of the hydrogen recombiner components and associated piping. This conclusion was based upon a review of the Rockwell Stress Report (TI-019-120-003) and application of design information through calculations to show that sufficient design margin existed for the postulated test configuration with a temperature of 1250°F and a pressure excursion to 50 psig.

The alignment of the recombiner to the containment during functional testing provides verification of design flow capability for the actual flow path used during accident conditions. Alternative testing schemes to keep the recombiner separated from containment atmosphere would require some degree of piping reconfiguration which could potentially affect the integrity of the piping system following restoration after testing. In addition, the capability exists to isolate the containment from the recombiner by taking operator action from the Control Room in the event containment isolation is required while surveillance testing is in progress. Prior to implementation of this Technical Specification change which would allow functional testing at power, precautions will be added to the two affected PTs (68.1.1 and 68.1.2) to instruct the Control Room Operator to secure the recombiner and shut any open HC valves if a containment isolation signal is generated while the test is in progress.

BASIS FOR NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes do not involve a significant hazards consideration because operation of North Anna Units 1 and 2 in accordance with these changes would not:

(1) involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes:

(a) change Unit 2 Containment Instrument Air Supply Valves from Phase A Containment Isolation to Phase B Containment Isolation. The revised designation brings Unit 2 into compliance with Virginia Electric and Power Company's response to NUREG 0737, Section II.E.4.2 and provides consistency with the homologous valves in Unit 1;

(b) place Unit 1 and 2 Hydrogen Recombiner Suction and Discharge Containment Isolation Valves under administrative control to allow for functional testing which is required by Technical Specifications. The opening of the valves under administrative control (by procedure) for testing will not affect Containment conditions or the operation of any other equipment which directly communicates with Containment. The Containment boundary will be extended to include additional piping and components for approximately four hours every six months, however, the design standards used for construction of the recombiner system ensure that Containment conditions will not be degraded and integrity will be maintained for existing accident analysis.

(2) create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes:

(a) enhance safe operation by assuring the availability of containment instrument air on a Phase A containment isolation signal;

(b) continue to provide containment isolation protection even if the valves are open during an accident since it has been demonstrated by analysis and testing that the Hydrogen Recombiner and associated piping can withstand DBA pressure excursion and prevent release of radioactivity to the environment. Further, upon receipt of a containment isolation signal, the affected valves can be shut remotely from the Control Room.

(3) involve a significant reduction in a margin of safety. The proposed changes:

(a) assure availability of containment instrument air on a Phase A containment isolation signal;

(b) ensure containment integrity by system design during test conditions and permit required functional testing.

Therefore, pursuant to 10CFR50.92, based on the above considerations, it has been determined that these changes do not involve a significant safety hazards considerations.