ENCLOSURE 2

PROPOSED TECHNICAL SPECIFICATION REVISION

Virginia Electric and Power Company

8609190298 860912
PDR ADOCK 05000338
P PDR

TABLE 3.3-11

FIRE DETECTION INSTRUMENTATION

INSTRUMENT LOCATION	MINIMUM DETECTORS REQUIRED HEAT	SMOKE
Auxiliary Building (cont'd)		
e. General Area Elevation 244'#		1
f. General Area Elevation 259'#		4
g. General Area Elevation 274'#		14
h. General Area Elevation 291'#		4
i. Charcoal Filters		
1. Intake Side #	3/room	
2. Outlet Side #	3/room	
12. Service Water Pump House#		8
13. Auxiliary Service Water Pump House#		1
14. Auxiliary Feed Water Pump House		
a. Turbine Pump Room		1
b. Motor Pump Room		3
15. Quench Spray Pump House		
a. Main Floor		2
b. Basement		4
16. Safeguards Area Ventilation		
a. System Exhaust Duct		1
17. Main Steam Valve House		1
18. Fuel Building#		10
19. Casing Cooling Pump House		1
20. Post Accident Hydrogen Recombiner Vault #		1
21. Fire Pump House #		1
22. Control Room Air Conditioning Chiller Room		1
23. Service Water Valve House #		
a. West room	2	
b. Northeast room	1	
c. Southeast room	1	

*An RCP bearing or motor temperature may be substituted for an inoperable RCP heat detector provided the bearing or motor temperature(s) is monitored at least once per hour when the RCP is in operation.

#Common to Units 1 and 2.

TABLE 3.7-5

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

SETTLEMENT POINT	STRUCTURE	SETTLEMENT POINT	STRUCTURE/COMPONENT	ALLOWABLE TOTAL SETTLEMENT* (FEET)	ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)
15,16,17, 18	North Side of Expansion Joint Service Water Piping at SWPH			0.22 from 8/78	N/A
228	Decontamination Building	250	Pipe Tunnel	N/A	0.06
226	Fuel Building	251	Waste Gas Decay Tank Enclosure	N/A	0.06
8	Service Water Pump House	H-569,H-584	Pipe Hanger in Reservoir	N/A	0.17
114	Service Building (E-17)			0.09	N/A
141	Safeguards Area - Unit 1	253	Unit 1 - Casing Cooling Bldg.	N/A	0.12 from 2/79
158	***Turbine Building (B-9 1/2)			0.06	N/A
245,246	Fuel Oil Pump House			0.03	N/A
206,207, 208,209	Boron Recovery Tank Dike			0.03	N/A
204	Circulating Water Intake Structure			0.15	N/A
25, 26, 27, 28	Service Water Valve House			0.32 (see note)	N/A
29, 30, 31, 32	Service Water Tie-In Vault			0.12 (see note)	N/A

NOTE: From Date of Piping Tie-In

* Unless otherwise indicated, allowable settlements are from baseline established in May 1976 or reference elevations corrected to the May 1976 survey.

** Critical differential settlement is downward of Point 117 with respect to Point 113.

*** Not Class 1 structure, but settlements affects Class 1 pipeline.

TABLE 3.7-6

ALLOWABLE GROUNDWATER LEVELS - SERVICE WATER RESERVOIR

PIEZOMETER NO.	PIEZOMETER LOCATION	ALLOWABLE GROUNDWATER ELEVATION Mean Sea Level (feet)
10	SE, toe	277
11	SWPH, (Units 1 & 2) crest	280
12	SWPH, (Units 1 & 2) toe	285
13	SWPH, (Units 1 & 2) crest	280
14	SWPH, (Units 1 & 2) crest	280
15	SE, crest	280
16	SE, crest	280
17	SE, crest	280
18	SWVH, (Units 1 & 2)	295

DRAIN OUTLETS	LOCATION	ALLOWABLE DRAIN FLOW RATE (gallons per minute)
1 through 6	Drainage Gallery	FLOW RATE SHALL NOT EXCEED 8.5 GALLONS PER MINUTE (gpm)

TABLE 4.8-1

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SET POINTS

"H" BUS

TIMER IDENTIFICATION	SET POINT (SECONDS)	INITIATING SIGNAL[1]	TOLERANCE (SECONDS)
1FWEA01-62	20	SI	±1.00
1FWEA01-62A	25	LOP	±1.25
1SWEA03-62	10	LOP	±0.50
1RSOA01-62B	35	LOP	±1.75
1RSOA01-62A	210	CDA	±21.00
1CCPA01-62Y	15	LOP	±0.75
1CCPA01-62X	20	LOP	±1.00
1RSIA01-62A	20	LOP	±1.00
1RSIA01-62	195	CDA	±9.75
1QSSA01-62A	15	LOP	±0.75
1HVRA03-62	30	LOP	±1.50
1HVRA04-62	10	LOP	±0.50
1HVRB04-62	10	LOP	±0.50
1PGSA02-62A	10	(2)	±0.50
1ENSH06-62A	15	LOP	±0.75
1HVRC04-62	10	LOP	±0.50
1SWSA35-62A1A	15	SI	±1.50
1SWSA35-62B1A	15	SI	±1.50

TABLE 4.8-1 (Continued)

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SET POINTS

"J" BUS

TIMER IDENTIFICATION	SET POINT (SECONDS)	INITIATING SIGNAL[1]	TOLERANCE (SECONDS)
1FWEB01-62	20	SI	±1.00
1FWEB01-62A	25	LOP	±1.25
1SWEB03-62	10	LOP	±0.50
1RSOB01-62B	35	LOP	±1.75
1RSOB01-62A	210	CDA	±21.00
1CCPB01-62Y	15	LOP	±0.75
1CCPB01-62X	20	LOP	±1.00
1RSIB01-62A	20	LOP	±1.00
1RSIB01-62	195	CDA	±9.75
1QSSB01-62A	15	LOP	±0.75
1HVRB03-62	30	LOP	±1.50
1HVRD04-62	10	LOP	±0.50
1HVRE04-62	10	LOP	±0.50
1HVRF04-62	10	LOP	±0.50
1PGSB02-62A	10	(2)	±0.50
1ENSJ06-62A	15	LOP	±0.75
1SWSB35-62A1B	15	SI	±1.50
1SWSB35-62B1B	15	SI	±1.50

(1) SI - Safety Injection
LOP- Loss of Offsite Power
CDA- Containment Depressurization Actuation
(2) Low primary grade water header pressure

Reference	Monitoring Points	Limiting Item
Containment Unit 1	Fuel Building	Fuel Transfer Tube
Containment Unit 1	Auxiliary Building	3"-WGCB-14
Containment Unit 1	Unit 1 Safeguards Area	12"-SI-1
Containment Unit 1	Unit 1 Main Steam Valve House	6"-SI-16
Containment Unit 1	Service Building (E-3)	32"-SHP-2
Safeguards Area Unit 1	Unit 1 Main Steam Valve House	8"-Q5-3
Auxiliary Building	Unit 1 Main Steam Valve House	8"-WS-113
Auxiliary Building	Fuel Building	4"-RP-28
Auxiliary Building	Service Building Tunnel	24"-WS-102
Service Water Pump House	Service Water Piping at SWPH	Expansion Joint
Service Water Pump House	Pipe Hanger in Reservoir	24"-WS-11-151-Q3
Service Water Pump House	Service Water Pump House	Mat
Service Bldg. (E-5, E-6)	Unit 1 Main Steam Valve House	24"-WS-26-151-Q3
Service Bldg. (E-14)	Unit 2 Main Steam Valve House	24"-WS-426-151-Q3
Auxiliary Feedwater Pump House - Unit 1	Pipe Tunnel	3"-WAPD-9-601-Q3
Decontamination Bldg.	Pipe Tunnel	3"-CC-90-151-Q3
Fuel Building	Waste Gas Decay Tk. Enclosure	4"-GW-30-154-Q3
Safeguards Area Unit 1	Unit 1 Casing Cooling Building	6"-RS-E15-153A-Q3

The items limiting total settlement of structures are as follows:

Monitoring Points	Limiting Items
Service Water Piping at SWPH	36"-WS-1-151-Q3
Service Building (E-17)	36"-WS-1-151-Q3
Turbine Building (B-9 1/2)	24"-WS-25-151-Q3
Fuel Oil Pump House	2 1/2"-FOF-151-S
Boron Recovery Tank Dike	NOTE (1)
Circulating Water Intake Structure	Service Water Piping expansion joint
Service Water Valve House	32 1/4" - WS-D84-151-Q3
Service Water Tie-In Vault	36" - WS-1-151-Q3

Note (1) No settlement expected; settlement in excess of 0.03 ft. would indicate an abnormality.

(2) Measurements of certain points are required to be performed at least once per 31 days for the first five years of facility operation to provide additional settlement information.

TABLE 3.3-11

FIRE DETECTION INSTRUMENTATION

INSTRUMENT LOCATION	MINIMUM DETECTORS REQUIRED HEAT	SMOKE
Auxiliary Building (cont'd)		
e. General Area Elevation 244'#		1
f. General Area Elevation 259'#		4
g. General Area Elevation 274'#		14
h. General Area Elevation 291'#		4
i. Charcoal Filters		
1. Intake Side#	3/room	
2. Outlet Side#	3/room	
12. Service Water Pump House#		8
13. Auxiliary Service Water Pump House#		1
14. Auxiliary Feed Water Pump House		
a. Turbine Pump Room		1
b. Motor Pump Room		3
15. Quench Spray Pump House		
a. Main Floor		2
b. Basement		4
16. Safeguards Area Ventilation		
a. System Exhaust Duct		1
17. Main Steam Valve House		1
18. Fuel Building#		10
19. Casing Cooling Pump House		1
20. Post Accident Hydrogen Recombiner Vault#		1
21. Fire Pump House#		1
22. Control Room Air Conditioning Chiller Room		1
23. Service Water Valve House #		
a. West room	2	
b. Northeast room	1	
c. Southeast room	1	

* A RCP bearing or motor temperature may be substituted for an inoperable RCP heat detector provided the bearing or motor temperature(s) is monitored at least once per hour when the RCP is in operation.

Common to Units 1 and 2.

TABLE 3.7-5 (continued)

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

SETTLEMENT POINT	STRUCTURE	SETTLEMENT POINT	STRUCTURE/COMPONENT	ALLOWABLE TOTAL SETTLEMENT* (FEET)	ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)
226	Fuel Building	251	Waste Gas Decay Tank Enclosure	N/A	0.06
104	Safeguards Area Unit 2	254	Unit 2 Casing Cooling Building	N/A	0.12 from 2/79
7,10	Service Water Pump House	15,16 17 or 18	Service Water Piping at SWPH North Side of Expansion Joint	N/A	0.22 from 7/77
8	Service Water Pump House	H-569 H-584	Pipe Hanger in Reservoir	N/A	0.17
15,16	Service Water Piping at SWPH			0.22 from 8/78	N/A
17,18	North Side of Expansion Joint				
204	Circulating Water Intake Structure			0.15	N/A
158	***Turbine Building (B-9 1/2)			0.06	N/A
114	Service Building (E-17)			0.09	N/A
245,246	Fuel Oil Pump House			0.03	N/A
206,207, 208,209	Boron Recover Tank Dike			0.03	N/A
25,26,27,28	Service Water Valve House			0.32(see note)	N/A
29,30,31,32	Service Water Tie-In Vault			0.12(see note)	N/A

NOTE: From Date of Piping Tie-In

TABLE 3.7-6

ALLOWABLE GROUNDWATER LEVELS - SERVICE WATER RESERVOIR

PIEZOMETER NO.	PIEZOMETER LOCATION	ALLOWABLE GROUNDWATER ELEVATION Mean Sea Level (feet)
10	SE, toe	277
11	SWPH, (Units 1 & 2) crest	280
12	SWPH, (Units 1 & 2) toe	285
13	SWPH, (Units 1 & 2) crest	280
14	SWPH, (Units 1 & 2) crest	280
15	SE, crest	280
16	SE, crest	280
17	SE, crest	280
18	SWVH, (Units 1 & 2)	295

DRAIN OUTLETS	LOCATION	ALLOWABLE DRAIN FLOWRATE (gallons per minute)
1 through 6	Drainage Gallery	FLOW RATE SHALL NOT EXCEED 8.5 GALLONS PER MINUTE (gpm)

TABLE 4.8-1

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"H" BUS

TIMER IDENTIFICATION	SET POINT (SECONDS)	INITIATING[1] SIGNAL	TOLERANCE (SECONDS)
2FWEA01-62	20	SI	±1.00
2FWEA01-62A	25	LOP	±1.25
2SWEA03-62	10	LOP	±0.50
2RSOA01-62B	35	LOP	±1.75
2RSOA01-62A	210	CDA	±21.0
2CCPA01-62Y	15	LOP	±0.75
2CCPA01-62X	20	LOP	±1.00
2RSIA01-62A	20	LOP	±1.00
2RSIA01-62	195	CDA	±9.75
2QSSA01-62A	15	LOP	±0.75
2HVRA03-62	30	LOP	±1.50
2HVRA04-62	10	LOP	±0.50
2HVRB04-62	10	LOP	±0.50
2HVRC04-62	10	LOP	±0.50
2ENSH06-62A	15	LOP	±0.75
2SWSA35-62A2A	15	SI	±1.50
2SWSA35-62B2A	15	SI	±1.50

TABLE 4.8-1 (Continued)

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"J" BUS

TIMER IDENTIFICATION	SET POINT (SECONDS)	INITIATING[1] SIGNAL	TOLERANCE (SECONDS)
2FWEB01-62	20	SI	±1.00
2FWEB01-62A	25	LOP	±1.25
2SWEB03-62	10	LOP	±0.50
2RSOB01-62B	35	LOP	±1.75
2RSOB01-62A	210	CDA	±21.0
2CCPB01-62Y	15	LOP	±0.75
2CCPB01-62X	20	LOP	±1.00
2RSIB01-62A	20	LOP	±1.00
2RSIB01-62	195	CDA	±9.75
2QSSB01-62A	15	LOP	±0.75
2HVRB03-62	30	LOP	±1.50
2HVRD04-62	10	LOP	±0.50
2HVRE04-62	10	LOP	±0.50
2HVRF04-62	10	LOP	±0.50
2ENSJ06-62A	15	LOP	±0.75
2SWSB35-62A2B	15	SI	±1.50
2SWSB35-62B2B	15	SI	±1.50

(1) SI - Safety Injection
LOP - Loss of Offsite Power
CDA - Containment Depressurization Actuation

TABLE 3.8-2

MOTOR-OPERATED VALVES-THERMAL OVERLOAD PROTECTION AND/OR BYPASS DEVICES

Valve Number	Function	Bypass Device
MOV-QS200A	Quench Spray Pump Suction Valve	No
MOV-QS200B	Quench Spray Pump Suction Valve	No
MOV-QS201A	Quench Spray Pump Discharge Valve	No
MOV-QS201B	Quench Spray Pump Discharge Valve	No
MOV-QS202A	Chemical Addition to Refueling Water Storage Tank Valve	No
MOV-QS202B	Chemical Addition to Refueling Water Storage Tank Valve	No
MOV-RS200A	Casing Cooling to Outside Recirculation Spray Pump	No
MOV-RS200B	Casing Cooling to Outside Recirculation Spray Pump	No
MOV-RS201A	Casing Cooling to Outside Recirculation Spray Pump	No
MOV-RS201B	Casing Cooling to Outside Recirculation Spray Pump	No
MOV-RS255A	Outside Recirculation Spray Pump Suction Valve	No
MOV-RS255B	Outside Recirculation Spray Pump Suction Valve	No
MOV-RS256A	Outside Recirculation Spray Pump Discharge Valve	No
MOV-RS256B	Outside Recirculation Spray Pump Discharge Valve	No
MOV-SW201A	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW201B	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW201C	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW201D	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW203A	Recirculation Spray Heat Exchanger Supply Shutoff	No
MOV-SW203B	Recirculation Spray Heat Exchanger Supply Shutoff	No
MOV-SW203C	Recirculation Spray Heat Exchanger Supply Shutoff	No
MOV-SW203D	Recirculation Spray Heat Exchanger Supply Shutoff	No
MOV-SW202A	Recirculation Spray Heat Exchanger Supply Header Crossover Isolation Valve	No
MOV-SW206A	Recirculation Spray Heat Exchanger Supply Header Crossover Isolation Valve	No
MOV-SW202B	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW206B	Recirculation Spray Heat Exchanger Supply Header Isolation	No
MOV-SW204A	Return from Recirculation Spray Heat Exchanger	No
MOV-SW204B	Return from Recirculation Spray Heat Exchanger	No
MOV-SW204C	Return from Recirculation Spray Heat Exchanger	No
MOV-SW204D	Return from Recirculation Spray Heat Exchanger	No
MOV-SW205A	Recirculation Spray Heat Exchanger Return Header Isolation	No
MOV-SW205B	Recirculation Spray Heat Exchanger Return Header Isolation	No

TABLE 3.8-2 (Continued)

MOTOR-OPERATED VALVES-THERMAL OVERLOAD PROTECTION AND/OR BYPASS DEVICES

Valve Number	Function	Bypass Device
MOV-SW205C	Recirculation Spray Heat Exchanger Return Header Isolation	No
MOV-SW205D	Recirculation Spray Heat Exchanger Return Header Isolation	No
MOV-SW208A	Component Cooling Heat Exchanger Supply Valve	No
MOV-SW208B	Component Cooling Heat Exchanger Supply Valve	No
MOV-SW210A	Supply to Air Cooling Coils	No
MOV-SW210B	Supply to Air Cooling Coils	No
MOV-SW214A	Return from Air Cooling Coils	No
MOV-SW214B	Return from Air Cooling Coils	No
MOV-SW215A	Auxiliary S.W. Pump Discharge Header Isolation Valve	No
MOV-SW215B	Auxiliary S.W. Pump Discharge Header Isolation Valve	No
MOV-SW217	Auxiliary S.W. Pump Discharge Header Isolation Valve	No
MOV-SW213A	Fuel Pit Coolers Supply Header	No
MOV-SW213B	Fuel Pit Coolers Supply Header	No
MOV-SW219	Cir. Water Intake Service Water Pump Make-up Isolation Valve	No
MOV-SW220A	S.W. Discharge to Circ. Tunnel	No
MOV-SW220B	S.W. Discharge to Circ. Tunnel	No
MOV-SW221A	SWR Spray Header	No
MOV-SW221B	SWR Spray Header	No
MOV-SW222A	SWR Spray Header	No
MOV-SW222B	SWR Spray Header	No
MOV-SW223A	SWR Spray Bypass	No
MOV-SW223B	SWR Spray Bypass	No
MOV-FW200A	Aux. Steam Generator Feedpump Discharge Valve	No
MOV-FW200B	Aux. Steam Generator Feedpump Discharge Valve	No
MOV-FW200C	Aux. Steam Generator Feedpump Discharge Valve	No
MOV-FW200D	Aux. Steam Generator Feedpump Discharge Valve	No
MOV-HV204-1	Emergency Control Room Vent	No
MOV-HV204-2	Emergency Control Room Vent	No
MOV-HV211A	A/C Control Room Chiller Outlet	No
MOV-HV211B	A/C Control Room Chiller Outlet	No
MOV-HV211C	A/C Control Room Chiller Outlet	No
MOV-HV213A	A/C Cond. Water Discharge	No
MOV-HV213B	A/C Cond. Water Discharge	No
MOV-HV213C	A/C Cond. Water Discharge	No
MOV-HV218-1	Emergency Air Supply	No
MOV-HV218-2	Emergency Air Supply	No
MOV-2700	Residual Heat Removal Inlet Isolation Valve	No
MOV-2701	Residual Heat Removal Inlet Isolation Valve	No
MOV-2720A	Residual Heat Removal Outlet Isolation	No
MOV-2720B	Residual Heat Removal Outlet Isolation	No
MOV-2590	Reactor Coolant System Loop A Hot Leg Stop Valve	No
MOV-2592	Reactor Coolant System Loop B Hot Leg Stop Valve	No
MOV-2594	Reactor Coolant System Loop C Hot Leg Stop Valve	No
MOV-2591	Reactor Coolant System Loop A Cold Leg Stop Valve	No

TABLE 3.8-2 (Continued)

MOTOR-OPERATED VALVES-THERMAL OVERLOAD PROTECTION AND/OR BYPASS DEVICES

Valve Number	Function	Bypass Device
MOV-2593	Reactor Coolant System Loop B Cold Leg Stop Valve	No
MOV-2595	Reactor Coolant System Loop C Cold Leg Stop Valve	No
MOV-2585	Reactor Coolant System Loop A Bypass	No
MOV-2586	Reactor Coolant System Loop B Bypass	No
MOV-2587	Reactor Coolant System Loop C Bypass	No
MOV-2381	RCP Seal Leakoff Isolation Valve	No
MOV-2380	RCP Seal Leakoff Isolation Valve	No
MOV-2535	Reactor Coolant System Pressurizer Relief Isolation Valve	No
MOV-2536	Reactor Coolant System Pressurizer Relief Isolation Valve	No
MOV-2115B	Charging Pump Suction from Refueling Water Storage Tank	No
MOV-2115C	Charging Pump Suction from Volume Control Tank	No
MOV-2115D	Charging Pump Suction from Refueling Water Storage Tank	No
MOV-2115E	Charging Pump Suction from Volume Control Tank	No
MOV-2286A	Charging Pump A Discharge	No
MOV-2287A	Charging Pump A Alternate Discharge	No
MOV-2286B	Charging Pump B Discharge	No
MOV-2287B	Charging Pump B Alternate Discharge	No
MOV-2286C	Charging Pump C Discharge	No
MOV-2287C	Charging Pump C Alternate Discharge	No
MOV-2289A	Charging Pumps Discharge Line Stop Valve	No
MOV-2289B	Charging Pumps Discharge Line Stop Valve	No
MOV-2373	Charging Pumps Recirculation Stop Valve	No
MOV-2275A	Charging Pump A Recirc. Stop Valve	No
MOV-2275B	Charging Pump B Recirc. Stop Valve	No
MOV-2275C	Charging Pump C Recirc. Stop Valve	No
MOV-2350	Emergency Borate Valve	No
MOV-2370	Charging Pump to Seal Water Recirc. Stop Valve	No
MOV-2836	High Head Cold Leg Safety Injection Isolation Valve	No
MOV-2869A	Charging Pump Discharge Header Safety Injection Stop Valve	No
MOV-2869B	Charging Pump Discharge Header Safety Injection Stop Valve	No
MOV-2267A	Charging Pump A Suction Valve (VCT)	No
MOV-2267B	Charging Pump A Suction Valve (LHSI)	No
MOV-2269A	Charging Pump B Suction Valve (VCT)	No
MOV-2269B	Charging Pump B Suction Valve (LHSI)	No
MOV-2270A	Charging Pump C Suction Valve (VCT)	No
MOV-2270B	Charging Pump C Suction Valve (LHSI)	No
MOV-2860A	Low Head Safety Injection Pump A Suction Valve	No
MOV-2860B	Low Head Safety Injection Pump B Suction Valve	No
MOV-2862A	Low Head Safety Injection Pump A Suction Valve	No
MOV-2862B	Low Head Safety Injection Pump B Suction Valve	No

TABLE 3.8-2 (Continued)

MOTOR-OPERATED VALVES-THERMAL OVERLOAD PROTECTION AND/OR BYPASS DEVICES

Valve Number	Function	Bypass Device
MOV-2863A	Low Head Safety Injection Pump A Discharge to Charging Pumps	No
MOV-2863B	Low Head Safety Injection Pump B Discharge to Charging Pumps	No
MOV-2864A	Low Head Safety Injection Pump A Discharge Valve	No
MOV-2864B	Low Head Safety Injection Pump B Discharge Valve	No
MOV-2885A	Low Head Safety Injection Pump A Rec. Valve	No
MOV-2885B	Low Head Safety Injection Pump B Rec. Valve	No
MOV-2885C	Low Head Safety Injection Pump A Recirc. Valve	No
MOV-2885D	Low Head Safety Injection Pump B Recirc. Valve	No
MOV-2890A	Low Head Safety Injection Pump A Discharge Line Stop Valve	No
MOV-2890B	Low Head Safety Injection Pump B Discharge Line Stop Valve	No
MOV-2890C	Low Head Safety Injection Pump Discharge Line Stop Valve	No
MOV-2890D	Low Head Safety Injection Pump Discharge Line Stop Valve	No
MOV-2867A	Boron Injection Tank Inlet Valve	No
MOV-2867B	Boron Injection Tank Inlet Valve	No
MOV-2867C	Boron Injection Tank Inlet Valve	No
MOV-2867D	Boron Injection Tank Inlet Valve	No
MOV-2865A	Accumulator Tank Discharge Valve	No
MOV-2865B	Accumulator Tank Discharge Valve	No
MOV-2865C	Accumulator Tank Discharge Valve	No

3/4.7.12 SETTLEMENT OF CLASS 1 STRUCTURES (Continued)

Allowable differential movement is controlled by pipe deflections permitted by fixation points in buildings. The items limiting differential settlement are as follows:

Reference	Monitoring Points	Limiting Item
Containment Unit 2	Fuel Building	Fuel Transfer Tube
Containment Unit 2	Auxiliary Building	3"-SI-417
Containment Unit 2	Unit 2 Safeguards Area	6"-RH-418
Containment Unit 2	Unit 2 Main Steam Valve House	6"-SI-416
Containment Unit 2	Service Building (E-15)	16"-WFPD-409
Safeguards Area Unit 2	Unit 2 Main Steam Valve House	24"-WS-426
Auxiliary Building	Unit 2 Main Steam Valve House	8"-SI-440
Auxiliary Building	Fuel Building	4"-RP-28
Auxiliary Building	Service Building Tunnel	24"-WS-102
Service Building (E-5, E-6)	Unit 1 Main Steam Valve House	24"-WS-26-151-Q3
Service Building (E-14)	Unit 2 Main Steam Valve House	24"-WS-426-151-Q3
Auxiliary Feedwater Pump House Unit 2	Pipe Tunnel	6"-WCMU-412-151-Q3
Decontamination Building	Pipe Tunnel	3"-CC-90-151-Q3
Fuel Building	Waste Gas Decay Tank Enclosure	4"-GW-30-154-Q3
Safeguards Area Unit 2	Unit 2 Casing Cooling Building	6"-RS-455-153A-Q3
Service Water Pump House	Service Water Piping at SWPH	Expansion Joint
Service Water Pump House	Pipe Hanger in Reservoir	24"-WS-11-151-Q3
Service Water Pump House	Service Water Pump House	Mat

The items limiting total settlement of structures are as follows:

Monitoring Points	Limiting Items
Service Water Piping at SWPH	36"-WS-1-151-Q3
Circulating Water Intake Structure	Service Water Piping Expansion Joint
Turbine Building (B-9 1/2)	24"-WS-425-151-Q3
Service Building (E-17)	36"-WS-1-151-Q3
Fuel Oil Pump House	2 1/2"-FOF-151-S
Boron Recovery Tank Dike	No settlement expected; settlement in excess of 0.03 feet would indicate an abnormality.
Service Water Valve House	32 1/4"-WS-D84-151-Q3
Service Water Tie-In Vault	36"-WS-1-151-Q3

ENCLOSURE 3

SAFETY EVALUATION

SERVICE WATER RESERVOIR IMPROVEMENTS
NORTH ANNA POWER STATION
UNIT NOS. 1 AND 2

VIRGINIA ELECTRIC AND POWER COMPANY

DISCUSSION

The proposed changes to the Unit 1 and 2 Technical Specifications would modify several component and structure tabulations to allow operation and surveillance of a replacement service water spray array system. The design features of the replacement system are outlined in Enclosure 1. These design changes have been reviewed in accordance with 10CFR50.59 and found not to involve an unreviewed safety question.

The need to revise the Technical Specifications arises primarily from the addition of equipment (i.e. replacement of motor-operated valves, piping, instrumentation) and structures (i.e. service water valve house, tie-in vault).

Technical Specification 3/4.3.3 addresses various types of monitoring instrumentation. Section 3/4.3.3.7 discusses Fire Detection Instrumentation. Table 3.3-11 requires revision to include fire detection instrumentation in the new service water valve house. This instrumentation consists of temperature detectors of the rate-compensated, electric-contact type similar to those used throughout the plant in areas such as the normal switchgear room, cable-tray-spreading room, primary cable vault and tunnels, etc. The minimum number of operable heat detectors required in the valve house is four: two in the west room and one in each of the east rooms. A total of seven heat detectors will be installed which includes three in the west room and two in each of the east rooms. The heat detection system for the service water valve house has been designed in accordance with applicable NFPA Standards and is consistent with the requirements outlined in UFSAR Section 9.5.1 in terms of spacing, location and type of hazard being served.

Technical Specification 3/4.7.12 addresses settlement of Class 1 structures. The new service water valve house and tie-in vault need to be included in the Settlement Monitoring program. Table 3.7-5 requires revision to include these two structures. In addition to the Limiting Condition for Operation (LCO) listed in Table 3.7-5, the Bases section of 3/4.7.12 also requires revision to include the valve house and tie-in vault monitoring points and their associated limiting items.

Four settlement markers will be added to the valve house and tie-in vault. Baseline elevations will be established for the points prior to final system tie-in. At intervals defined in the Technical Specifications, the elevations of these points will be measured by accurate survey. The baseline elevations will be periodically compared to current values; if the change exceeds prescribed limits, appropriate action is taken. The settlement monitoring points, limiting values and monitoring frequencies for the service water valve house and tie-in vault are consistent with the requirements for other Class I structures and satisfy the requirements outlined in the bases of the Technical Specifications and UFSAR Section 3.8.4.

Technical Specification 3/4.7.13 addresses the groundwater level in the service water reservoir. Table 3.7-6 requires revision to show the location of Piezometer No. 18 at the new service water valve house. This location is currently monitored as part of 3/4.7.13. The change proposed here is to change the designation of this point from "SWPH, (Units 3 and 4)" to "SWVH, (Units 1 and 2)."

Technical Specification 3/4.3.1 "A.C. Sources" addresses the A.C. electrical power sources. Table 4.8-1 provides a listing of load sequencing timers and this table requires revision to include new timers for the Service Water Reservoir discharge MOV's. This change incorporates a fifteen second time delay between the occurrence of a safety injection (SI) signal and the actuation of the replacement spray array motor-operated valves (MOVs). All bypass MOVs will receive SI signals to "close" and all spray array MOVs will receive SI signals to "open." However, in order to reduce the negative starting effects these MOVs would have on the emergency electrical distribution system, a time delay to start has been incorporated into the design. Delaying the operation of the spray array and bypass MOV's fifteen seconds would not detrimentally affect the service water system for the following reasons:

1. The additional heat dissipation requirement (above normal heat load) on the service water system during the first fifteen seconds following a SI signal is negligible with the delayed MOV starting.

2. The most significant heat load generated from the accident unit and removed by service water originates from the recirculation spray (RS) coolers. The RS system does not function until t = 195 seconds after the accident when the inside recirculation spray pumps start, provided a Containment Depressurization Signal (CDA) is present.

Technical Specifications do not specify engineered safety feature response times for the service water system, therefore, delaying the operation of the service water spray array and by-pass MOV's for 15 seconds is justifiable in accordance with the above. Delaying the operation of these valves will have a positive effect on the station's electrical distribution system during accident scenarios (i.e. GDC-17 voltage profiles).

Technical Specification 3/4.8.2 "Onsite Power Distribution System" addresses the onsite power distribution system which must be operable. Unit 2, Table 3.8-2 identifies MOVs with thermal overload protectors and/or bypass devices. This table will be revised to reflect the addition of new MOVs. The table will also show that there are no bypass devices for these MOVs. In addition, since these valves are replacing the existing spray array motor-operated valves, the entries in the table for the existing MOV-SW200 A&B are being deleted. The new valves meet or exceed the original design requirements of the existing valves and their design, including the motor thermal overload protection, is consistent with the design basis of the service water system as outlined in UFSAR Section 9.2.1.

BASIS FOR NO SIGNIFICANT HAZARDS DETERMINATION

The proposed Technical Specification 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 consequence of an accident previously evaluated. The replacement design and equipment (specifically, the fire detection instrumentation - Section 3/4.3.3.7, settlement markers and limits - Section 3/4.7.12, load sequence timers - Section 3/4.3.1 and motor operated valves with thermal overload protectors - Section 3/4.8.2) meet or exceed the original safety-related requirements of the existing service water system as noted above. The change to Technical Specification 3/4.7.13 only involves a change in nomenclature.

2. create the possibility of a new or different kind of accident from any accident previously identified. It has been determined that a new or different kind of accident will not be possible due to these changes. The design and operating bases of the replacement spray system are consistent with and meet or exceed the requirements of the existing system. No new accidents are introduced by the new design.

3. involve a significant reduction in a margin of safety. The margin of safety is not reduced since the replacement system serves the same purpose as the existing spray array system and the replacement design and equipment meet or exceed the original safety-related requirements of the existing service water system. The Limiting Condition for Operation and Surveillance Requirements of the Technical Specification sections 3/4.7.4 Service Water System and 3/4.7.5 Ultimate Heat Sink remain unchanged by these proposed modifications.

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

BASIS FOR NO UNREVIEWED SAFETY QUESTION DETERMINATION

The proposed design changes and Technical Specification changes do not involve an unreviewed safety question because these changes do not:

1. involve an increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the UFSAR. The replacement design and equipment (specifically, the fire detection instrumentation - Section 3/4.3.3.7, settlement markers and limits - Section 3/4.7.12, load sequence timers - Section 3/4.3.1 and motor operated valves with thermal overload protectors - Section 3/4.8.2) meet or exceed the original safety-related requirements of the existing service water system. The replacement system uses a new safety related flow path and spray arrays to accomplish the cooling process. The new spray system will provide increased margin between design heat rejection capability and required heat rejection capability. In addition, because the new system consists of four individually controlled spray arrays in each of the two redundant service water headers as opposed to two spray arrays per header in the current system, the consequences of a single failure of a motor operated valve are reduced (i.e., the heat rejection capability of the remaining spray arrays in the affected header would be greater than that remaining after a single valve failure in the existing configuration). The change to Technical Specification 3/4.7.13 only involves a change in nomenclature.

2. create the possibility for an accident or malfunction of a different type than any evaluated previously. It has been determined that a new or different kind of accident will not be possible due to these changes. The design and operating bases of the replacement spray system are consistent with and meet or exceed the requirements of the existing system. No new accidents are introduced by the new design.

3. involve a reduction in a margin of safety as defined in the basis for any Technical Specification. The margin of safety is not reduced since the replacement system serves the same purpose as the existing spray array system and the replacement design and equipment meet or exceed the original safety-related requirements of the existing service water system. The replacement system meets the single active and passive failure criteria as reported in the UFSAR. The Limiting Condition for Operation and Surveillance Requirements of the Technical Specification Sections 3/4.7.4 Service Water System and 3/4.7.5 Ultimate Heat Sink remain unchanged by these proposed modifications.

Therefore, based on the above consideration, it has been determined that these changes do not involve an unreviewed safety question as defined in 10CFR50.59.