VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

January 24, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. James R. Miller, Chief
Operating Reactors Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 85-062
NO/LNH:acm
Docket Nos. 50-338
License Nos. NPF-4

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT NO. 1
INSERVICE TESTING OF PUMPS AND VALVES

A meeting was held on November 29 and 30, 1984 with representatives of Vepco, NRR and EG&G Idaho, Inc. to discuss the North Anna Unit No. 1 Inservice Testing Program for Pumps and Valves.

As a result of this meeting there were four specific open items which required utility action. The first item was to determine if the atmospheric dump valves should be included in the IWV Program. These valves will be included in the IWV Program and will be tested during cold shutdown outages. A relief request is attached.

The second item was to determine a method and frequency to full-stroke exercise the casing cooling discharge check valves. After reviewing the system configuration it has been determined that the only method for verifying freedom of movement of the valves is by disassembly. This will be done during refueling outages. A relief request for these valves is attached.

Item three was to determine a method and frequency for testing the accumulator discharge check valves. Methods of testing these valves are currently under review. This item will be addressed at a later date.

The fourth item is to determine if the outside recirculation spray pumps can be tested quarterly. These pumps can be run quarterly using the recirculation path. The IWP Program will be revised to reflect this change. A relief request for these pumps is attached.

In addition to the specific open items identified, there were a number of other changes discussed during this meeting. Attached are proposed revisions to the IST Programs to reflect these discussions. Also attached are a list of valve maximum stroke times and a copy of earlier correspondence requested by Mr. Joel Page of NRR.

A047
1/1

The April 17, 1984 letter granting interim approval of the North Anna Units 1 and 2 Inservice Testing Program states that the utility should request an extension to this relief if the detailed review by NRR is not complete by December 31, 1984. In our letter dated December 31, 1984 (Serial No. 258), we requested that you extend the interim relief, as provided for in your letter, until such time that the North Anna Inservice Testing Program for Pumps and Valves is approved.

Very truly yours,

W. L. Stewart

Enclosures

cc: Mr. James P. O'Reilly
Regional Administrator
Region II

Mr. M. W. Branch
NRC Resident Inspector
North Anna Power Station

ITEM 1

RELIEF REQUEST FOR ATMOSPHERIC DUMP VALVE TESTING

IWV RELIEF REQUEST

System: Main Steam

Valve(s): PCV-MS-101A, B, C

Relief Justification:

These valves are the atmospheric dump valves on the Main Steam header. These valves cannot be tested during power operation because it could cause excessive cooldown of the Steam Generator and possibly cause an overpower condition.

Alternate Testing: Full stroke exercise when returning to power after a cold shutdown outage (but not more frequently than every three months).

ITEM 2

RELIEF REQUEST FOR CASING COOLING DISCHARGE CHECK VALVE TESTING

IWV RELIEF REQUEST

System: Recirculation Spray

Valve(s): 1-RS-123
1-RS-138

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These check valves must open and close in order to perform their safety function. Due to system design, they are not in the Casing Cooling Pump test flowpath and can only be fully exercised by disassembly. Valves 1-RS-123 and 1-RS-138 are located in the safeguards valve pit which is a limited access area. Safety lanterns, harnesses, an air sample and a fresh air supply must be obtained before entering the valve pit. The valves will be exercised only during refueling outages because the logistics of valve disassembly do not justify the small increase in safety gained by testing during cold shutdown.

Alternate Testing: Exercise for operability by disassembly each refueling.

ITEM 3

ACCUMULATOR DISCHARGE CHECK VALVE TESTING

TO BE ADDRESSED AT A LATER DATE.

ITEM 4

RELIEF REQUEST FOR RECIRCULATION SPRAY PUMP TESTING

PUMP TESTING TABLE

Pump	ASME Class	System Resistance	* Speed	Inlet Pressure	Differential Pressure	Flow Rate	Vibration	Lube Oil	Bearing Temp	Relief Request
1-CC-P-1A	3	Var.	N/A	Q	Q	Q	Q	Q	A	1
1-CC-P-1B	3	Var.	N/A	Q	Q	Q	Q	Q	A	1
1-CH-P-1A	2	Fixed	N/A	N/A	Q	N/A	Q	Q	A	1,2
1-CH-P-1B	2	Fixed	N/A	N/A	Q	N/A	Q	Q	A	1,2
1-CH-P-1C	2	Fixed	N/A	N/A	Q	N/A	Q	Q	A	1,2
1-CH-P-2A	3	Fixed	N/A	N/A	CS	CS	N/A	N/A	N/A	3
1-CH-P-2B	3	Fixed	N/A	N/A	CS	CS	N/A	N/A	N/A	3
1-EG-P-1HA	-	Fixed	N/A	N/A	N/A	N/A	Q	N/A	N/A	4
1-EG-P-1HB	-	Fixed	N/A	N/A	N/A	N/A	Q	N/A	N/A	4
1-EG-P-1JA	-	Fixed	N/A	N/A	N/A	N/A	Q	N/A	N/A	4
1-EG-P-1JB	-	Fixed	N/A	N/A	N/A	N/A	Q	N/A	N/A	4
1-FW-P-2	3	Fixed	Q	Q	Q	Q	Q	Q	A	1
1-FW-P-3A	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-FW-P-3B	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-QS-P-1A	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-QS-P-1B	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-RH-P-1A[1]	2	Var.	N/A	CS	CS	CS	CS	CS	A	1,5

PUMP TESTING TABLE

Pump	ASME Class	System Resistance	* Speed	Inlet Pressure	Differential Pressure	Flow Rate	Vibration	Lube Oil	Bearing Temp	Relief Request
1-RH-P-1B [1]	2	Var.	N/A	CS	CS	CS	CS	CS	A	1,5
1-RS-P-1A	2	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6
1-RS-P-1B	2	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6
1-RS-P-2A	2	Var.	N/A	N/A	N/A	Q	Q	N/A	N/A	1,7
1-RS-P-2B	2	Var.	N/A	N/A	N/A	Q	Q	N/A	N/A	1,7
1-RS-P-3A	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-RS-P-3B	3	Fixed	N/A	Q	Q	Q	Q	Q	A	1
1-SI-P-1A	2	Fixed	N/A	N/A	Q	Q	Q	N/A	N/A	1,8
1-SI-P-1B	2	Fixed	N/A	N/A	Q	Q	Q	N/A	N/A	1,8
1-SW-P-1A	3	Var.	N/A	N/A	N/A	Q	Q	N/A	N/A	1,9
1-SW-P-1B	3	Var.	N/A	N/A	N/A	Q	Q	N/A	N/A	1,9
1-SW-P-4	3	Var.	N/A	N/A	N/A	Q	Q	N/A	N/A	1,10

* Speed is measured for variable speed pumps. 1-FW-P-2 is the only variable speed pump in this program.

1 See IWP Relief Request #5.

IST PROGRAM REVISIONS

RELIEF REQUEST #3

PUMPS

1-CH-P-2A

1-CH-P-2B

SECTION XI REQUIREMENTS FOR WHICH RELIEF IS REQUESTED

1. Quarterly pump testing.
2. Measure inlet pressure.
3. Measure vibrations, lube oil level or pressure and bearing temperature.

BASIS FOR RELIEF REQUEST

1. These pumps are used during normal operation to recirculate the boric acid storage tanks and to makeup to the Chemical and Volume Control System. Flow indication is available when the pumps are used for makeup, however this flow is limited to 10 gpm. The only other indication available is discharge pressure. Inlet pressure can be calculated. Full flow indication is available when the pumps are flowing to the emergency boration path. This can only be done during cold shutdowns because the introduction of concentrated boric acid to the Reactor Coolant System would cause system transients.
2. Inlet pressure instrumentation is not installed.
3. These pumps are totally encased in insulation which makes vibration, lube oil level or pressure and bearing temperatures impossible to measure or observe.

ALTERNATE TESTING

1. Test while going to cold shutdown by flowing through the emergency boration path. This will allow for flow measurement in addition to calculating differential pressure.
2. Inlet pressure will be calculated from Boric Acid storage tank level.
3. NONE.

RELIEF REQUEST #4

PUMPS

1-FG-P-1HA

1-EG-P-1HB

1-EG-P-1JA

1-EG-P-1JB

SECTION XI REQUIREMENTS FOR WHICH RELIEF IS REQUESTED

1. Measure inlet pressure and differential pressure.
2. Measure flow rate.
3. Measure lube oil level or pressure and bearing temperatures.

BASIS FOR RELIEF REQUEST

1. Inlet pressure instrumentation is not installed.
2. Flow instrumentation is not installed.
3. These pumps cannot be run long enough to take accurate data without overflowing the Emergency Diesel Generator Fuel Oil Day Tanks.

ALTERNATE TESTING

1. These pumps take suction from the Fuel Oil Storage Tank. The level of this tank will be observed to establish initial conditions for testing. Discharge pressure will be observed.
2. Operability of these pumps will be verified by their ability to fill the Emergency Diesel Generator Fuel Oil Day Tanks with an Emergency Diesel Generator running.
3. NONE

RELIEF REQUEST #5

PUMPS

1-RH-P-1A

1-RH-P-1B

SECTION XI REQUIREMENTS FOR WHICH RELIEF IS REQUESTED

Quarterly pump testing.

BASIS FOR RELIEF REQUEST

These pumps take suction from the Reactor Coolant System. Because the Residual Heat Removal System is required to be isolated from the Reactor Coolant System during power operation, these pumps cannot be exercised during power operation.

ALTERNATE TESTING

These pumps will be tested each cold shutdown.

RELIEF REQUEST #6

PUMPS

1-RS-P-1A

1-RS-P-1B

SECTION XI REQUIREMENTS FOR WHICH RELIEF IS REQUESTED

1. Measure inlet pressure, differential pressure, flow rate and vibrations.
2. Measure lube oil level or pressure and bearing temperatures.

BASIS FOR RELIEF REQUEST

1. Full flow testing of these pumps would spray water inside the containment building. These pumps were designed to be periodically run dry for a short period of time to verify operability.
2. Proper lube oil level or pressure cannot be observed because pump bearings are in the main flow path. IWP-4310 provides exemption from measuring bearing temperatures for bearings in the main flow path.

ALTERNATE TESTING

1. These pumps will be run dry to verify operability. Each pump is equipped with a sensor to detect pump rotation which alarms in the control room. This alarm will be observed during each pump test. Motor current will be recorded for each pump test. Each pump is equipped with a vibration detector and a high vibration alarm in the control room set at 0.004 inches. This alarm will be observed during each pump test.
2. NONE

RELIEF REQUEST #7

PUMPS

1-RS-P-2A

1-RS-P-2B

SECTION XI REQUIREMENTS FOR WHICH RELIEF IS REQUESTED

1. Measure inlet pressure, differential pressure.
2. Measure lube oil level or pressure and bearing temperatures.

BASIS FOR RELIEF REQUEST

1. No inlet pressure instrumentation is installed.
2. Proper lube oil level or pressure cannot be observed because pump bearings are in the main flow path. IWP-4310 provides exemption from measuring bearing temperatures for bearings in the main flow path.

ALTERNATE TESTING

1. Because these pumps are run on recirculation, inlet pressure can be considered constant. Discharge pressure is therefore directly related to pump performance. Discharge pressure will be measured in place of differential pressure.
2. NONE.

IWV RELIEF REQUEST

System(s): All

Relief Requested: Exemption from 3 month Full/Partial Stroke Exercising Category E Valves

Relief Justification:

All Category E valves are maintained locked or sealed in the required safety position in accordance with Station Administrative Procedures. Because they are administratively controlled in the required position exercising to a non-safety position is not necessary.

Alternate Testing: NONE

IWV RELIEF REQUEST

System: Component Cooling

Valve(s): TV-CC-101A, B
TV-CC-102A, B, C, D, E, F
TV-CC-104A, B, C

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

Failure of these valves in the closed position would result in a loss of Component Cooling flow to Reactor Coolant Pump thermal barriers, lube oil stator and/or shroud coolers. The increased level of safety gained from exercising these valves during power operation does not justify the operational consequences should they fail in the closed position.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months).

NOTE: These valves will not be exercised during cold shutdown where any Reactor Coolant Pump is left in operation.

IWV RELIEF REQUEST

System: Component Cooling

Valve(s): 1-CC-84, 1-CC-119, 1-CC-154, 1-CC-193, 1-CC-198, 1-CC-546, 1-CC-559, 1-CC-572

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These check valves must seat upon reversal of flow in order to fulfill their safety functions. The only method to verify this actuation is to perform a leak rate/back pressure test. Since the valves are located inside containment and/or their systems are required during power operation, they cannot be tested every three months. 1-CC-193 and 1-CC-198 are in the Component Cooling lines to the Residual Heat Removal heat exchangers. These valves will be full stroked open each cold shutdown; however, closure cannot be verified since the Residual Heat Removal system is needed during cold shutdown to control the Reactor Coolant System temperature. 1-CC-546, 559, and 572 are check valves in the Component Cooling lines to the cooling coils inside containment. These lines can not be drained during short cold shutdowns because the cooling coils are needed to control containment temperature. They will be exercised only during refueling outages.

Alternate Testing: All check valves listed will be exercised to the closed position each refueling outage. Check valves 1-CC-193 and 1-CC-198 will be full stroked open each cold shutdown. All other valves listed (Component Cooling to Recirculation Air Cooling Coils) do not perform safety related opening functions.

IWV RELIEF REQUEST

System: Component Cooling

Valve(s): 1-CC-024
1-CC-047

Relief Requested: Exemption from 3 month Full Stroke Requirements

Relief Justification:

Exercising these check valves to the full open position every three months would require major Component Cooling water throttling changes. These transients are especially difficult during winter months when there are few heat rejection requirements. The logistics of rebalancing the Component Cooling System does not justify the small increase in safety gained by performing full rather than partial stroke tests every 3 months or cold shutdown.

Alternate Testing: All check valves listed will be partially stroked open every three months and fully stroked open each refueling outage. These check valves will be verified closed each 3 months.

IWV RELIEF REQUEST

System: Containment Vacuum

Valve(s): TV-CV-100

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

This containment isolation valve must remain closed during Modes 1, 2, 3 and 4 per Technical Specifications (T.S. 3.6.5.1). Exercising during power operation would require entering the action statement of Technical Specifications. Exercising will be performed during shutdowns when containment vacuum is broken and use of the containment air ejector is required.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months)

NOTE: This valve will not be exercised during Cold Shutdowns where containment vacuum is maintained.

IWV RELIEF REQUEST

System: Chemical & Volume Control System

Valve(s): HCV-1200 A,B,C
TV-1204

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

Varying letdown flow through the Regenerative Heat Exchanger will cause variations in charging flow temperatures. This is not desirable since changing charging temperatures could result in thermal shock to the system. Exercising will be performed during cold shutdowns when thermal shock is not a consideration.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months)

IWV RELIEF REQUEST

System: Chemical & Volume Control System

Valve(s): MOV-1289A, B

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

Exercising these valves during power operation would isolate the normal charging flow path from the charging pumps to the Reactor Coolant System. The operational consequences of providing an alternate charging flow path during power operation do not justify the small increase in safety gained by exercising these valves every three months.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months).

NOTE: These valves will not be exercised during Cold Shutdowns where charging is maintained.

IWV RELIEF REQUEST

System: Chemical & Volume Control System

Valve(s): MOV-1380
MOV-1381

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

Charging flow to the Reactor Coolant Pump seals is required at all times the pumps are in operation. Failure of one of these valves in the closed position could result in damage to a Reactor Coolant Pump seal, thus placing the plant in an unsafe condition. Reactor Coolant Pumps will be secured during shutdown testing.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months).

NOTE: These valves will not be exercised during cold shutdowns where Reactor Coolant Pump seal injection is maintained.

IWV RELIEF REQUEST

System: Chemical and Volume Control System

Valve(s): 1-CH-254 1-CH-279
1-CH-267

Relief Requested: Exemption from 3 month Full Stroke Exercising

Relief Justification:

These valves are partial-stroke exercised quarterly when the charging pump tests are performed. They cannot be full-stroke exercised during power operation because this would require full Safety Injection flow. The full Safety Injection flow test cannot be performed during cold shutdown because there is insufficient volume in the Reactor Coolant System. These valves will be full-stroke exercised during refueling outage then the Reactor Coolant System can accommodate Safety Injection flow.

Alternate Testing: Partial-stroke exercise quarterly. Full-stroke exercise each refueling outage.

IWV RELIEF REQUEST

System: Chemical And Volume Control System

Valve(s): HCV-1311
1-CH-328

Relief Requested: Exemption from 3 month Full Stroke Exercising

Relief Justification:

These valves are in the Auxiliary Spray Line to the pressurizer from the Charging System. These valves cannot be exercised during power operation because of the thermal shock to the auxiliary spray nozzle. They cannot be tested during cold shutdown because a bubble is usually maintained in the pressurizer during cold shutdowns. These valves will be full stroke exercised during refueling outages.

Alternate Testing: Full stroke exercise during refueling outages.

IWV RELIEF REQUEST

System: Chemical and Volume Control System

Valve(s): 1-CH-084
1-CH-102

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These check valves are located at the Boric Acid Transfer Pump discharge. There is no flow indication on the pump recirculation flow path; therefore, full flow through the check valve cannot be verified. Flow instrumentation is available in the emergency boration path, but this cannot be used during power operation due to boron introduction to the Reactor Coolant System. These check valves will be exercised to the full open position each cold shutdown in conjunction with Boric Acid Transfer Pump testing.

Alternate Testing: Exercised to the open position each cold shutdown (not to exceed 9 months).

IWV RELIEF REQUEST

System: Emergency Diesel Generator (Air Start System)

Valves:

SOV-EG-600HA	SOV-EG-600JA
SOV-EG-600HB	SOV-EG-600JB
SOV-EG-601H	SOV-EG-601J

Relief Requested: Exemption from stroke timing.

Relief Justification:

The Emergency Diesel Generator Air Start System solenoid valves cannot be stroke timed due to instrumentation limitations. As an alternate, the following will verify acceptable operation:

1. Diesel will accelerate to at least 900 rpm in under 10 seconds.

2. An established pressure drop in each air receiver for diesel start.

NOTE: Since diesel testing is performed more frequently than required valve testing, this verification may not be performed each diesel start.

Alternate Testing: Exercise for operability at least once every 3 months as stated above.

IWV RELIEF REQUEST

System: Feedwater

Valve(s): 1-FW-068
1-FW-093
1-FW-100
1-FW-127
1-FW-132
1-FW-279
1-FW-148
1-FW-165
1-FW-183

Relief Requested: Exemption frcm 3 month Full Stroke Requirements

Relief Justification:

These check valves are in the Auxiliary Feedwater flowpath. During power operation, it is desirable to limit auxiliary feedwater flow to the Steam Generators due to main feedwater flowrate and temperature concerns.

Alternate Testing: Each check valve listed will be partially opened at least once every 3 months during Aux Feed Pump testing and fully opened following each cold shutdown in accordance with Technical Specification 4.7.1.2.c. Valves 1-FW-068, 1-FW-100 and 1-FW-132 will be verified closed based on pipe surface temperature at least once every three months. Valves 1-FW-093, 1-FW-127, 1-FW-279, 1-FW-148, 1-FW-165, and 1-FW-183 do not perform safety related closure functions.

IWV RELIEF REQUEST

System: Main Steam

Valve(s): 1-MS-286

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

This valve is normally in the open position and automatically closes on turbine overspeed. Exercising during power operation would disable the Turbine Driven Auxiliary Feedwater pump which would require entering the action statement of Technical Specifications (T.S. 3.7.1.2) which is not desirable.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months)

IWV RELIEF REQUEST

System: Main Steam

Valve(s): 1-MS-19 1-MS-96
1-MS-58

Relief Requested: Exemption from 3 month Full Stroke Exercising

Relief Justification:

These valves are located on the top floor of the Main Steam Valve House. The valves are exercised using a manual handwheel. Because of the valve location there is a personnel hazard involved in manually exercising these valves during power operation.

Alternate Testing: Full-stroke exercise each cold shutdown.

IWV RELIEF REQUEST

System: Quench Spray

Valve(s): 1-QS-11
1-QS-19

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These check valves must seat upon reversal of flow and open to perform their safety function. These weight loaded check valves are located inside containment and are therefore not accessible for exercising during power operation. These valves will be exercised to the open and closed position manually during cold shutdown but not more frequently than once per nine months.

Alternate Testing: These valves will be manually exercised during cold shutdown (but not more frequently than once per nine months)*.

*Weight loaded check valve setpoint check will be performed every 18 months in accordance with Technical Specifications (T.S. 4.6.3.2.2c).

NOTE: These valves will not be exercised during cold shutdowns where containment vacuum is maintained. This is necessary to minimize personnel hazards association with subatmospheric containment entries.

IWV RELIEF REQUEST

System: Reactor Coolant

Valve(s): PORV-1455C
PORV-1456

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

Exercising these valves during power operation would cause high differential pressure across the PORV Block Valves. Although these valves are designed to accommodate this differential pressure, cycling would eventually degrade the block valves seating capability thus decreasing plant safety. These valves will be exercised during shutdowns when the Reactor Coolant System is depressurized.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months).

NOTE: These valves will not be exercised during cold shutdowns where a pressurizer bubble is maintained.

IWV RELIEF REQUEST

System: Recirculation Spray

Valve(s): 1-RS-18
1-RS-27

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These check valves must seat upon reversal of flow and open to perform their safety function. These weight loaded check valves are located inside containment and are therefore not accessible for exercising during power operation. These valves will be exercised manually to the open and closed position during cold shutdown but not more frequently than once per 9 months.

Alternate Testing: These valves will be manually exercised during cold shutdown (but not more frequently than once per nine months)*.

*Weight loaded check valve setpoint check will be performed every 18 months in accordance with Technical Specifications (T.S. 4. .3.1.2d).

NOTE: These valves will not be exercised during cold shutdowns where containment vacuum is maintained. This is necessary to minimize personnel hazards associated with subatmospheric containment entries.

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): HCV-1936

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

This valve is normally closed during power operation in fulfillment of its containment isolation function and is rarely opened. This valve has no remote position indication which makes it difficult to verify that the valve returns to the closed position. This valve will be exercised during cold shutdown except when containment vacuum is maintained during the cold shutdown outage.

Alternate Testing: Exercise for operability during Cold Shutdown (but not more frequently than once per three months)

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): 1-SI-9
1-SI-26

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

1-SI-9 and 1-SI-26 are the Low Head Safety Injection Pump discharge check valves. Due to system design, these discharge check valves are not in the Low Head Safety Injection Pump test flowpaths. They cannot be tested during power operation because the LHSI pumps cannot overcome Reactor Coolant System pressure. These valves cannot be exercised during cold shutdown because this could create an overpressure condition in the Reactor Coolant System. These valves will be full stroke exercised during refueling outages when the Low Head Safety Injection Pumps are used to fill the reactor cavity.

Alternate Testing: Full stroke exercise during refueling outages.

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): 1-SI-47

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

This is the Refueling Water Storage Tank supply check valve to the charging header. Exercising this valve during power operation would require charging pump suction be aligned with the Refueling Water Storage Tank. This alignment would cause a sudden increase in Reactor Coolant System boron inventory. A full Safety Injection flow path is not available except during refueling outages when the vessel head is removed. This valve can be partial stroke exercised during cold shutdown by running one charging pump taking suction from the Refueling Water Storage Tank.

Alternate Testing: Partial stroke exercise for operability during Cold Shutdown (but not more frequently than once per three months). Full stroke exercise each refueling.

IWV RELIEF REQUEST

System: System Injection

Valves(s):

1-SI-83	1-SI-195
1-SI-86	1-SI-197
1-SI-89	1-SI-199

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These Safety Injection check valves must open and close to fulfill their safety function. They cannot be exercised to the open position during power operation because this would cause Safety Injection flow into the Reactor Coolant System which would disrupt normal plant operation. These valves cannot be exercised to the closed position during power operation because they are inside containment. These valves cannot be exercised open during cold shutdown because this could create an over-pressure condition in the Reactor Coolant System. Full Safety Injection tests are performed at refueling outages when there is sufficient volume in the Reactor Coolant System to accomodate Safety Injection flow rates.

Alternate Testing: Full stroke exercise open during refueling outages. Closed testing performed in accordance with T.S. 4.4.6.2.2 which identifies these valves as high/low pressure boundary valves to be leak tested during cold shutdown (but not more frequently than once per 9 months).

IWV RELIEF REQUEST

System: Safety Injection

Valves (s):			
	1-SI-79	1-SI-185	1-SI-211
	1-SI-90	1-SI-201	1-SI-213
	1-SI-95	1-SI-206	
	1-SI-99	1-SI-207	
	1-SI-103	1-SI-209	

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These are Safety Injection hot and cold leg injection check valves. They cannot be exercised during power operation because this would cause Safety Injection flow into the Reactor Coolant System which would disrupt normal plant operation. These valves cannot be tested during cold shutdown because of insufficient volume in the Reactor Coolant System and therefore will be exercised to the open position during refueling outages when there is sufficient volume in the Reactor Coolant System to accommodate Safety Injection flow rates.

Alternate Testing: Exercise during refueling outages.

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): 1-SI-190
1-SI-192
1-SI-194

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These Safety Injection check valves must be open to fulfill their safety function. They can not be exercised to the open position during power operation because this would cause Safety Injection flow to the Reactor Coolant System which would disrupt normal plant operation. These valves will be exercised during refueling outages when there is sufficient volume in the Reactor Coolant System to accommodate Safety Injection flow rates.

Alternate Testing: Exercise to the open position during refueling outages.

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): 1-SI-018

Relief Requested: Exemption from 3 month Full Stroke Requirements

Relief Justification:

The Refueling Water Storage Tank supply to the "B" Low Head Safety Injection pump is only fully opened on Safety Injection flow. The quarterly pump test is performed on recirculation flow rather than full Safety Injection flow since the Low Head Pumps cannot overcome Reactor Coolant System pressure during power operation. Full Safety Injection tests are performed at refueling outages when there is sufficient volume in the Reactor Coolant System to accommodate Safety Injection flow rates.

Alternate Testing: Check valve 1-SI-018 will be partially stroked open each 3 months and fully stroked open each refueling outage.

IWV RELIEF REQUEST

System: Safety Injection

Valve(s): MOV-1867C, D

Relief Requested: Exemption from 3 month Full/Partial Stroke Requirements

Relief Justification:

These are the Boron Injection Tank outlet valves to the Reactor Coolant System cold leg. Exercising these valves introduces concentrated boric acid into the injection line which is not heat traced down stream of the first check valve in containment. This requires the injection line to be flushed to remove the boric acid. This cannot be done during power operation because it would require boron injection to the Reactor Coolant System.

Alternate Testing: Exercise during cold shutdown (but not more often than every 3 months).

IWV RELIEF REQUEST

System: Service Water

Valve(s): 1-SW-003
1-SW-010
1-SW-022
1-SW-309
1-SW-311

Relief Requested: Exemption from 3 month Full Stroke Requirements

Relief Justification:

Exercising these check valves to the full open position every three months would require major Service Water and Component Cooling Water throttling changes. These transients are especially difficult during winter months when there are few heat rejection requirements. The logistics of rebalancing these systems do not justify the small increase in safety gained by performing full rather than partial stroke tests every 3 months or cold shutdown.

Alternate Testing: All check valves listed will be partially stroked open every three months and fully stroked open each refueling outage. check valves 1-SW-003, 1-SW-010, and 1-SW-022 will be verified closed each 3 months. Valves 1-SW-309 and 1-SW-311 do not perform safety related closure functions.

VALVE MAXIMUM STROKE TIMES

VALVE MARK NUMBER	MAXIMUM STROKE TIME
FCV-AS-100 A, B FCV-AS-200 A, B	60 seconds
TV-BD-100 A-F TV-BD-200 A-F	60 seconds
MOV-CC-100 A, B MOV-CC-200 A, B	40 seconds
TV-CC-100 A-C TV-CC-200 A-C	60 seconds
TV-CC-101 A, B TV-CC-202 A, B	60 seconds
TV-CC-102 A-F TV-CC-202 A-F	60 seconds
TV-CC-103 A, B TV-CC-203 A, B	60 seconds
TV-CC-104 A, B, C TV-CC-204 A, B, C	60 seconds
TV-CC-105 A, B, C TV-CC-205 A, B, C	60 seconds
HCV-1200 A, B, C HCV-1200 A, B, C	10 seconds
MOV-1115 B, C, D, E MOV-2115 B, C, D, E	10 seconds
MOV-1267 A, B MOV-2267 A, B MOV-1269 A, B MOV-2269 A, B MOV-1270 A, B MOV-2270 A, B	12 seconds
MOV-1275 A, B, C MOV-2275 A, B, C	12 seconds
MOV-1286 A, B, C MOV-2286 A, B, C MOV-1287 A, B, C MOV-2287 A, B, C	12 seconds
MOV-1289 A, B MOV-2289 A, B	10 seconds
MOV-1350 MOV-2350	20 seconds

VALVE MARK NUMBER	MAXIMUM STROKE TIME
MOV-1373 MOV-2373	12 seconds
MOV-1380 MOV-2380 MOV-1381 MOV-2381	10 seconds
TV-1204 TV-2204	10 seconds
TV-CV-100 TV-CV-200	60 seconds
TV-CV-150 A, B, C, D TV-CV-250 A, B, C, D	60 seconds
TV-DA-100 A, B TV-DA-200 A. B	60 seconds
TV-DA-103 A, B TV-DA-203 A, B	60 seconds
TV-DG-100 A, B TV-DG-200 A, B	60 seconds
FCV-FW-1478, 88, 98 FCV-FW-2478, 88, 98	5 seconds
FCV-FW-1479, 89, 99 FCV-FW-2479, 89, 99	5 seconds
MOV-FW-100 B, D MOV-FW-200 B, D	60 seconds
MOV-FW-154 A, B, C MOV-FW-254 A, B, C	5 seconds
TV-HC-100A-109 A TV-HC-100B-109B TV-HC-200A-209A TV-HC-200B-209B	5 seconds
MOV-HV-100 A, B, C, D MOV-HV-200 A, B, C, D MOV-HV-101, 102 MOV-HV-201, 202	40 seconds
TV-IA-201 A, B	60 seconds
TV-IA-102 A, B TV-IA-202 A, B	60 seconds

VALVE MARK NUMBER	MAXIMUM STROKE TIME		
TV-LM-100 A-H TV-LM-200 A-H TV-LM-101 A-D TV-LM-201 A-D	60 seconds		
NRV-MS-101 A-C NRV-MS-201 A-C	140 seconds		
TV-MS-101 A, B, C TV-MS-201 A, B, C	5 seconds		
TV-MS-109 TV-MS-209	60 seconds		
TV-MS-110 TV-MS-210	60 seconds		
TV-MS-111 A, B TV-MS-211 A, B	60 seconds		
MOV-QS-100 A, B MOV-QS-200 A, B	40 seconds		
MOV-QS-101 A, B MOV-QS-201 A, B	40 seconds		
MOV-QS-102 A, B MOV-QS-202 A, B	40 seconds		
MOV-1535, 1536 MOV-2535, 2536	20 seconds		
PORV-1455C, 1456 PORV-2455C, 2456	Air SOV 1, 2, 3 N_2 SOV 1, 2, 3 N_2 SOV 3	Open 10 sec. Open 10 sec. Open 2.14 sec.	Close 2 sec. Close 2 sec. Close 2 sec.
SOV-RC-101 A-1, A-2, B-1, B-2 SOV-RC-201 A-1, A-2, B-1, B-2 SOV-RC-102 A-1, A-2, B-1, B-2 SOV-RC-202 A-1, A-2, B-1, B-2	10 seconds		
TV-1519 A TV-2519 A	10 seconds		
MOV-1700, 1701 MOV-2700, 2701	120 seconds		
MOV-1720 A, B MOV-2720 A, B	20 seconds		
TV-RM-100 A, B, C, D TV-RM-200 A, B, C, D	60 seconds		
MOV-RS-100 A, B MOV-RS-200 A, B	120 seconds		

VALVE MARK NUMBER	MAXIMUM STROKE TIME
MOV-RS-101 A, B MOV-RS-201 A, B	120 seconds
MOV-RS-155 A, B MOV-RS-255 A, B MOV-RS-156 A, B MOV-RS-256 A, B	180 seconds
HCV-1936 HCV-2936	10 seconds
MOV-1836 MOV-2836	12 seconds
MOV-1860 A, B MOV-2860 A, B	120 seconds
MOV-1862 A, B MOV-2862 A, B	120 seconds
MOV-1863 A, B MOV-2863 A, B	40 seconds
MOV-1864 A, B MOV-2864 A, B	120 seconds
MOV-1865 A, B, C MOV-2865 A, B, C	20 seconds
MOV-1867 A, B, C, D MOV-2867 A, B, C, D	10 seconds
MOV-1869 A, B MOV-2869 A, B	20 seconds
MOV-1885 A, B, C, D MOV-2885 A, B, C, D	12 seconds
MOV-1890 A, B MOV-2890 A, B	20 seconds
MOV-1890 C, D MOV-2890 C, D	20 seconds
TV-SI-100 TV-SI-200	60 seconds
TV-SI-101 TV-SI-201	60 seconds
TV-1842, 2842 TV-1859, 2859	60 seconds
TV-1884 A, B, C TV-2884 A, B, C	10 seconds

VALVE MARK NUMBER	MAXIMUM STROKE TIME
TV-SS-100 A, B, 200 A, B TV-SS-101 A, B, 201 A, B TV-SS-102 A, B, 202 A, B TV-SS-103 A, B, 203 A, B TV-SS-104 A, B, 204 A, B TV-SS-106 A, B, 206 A, B TV-SS-107 A, B, 207 A, B TV-SS-108 A, B, 208 A, B TV-SS-109 A-C 209 A-C TV-SS-111 A-C 211 A-C TV-SS-112 A, B, 212 A, B	60 seconds
TV-SV-102.2 TV-SV-202.2 TV-SV-102.1, 202.1 TV-SV-103, 203	60 seconds
MOV-SW-100 A, B MOV-SW-200 A, B	40 seconds
MOV-SW-101 A-D MOV-SW-201 A-D MOV-SW-105 A-D MOV-SW-205 A-D	40 seconds
MOV-SW-102 A, B MOV-SW-202 A, B MOV-SW-106 A, B MOV-SW-206 A, B	40 seconds
MOV-SW-103 A-D MOV-SW-203 A-D MOV-SW-104 A-D MOV-SW-204 A-D	40 seconds
MOV-SW-108 A, B MOV-SW-208 A, B	40 seconds
MOV-SW-113 A, B MOV-SW-213 A, B	40 seconds
MOV-SW-115 A, B MOV-SW-215 A, B MOV-SW-117 MOV-SW-217	40 seconds
TV-VG-100 A, B TV-VG-200 A, B	60 seconds

PREVIOUS CORRESPONDENCE REQUESTED BY NRC REVIEWERS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SERIAL # 257

DISTRIBUTION LIST - NRC
CORRESPONDENCE

J. M. DAVIS nc
W. R. BENTHALL Response
R. F. DRISCOLL rec'd.
A. L. HOGG, JR.
J. O. EASTWOOD
TECH LIBRARY (ORIGINAL)
OTHERS E. Threatt w/c

APR 17 1984

Docket Nos. 50-338
and 50-339

4/30/84
previously rec'd via
telecopy 4/16/84

Mr. W. L. Stewart
Vice President - Nuclear Operations
Virginia Electric and Power Company
Post Office Box 26666
Richmond, Virginia 23261

Dear Mr. Stewart:

Re: North Anna Units 1 and 2

By letters dated October 5, 1983 (Serial No. 487B) and February 2 and 28, 1984 (Serial Nos. 487D and 487E), you submitted a proposed pump and valve inservice testing (IST) program description including requests for relief from selected ASME Code requirements pursuant to 10 CFR 50.55a(g). In addition, by letter dated February 28, 1984 (Serial No. 487F) you requested interim approval of the relief requests as they relate to the inservice inspection and testing for pumps and valves for North Anna Unit Nos 1 and 2. Although we have not completed our detailed review of your submittals, our preliminary review makes it clear to us that your proposed program to implement those ASME Code requirements that you have found to be practical would increase the scope of inservice testing for your facility beyond that currently required by your Technical Specifications. We have concluded that this upgrading of your inservice testing program will further enhance safety.

Based on our preliminary review, we agree with your determination that it is impractical within the limitations of design, geometry and materials of construction of components, for you to meet certain of the specified ASME Code requirements and that imposition of those requirements would result in hardships or unusual difficulties without a compensating increase in the level or quality of safety. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), we hereby grant relief, on an interim basis until December 31, 1984, pending completion of our detailed review, from those inservice testing requirements of the ASME Code that you have requested. However, you should request an extension to this interim relief if, by December 31, 1984, we have not completed our detailed review of your submittals. Moreover, since the scope of the inservice testing will be increased by your proposed program, and the granting of this relief is based only on the impracticality of selected ASME Code requirements, we have determined that the relief granted neither increases the probability or consequences of accidents previously considered nor decreases safety margins and that, therefore, it does not involve a significant hazards consideration. Therefore, you are authorized to, and should proceed to, implement your proposed program (except where your current Technical Specifications are more restrictive).

8405090366

During the period between now and the date we complete our detailed review of your submittal, you must comply with both your existing Technical Specifications and your proposed inservice testing program. In the event conflicting requirements arise for some components, you must comply with the more restrictive requirements (e. g., shorter inspection intervals, increased number of parameters measured). In other words, the granting of this relief from ASME Code requirements should not be interpreted to give you relief from any of the requirements in your existing Technical Specifications.

When our detailed review of your October 5, 1983 and February 2 and 28, 1984 submittals is complete, we will: (1) issue final approval of your program (which may contain modifications resulting from the staff's review), (2) grant relief from any ASME Code requirements that are determined to be impractical for your facility for the duration of the inspection interval, and (3) issue appropriate changes to your Technical Specifications.

Sincerely,

James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

cc: See next page