

September 6,

Docket Nos. 50-338
and 50-339

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

Dear Mr. O'Hanlon:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: HIGH HEAD
SAFETY INJECTION FLOW BALANCE TESTS (TAC NOS. M89206 AND M89207)

The Commission has issued the enclosed Amendment Nos. 188 and 169 to Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The amendments revise the Technical Specifications (TS) in response to your letter dated March 30, 1994.

The amendments revise the NA-1&2 TS High Head Safety Injection (HHSI) surveillance requirements by removing explicit numerical values and replacing them with broader non-numerical requirements.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

(Original Signed By)
Leon B. Engle, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 188 to NPF-4
2. Amendment No. 169 to NPF-7
3. Safety Evaluation

cc w/enclosures:
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DAI

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Virginia Electric & Power Company

North Anna Power Station
Units 1 and 2

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DATED: September 6, 1994

AMENDMENT NO. 188 TO FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 169 TO FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Docket File
NRC & Local PDRs
PDII-2 Reading
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ACRS (10)
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OC/LFDCB
D. Verelli, R-II



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188
License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated March 30, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 188, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Victor M. McCree, Acting Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 6, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 188

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

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EMERGENCY CORE COOLING SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that each of the following pumps start automatically upon receipt of a safety injection test signal:
 - a) Centrifugal charging pump, and
 - b) Low head safety injection pump.
- f. By verifying that each of the following pumps develop the indicated discharge pressure (after subtracting suction pressure) on recirculation flow when tested pursuant to Specification 4.0.5.
 1. Centrifugal charging pump ≥ 2410 psig.
 2. Low head safety injection pump ≥ 156 psig.
- g. By verifying that the following manual valves requiring adjustment to prevent pump "runout" and subsequent component damage are locked and tagged in the proper position for injection:
 1. Within 4 hours following completion of any repositioning or maintenance on the valve when ECCS systems are required to be OPERABLE.
 2. At least once per 18 months.
 1. 1-SI-188 Loop A Cold Leg
 2. 1-SI-191 Loop B Cold Leg
 3. 1-SI-193 Loop C Cold Leg
 4. 1-SI-203 Loop A Hot Leg
 5. 1-SI-204 Loop B Hot Leg
 6. 1-SI-205 Loop C Hot Leg
- h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:
 1. For high head safety injection lines, with a single pump running:
 - a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to the minimum flow rate required to demonstrate compliance with 10 CFR 50.46, and
 - b) The total pump flow rate is less than or equal to the evaluated pump runout limit.

3/4.5 EMERGENCY CORE COOLING SYSTEMS

BASES

3/4.5.1 ACCUMULATORS

The OPERABILITY of each RCS accumulator ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the accumulators. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on accumulator volume, boron concentration and pressure ensure that the assumptions used for accumulator injection in the safety analysis are met.

The accumulator power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these accumulator isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with an accumulator inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional accumulator which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one accumulator is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the accumulators is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

REACTIVITY CONTROL SYSTEMS

BASES

ECCS SUBSYSTEMS (Continued)

With the RCS temperature below 350°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The limitation for a maximum of one centrifugal charging pump and one low head safety injection pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps and low head safety injection pumps except the required OPERABLE pump to be inoperable below 316°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained.

In the event of modifications to an ECCS subsystem that could alter the subsystem flow characteristics, a flow balance test shall be performed. The flow balance test criteria are established based on the system performance assumed in the safety analysis (minimum flow limit) and on HHSI pump runout protection (maximum flow limit). In performing the flow balance, the effects of flow measurement instrument uncertainties accounting for system configuration and the variability between installed pumps must be properly considered.

Numerical acceptance criteria for the flow balance test are specified in the surveillance test procedure. These criteria are established based on the following considerations:

- 1) The total injected flow to the core (assuming spillage of the branch line with the highest flow) must meet or exceed that assumed in the safety analysis. The limiting safety analysis is the loss of coolant accident (LOCA) analysis. This criterion may vary, particularly since the inputs to the safety analysis controlled by LCO 6.9.1.7 may vary with reload cycle. The safety analysis flow requirements are thus established by the currently applicable LOCA analysis which has demonstrated compliance with the ECCS acceptance limits of 10 CFR 50.46.
- 2) The total pumped flow must be less than the HHSI pump runout limit. This flow varies with the specific HHSI pump assumed to operate during the accident. Since the HHSI pumps also function as normal charging pumps, their characteristics, including runout limits, will vary over service life.
- 3) The requirements for reactor coolant pump seal injection must be met during normal operation, and the effects of seal injection during accidents must be considered in meeting constraints 1) and 2) above.

EMERGENCY CORE COOLING SYSTEMS

BASES

3/4.5.4 BORON INJECTION SYSTEM

The OPERABILITY of the boron injection system as part of the ECCS ensures that sufficient negative reactivity is injected into the core to counteract any positive increase in reactivity caused by RCS system cooldown. RCS cooldown can be caused by inadvertent depressurization, a loss-of-coolant accident or a steam line rupture.

The limits on injection tank minimum contained volume and boron concentration ensure that the assumptions used in the steam line break analysis are met.

The OPERABILITY of the redundant heat tracing channels associated with the boron injection system ensure that the solubility of the boron solution will be maintained above the solubility limit of 111°F at 15,750 ppm boron.

3/4.5.5 REFUELING WATER STORAGE TANK

The OPERABILITY of the RWST as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 8.5 and 11.0 for quench spray and between 7.7 and 9.0 for the solution recirculated within the containment after a LOCA. This pH minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

An RWST wide range level instrument loop uncertainty was included in the safety analysis and therefore need not be considered by the operator.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 169
License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated March 30, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

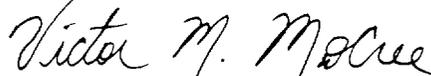
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 169 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Victor M. McCree, Acting Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 6, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 169

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

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EMERGENCY CORE COOLING SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- f. By verifying that each of the following pumps develop the indicated discharge pressure (after subtracting suction pressure) on recirculation flow when tested pursuant to Specification 4.0.5.
 - 1. Centrifugal charging pump greater than or equal to 2410 psig.
 - 2. Low head safety injection pump greater than or equal to 156 psig.
- g. By verifying that the following manual valves requiring adjustment to prevent pump "runout" and subsequent component damage are locked and tagged in the proper position for injection:
 - 1. Within 4 hours following completion of any repositioning or maintenance on the valve when the ECCS systems are required to be OPERABLE.
 - 2. At least once per 18 months.
 - 1. 2-SI-89 Loop A Cold Leg
 - 2. 2-SI-97 Loop B Cold Leg
 - 3. 2-SI-103 Loop C Cold Leg
 - 4. 2-SI-116 Loop A Hot Leg
 - 5. 2-SI-111 Loop B Hot Leg
 - 6. 2-SI-123 Loop C Hot Leg
- h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:
 - 1. For high head safety injection lines, with a single pump running:
 - a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to the minimum flow rate required to demonstrate compliance with 10 CFR 50.46, and
 - b) The total pump flow rate is less than or equal to the evaluated pump runout limit.

3/4.5 EMERGENCY CORE COOLING SYSTEMS

BASES

3/4.5.1 ACCUMULATORS

The OPERABILITY of each RCS accumulator ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the accumulators. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on accumulator volume, boron concentration and pressure ensure that the assumptions used for accumulator injection in the safety analysis are met.

The accumulator power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these accumulator isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with an accumulator inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional accumulator which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one accumulator is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the accumulators is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

REACTIVITY CONTROL SYSTEMS

BASES

ECCS SUBSYSTEMS (Continued)

With the RCS temperature below 350°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The limitation for a maximum of one centrifugal charging pump and one low head safety injection pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps and low head safety injection pumps except the required OPERABLE pump to be inoperable below 358°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained.

In the event of modifications to an ECCS subsystem that could alter the subsystem flow characteristics, a flow balance test shall be performed. The flow balance test criteria are established based on the system performance assumed in the safety analysis (minimum flow limit) and on HHSI pump runout protection (maximum flow limit). In performing the flow balance, the effects of flow measurement instrument uncertainties accounting for system configuration and the variability between installed pumps must be properly considered.

Numerical acceptance criteria for the flow balance test are specified in the surveillance test procedure. These criteria are established based on the following considerations:

- 1) The total injected flow to the core (assuming spillage of the branch line with the highest flow) must meet or exceed that assumed in the safety analysis. The limiting safety analysis is the loss of coolant accident (LOCA) analysis. This criterion may vary, particularly since the inputs to the safety analysis controlled by LCO 6.9.1.7 may vary with reload cycle. The safety analysis flow requirements are thus established by the currently applicable LOCA analysis which has demonstrated compliance with the ECCS acceptance limits of 10 CFR 50.46.
- 2) The total pumped flow must be less than the HHSI pump runout limit. This flow varies with the specific HHSI pump assumed to operate during the accident. Since the HHSI pumps also function as normal charging pumps, their characteristics, including runout limits, will vary over service life.
- 3) The requirements for reactor coolant pump seal injection must be met during normal operation, and the effects of seal injection during accidents must be considered in meeting constraints 1) and 2) above.

EMERGENCY CORE COOLING SYSTEMS

BASES

3/4.5.4 BORON INJECTION SYSTEM

The OPERABILITY of the boron injection system as part of the ECCS ensures that sufficient negative reactivity is injected into the core to counteract any positive increase in reactivity caused by RCS system cooldown. RCS cooldown can be caused by inadvertent depressurization, a loss-of-coolant accident or a steam line rupture.

The limits on injection tank minimum contained volume and boron concentration ensure that the assumptions used in the steam line break analysis are met. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The OPERABILITY of the redundant heat tracing channels associated with the boron injection system ensure that the solubility of the boron solution will be maintained above the solubility limit of 111°F at 15,750 ppm boron.

3/4.5.5 REFUELING WATER STORAGE TANK

The OPERABILITY of the RWST as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 8.5 and 11.0 for quench spray and between 7.7 and 9.0 for the solution recirculated within the containment after a LOCA. This pH minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

An RWST wide range level instrument loop uncertainty was included in the safety analysis and therefore need not be considered by the operator.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 188 AND 169 TO

FACILITY OPERATING LICENSE NOS. NPF-4 AND NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

DOCKET NOS. 50-338 AND 50-339

1.0 INTRODUCTION

By letter dated March 30, 1994, the Virginia Electric and Power Company (the licensee) submitted proposed changes to the Technical Specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The changes revise the High Head Safety Injection (HHSI) flow balance surveillance requirements by removing explicit numerical values and replacing them with broader non-numerical requirements. The new requirements would ensure that HHSI injection flow meets the loss of coolant accident (LOCA) analysis acceptance criteria of 10 CFR 50.46 and that total pump flow is less than the pump runout limit.

2.0 DISCUSSION

The specific changes are as follows. In TS 4.5.2.h.1.a, the current value (359 gpm) for the sum of the injection line flows (excluding the line with the highest flow) would be replaced by "the minimum flow rate required to demonstrate compliance with 10 CFR 50.46." In TS 4.5.2.h.1.b, the current value (660 gpm) for total HHSI pump flow would be replaced by "the evaluated pump runout limit." Bases 3/4.5.2 and 3/4.5.3 would also be revised to reflect these changes.

The intent of the proposed TS changes is to establish a wider range for HHSI flow acceptance criteria, allowing for greater flexibility during testing. The acceptance criteria of the current TS are too narrow to be consistently met during HHSI surveillance testing. This led to the issuance of Emergency License Amendments 176 and 157 for Units 1 and 2 on November 23, 1993 as well as the documentation of test failures in LER 90-008-00 for Unit 2 and LER 91-001-00 for Unit 1. In each case where the test results did not meet the acceptance criteria, system performance was evaluated and demonstrated to be within the limits of the applicable safety analysis. With the proposed removal of explicit numerical values from the subject TS, existing margins in the safety analysis will be used to broaden the band of acceptable performance.

3.0 EVALUATION

Successful completion of HHSI flow balance testing is based on two requirements. The first requires that with one HHSI pump running, the sum of the flows through the two (of three) cold leg injection lines having the lowest flow rates is conservative with respect to the minimum HHSI injection flow required by the limiting safety analysis. The limiting analysis for this case is the small break LOCA. The injection line with the highest flow rate is excluded to reflect spillage in the faulted loop. The minimum HHSI flow must meet the acceptance criteria of 10 CFR 50.46 and is dependent on cycle-specific input parameters such as core peaking factors, fuel design parameters, and changes in system configuration like steam generator tube plugging. These inputs are documented in the currently applicable reload analysis.

In proposed TS 4.5.2.h.1.a, the current value (359 gpm) for minimum HHSI flow is replaced by "the minimum flow rate required to demonstrate compliance with 10 CFR 50.46." Any modification of the minimum HHSI flow requirement would be based on available margins existing in the current small break LOCA analysis and would be determined in accordance with the Core Operating Limits Report, TS 6.9.1.7. Since HHSI system performance will remain bounded by the limiting safety analysis, the staff finds the proposed TS 4.5.2.h.1.a to be acceptable.

The second condition for successful completion of HHSI flow balance testing requires that the total HHSI pump flow does not exceed the pump runout limit. This is necessary to prevent pump and motor damage. Pump runout would be of concern during a large break LOCA which depressurizes the reactor coolant system (RCS) to approximately containment pressure and results in maximum flow through the pump. The pump runout limit is pump specific. Furthermore, since the HHSI pumps function as charging pumps during normal operation, this limit varies with time in service.

In proposed TS 4.5.2.h.1.b, the current value (660 gpm) for total HHSI pump flow is replaced by the phrase "the evaluated pump runout limit." HHSI pump runout limit will be determined by the licensee in accordance with the pump manufacturer's recommendations and the determination will be appropriately documented. Therefore, the staff finds the proposed TS to be acceptable.

A detailed analytical model is employed by the licensee which computes HHSI flow as a function of RCS pressure. This model is used in the LOCA analyses and includes the various pump characteristics, cold leg injection line and RCP seal injection line flow resistances, pump runout limits, and allowances for measurement inaccuracies. Flow rates determined by this model can then be related to specific limits for the HHSI surveillance test.

Finally, the proposed TS are also similar to the corresponding TS in NUREG-1431 (the Westinghouse Standard Technical Specifications) in that HHSI flow requirements are not specified as explicit numerical values but, rather, as functional statements.

Therefore, based on all of the above, the staff finds the proposed changes to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (59 FR 22017). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: September 6, 1994