

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 31, 1993

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 93-186
NL&P/JHL/MAE: R0
Docket No. 50-339
License No. NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 2
PROPOSED TECHNICAL SPECIFICATIONS CHANGES
REACTOR TRIP INSTRUMENTATION SURVEILLANCE REQUIREMENTS

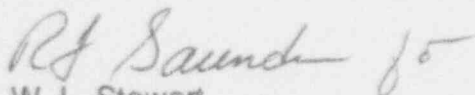
Pursuant to 10 CFR 50.90, the Virginia Electric and Power Company requests an amendment, in the form of changes to the Technical Specification to Facility Operating License No. NPF-7 for North Anna Power Station Unit 2. North Anna Unit 2 is currently operating in Mode 1, Power Operation, in its ninth operating cycle. The proposed changes will suspend the manual Engineered Safety Feature functional test of the safety injection input to the reactor trip breakers for the remainder of operating Cycle 9.

This Technical Specification change is requested on an emergency basis in accordance with 10 CFR 50.91(a)(5). The basis for an emergency change request is included as Attachment 1. A discussion of the proposed Technical Specification changes is provided in Attachment 2. The proposed Technical Specification changes are provided in Attachment 3.

It has been determined that the proposed Technical Specification changes do not involve an unreviewed safety question as defined in 10 CFR 50.59 or a significant hazards consideration as defined in 10 CFR 50.92. The basis for our determination that these changes do not involve a significant hazards consideration is provided in Attachment 4. The proposed Technical Specification changes have been reviewed and approved by the Station Nuclear Safety and Operating Committee and the Management Safety Review Committee.

Should you have any questions or require additional information, please contact us.

Very truly yours,


W. L. Stewart
Senior Vice President - Nuclear

Attachments

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P PDR

ADD 1

cc: U.S. Nuclear Regulatory Commission
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Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

Commissioner
Department of Health
Room 400
109 Governor Street
Richmond, Virginia 23219

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by R. F. Saunders, who is Assistant Vice President - Nuclear Operations, for W. L. Stewart who is Senior Vice President - Nuclear, of Virginia Electric and Power Company. He is duly authorized to execute and file the foregoing document in behalf of that Company, and the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 31ST day of March, 1993.

My Commission Expires: May 31, 1994.

Vicki L. Hull
Notary Public

(SEAL)

Attachment 1

Basis For Emergency Change Request

Basis for Emergency Change Request

NRC regulations (10 CFR 50.91(a)(5)) require that whenever an emergency situation exists, a licensee must explain why this emergency situation occurred and why it could not avoid this situation, and the NRC will assess the licensee's reasons for failing to file an application sufficiently in advance of that event. An emergency situation exists when the NRC's failure to act in a timely way would result in derating or shutdown of a nuclear plant, or in prevention of either resumption of operation or of increase in power output up to the plant's licensed power level. In such cases, the NRC may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment. Also, in such cases, the regulations require that the NRC be particularly sensitive to environmental considerations. Our discussion of why this proposed change meets the conditions necessary for emergency consideration is provided below.

Why Emergency Situation Occurred and Could Not Be Avoided

Technical Specification 4.3.1.1.1, Table 4.3-1, Item 19, requires that the manual Engineered Safety Feature (ESF) functional input to the Reactor Trip System instrumentation be verified operable every 18 months. On March 25, 1993, at 1526 hours, it was determined that the testing had not been properly performed for Unit 2. (North Anna Unit 1 is currently in a refueling outage and the required surveillance testing will be completed prior to the unit entering the modes for which the surveillance testing is required.) The requirements of Technical Specification 4.0.3 were immediately invoked which permits conducting the required surveillance test within the next 24 hours following discovery of the missed surveillance.

The need for the Technical Specification changes was identified during our programmatic review of Technical Specification surveillance requirements as described in our letters to the NRC dated May 14, 1992 (Serial No. 92-281) and September 8, 1992 (Serial No. 92-482). This programmatic review was also described in detail during a February 25, 1993 meeting in the NRC Region II office regarding North Anna self-assessment follow-up activities. While reviewing the periodic test which accomplishes the surveillance requirement, it was determined that the output from one manual safety injection switch to one bypass breaker had not been functionally tested and the output from the redundant manual safety injection switch to both reactor trip breakers and the other bypass breaker had not been tested.

Basis for Emergency Change Request

In a letter dated March 26, 1993 (Serial No. 93-183), we requested enforcement discretion associated with Technical Specification 4.3.1.1.1, Table 4.3-1, Item 19. This Technical Specification requires that the manual Engineered Safety Feature (ESF) functional input to the Reactor Trip System instrumentation be verified operable every 18 months. The NRC verbally approved our enforcement discretion request on March

26, 1993. In our March 26, 1993 letter, we committed to submitting a Technical Specification change by March 31, 1993.

An evaluation was performed to determine the possibility of testing the manual switches for safety injection input from ESF that provide input to the reactor trip breakers during power operation. Testing at power is not practical. The extensive lifting of leads necessary to perform the testing would require entry into Technical Specification 3.0.3 and would render the manual safety injection capability and subsequent reactor trip from the manual safety injection switches inoperable. In addition, due to the location of the leads, testing could initiate a reactor trip and/or safety injection.

This surveillance test must be performed while the unit is in a shutdown condition. Therefore, the Technical Specification changes are requested to allow for continued operation of North Anna Unit No. 2 until the next refueling outage which is currently scheduled to begin in September 1993. Specifically, it is requested that the manual ESF functional test of the safety injection input to the reactor trip breakers be excluded from Technical Specification surveillance requirement 4.3.1.1.1, Table 4.3-1 for the remainder of operating Cycle 9.

The NRC's failure to act on the proposed emergency Technical Specification changes would require the unit be shut down in accordance with Technical Specifications. Therefore, we conclude that the NRC's failure to act could reasonably be expected to result in an unnecessary shutdown of the unit and therefore meets the criteria in 10 CFR 50.91(a)(5) for an emergency situation.

As discussed in Attachment 6, we have determined that the Technical Specification changes involve no significant hazards consideration. Therefore, we conclude that the condition in 10 CFR 50.92(a)(5) regarding issuance only of a license amendment involving no significant hazards consideration is met.

Environmental Considerations

Approval of these Technical Specification changes will not change the types of any effluents that may be released offsite, nor create a significant increase in individual or cumulative occupational radiation exposure. The Technical Specification changes involve only surveillance requirements. Therefore, the consequences of accidents related to or dependent on the manual ESF functional test of the safety injection input to the reactor trip breakers remain unaffected.

ATTACHMENT 2
DISCUSSION OF CHANGES

DISCUSSION OF CHANGES

INTRODUCTION

Technical Specification 4.3.1.1.1, Table 4.3-1, Item 19, requires that the manual Engineered Safety Feature (ESF) functional input to the Reactor Trip System instrumentation be verified operable every 18 months. On March 25, 1993, at 1526 hours, it was determined that the testing had not been properly performed for Unit 2. (North Anna Unit 1 is currently in a refueling outage and the required surveillance testing will be completed prior to unit startup.) The requirements of Technical Specification 4.0.3 were immediately invoked which permits conducting the required surveillance test within the next 24 hours following discovery of the missed surveillance.

The need for the Technical Specification changes was identified during our programmatic review of Technical Specification surveillance requirements as described in our letters to you dated May 14, 1992 (Serial No. 92-281) and September 8, 1992 (Serial No. 92-482). This programmatic review was also described in detail during a February 25, 1993 meeting in the NRC Region II office regarding North Anna self-assessment follow-up activities. While reviewing the periodic test which accomplishes the surveillance requirement, it was determined that the output from one manual safety injection switch to one bypass breaker had not been functionally tested and the output from the redundant manual safety injection switch to both reactor trip breakers and the other bypass breaker had not been tested. The Technical Specification changes suspend the manual ESF functional test of the safety injection input to the reactor trip breakers for the remainder of operating Cycle 9.

Suspending the requirement to perform the manual ESF functional test of the safety injection input to the reactor trip breakers for the remainder of the current operating cycle does not pose a significant safety impact. Testing performed via the existing surveillances verifies that between the two manual safety injection switches, all reactor trip and bypass breakers are verified tripped. If manual safety injection is required, Emergency Operating Procedures (EOPs) require that the operators manually initiate both trains of safety injection. The operators are trained to initiate both trains of safety injection by actuating both manual safety injection switches. The safety injection input to the reactor trip breakers circuitry is designed as a backup to the automatic reactor trip and safety injection signals and to the manual reactor trip circuitry. Each of these primary methods for tripping the reactor have been completely and satisfactorily tested in accordance with the Technical Specification surveillance requirements. No credit is taken for manual safety injection or the subsequent reactor trip in the plant's accident analysis bases.

BACKGROUND

In a letter dated March 26, 1993 (Serial No. 93-183), we requested enforcement discretion associated with Technical Specification 4.3.1.1.1, Table 4.3-1, Item 19. This Technical Specification requires that the manual Engineered Safety Feature (ESF) functional input to the Reactor Trip System instrumentation be verified operable every

18 months. The NRC verbally approved our enforcement discretion request on March 26, 1993. In our March 26, 1993 letter, we committed to submitting a Technical Specification change by March 31, 1993.

Two independent ESF signal paths result in a reactor trip. The first is automatically generated in the Solid State Protection System (SSPS) logic by any of the four automatic safety injection signals. This signal path has been adequately tested at least once per 62 days on a staggered test basis as required by the Technical Specifications.

The second signal path utilizes the two manual safety injection switches in the control room. Each of these switches directly energizes the shunt trip coils of both trains of the reactor trip breakers and bypass breakers. This signal path does not pass through the SSPS logic and is designed as a backup to the automatic circuit. Safety Injection Functional Test Procedure, PT-57.4, is used to verify the operability of ESF equipment once every 18 months by manual safety injection initiation. While reviewing the requirements of PT-57.4, it was determined that the output from one manual safety injection switch to one bypass breaker had not been functionally tested and the output from the redundant manual safety injection switch to both reactor trip breakers and the other bypass breaker had not been tested.

An evaluation was performed to determine the possibility of testing the manual switches for safety injection input from ESF that provide input to the reactor trip breakers during power operation. Testing at power is not practical. The extensive lifting of leads necessary to perform the testing would require entry into Technical Specification 3.0.3 and would render the manual safety injection capability and subsequent reactor trip from the manual safety injection switches inoperable. In addition, due to the location of the leads, testing could initiate a reactor trip and/or safety injection. This surveillance test must be performed while the unit is in a shutdown condition.

The safety injection input to the reactor trip breakers circuitry is designed as a backup to the automatic reactor trip and safety injection signals and to the manual reactor trip circuitry. Each of these primary methods for tripping the reactor have been completely and satisfactorily tested in accordance with the Technical Specification surveillance requirements. Also, the testing satisfactorily completed for the manual safety injection circuitry for reactor trip was sufficient to assure that a reactor trip would be obtained even though all functions of the circuitry were not tested. The EOPs require that the operator verify that a reactor/turbine trip have occurred before initiating a manual safety injection in the event of an emergency. In the remote event of a failure of the reactor trip circuitry, the EOPs do not utilize the safety injection-reactor trip signal. The operators are directed to shutdown the reactor by manually tripping the reactor using the reactor trip switch or by inserting the control rods.

Therefore, the Technical Specification changes are requested to allow for continued operation of North Anna Unit No. 2 until the next refueling outage which is currently scheduled to begin in September 1993. Specifically, it is requested that the manual ESF functional test of the safety injection input to the reactor trip breakers be excluded from Technical Specification surveillance requirement 4.3.1.1.1, Table 4.3-1 for the remainder of operating Cycle 9.

SPECIFIC CHANGES

These Technical Specification changes apply to North Anna Unit 2 only.

The Technical Specification changes will modify Technical Specification surveillance requirement 4.3.1.1.1, Table 4.3-1, Item 19 which currently reads as follows:

| <u>FUNCTIONAL UNIT</u> | <u>CHANNEL CHECK</u> | <u>CHANNEL CALIBRATION</u> | <u>CHANNEL FUNCTIONAL TEST</u> | <u>MODES IN WHICH SURVEILLANCE REQUIRED</u> |
|-------------------------------------|----------------------|----------------------------|--------------------------------|---|
| 19. Safety Injection Input from ESF | N.A. | N.A. | M(4) & (5) | 1, 2 |

The revised Technical Specification surveillance requirement 4.3.1.1.1, Table 4.3-1, Item 19 will read as follows:

| <u>FUNCTIONAL UNIT</u> | <u>CHANNEL CHECK</u> | <u>CHANNEL CALIBRATION</u> | <u>CHANNEL FUNCTIONAL TEST</u> | <u>MODES IN WHICH SURVEILLANCE REQUIRED</u> |
|-------------------------------------|----------------------|----------------------------|--------------------------------|---|
| 19. Safety Injection Input from ESF | N.A. | N.A. | M(4) ** & (5) | 1, 2 |

A footnote will be added to page 3/4 3-14 which reads as follows:

** - Surveillance requirements for the manual ESF functional test of the safety injection input to the reactor trip breakers is suspended for the duration of Cycle 9 operation.

SAFETY SIGNIFICANCE

A safety evaluation has been performed for the Technical Specification changes. Suspending the requirement to perform the manual ESF functional test of the safety injection input to the reactor trip breakers for the remainder of operating Cycle 9 does not pose a significant safety impact. No credit is taken for a reactor trip on manual initiation of safety injection in the plant's accident analysis bases. Testing performed via the existing surveillances verifies that between the two manual safety injection switches, all reactor trip and bypass breakers are verified tripped. If manual safety injection is required, EOPs require that the operators manually initiate both trains of safety injection. The operators are trained to initiate both trains of safety injection by actuating both manual safety injection switches. Further, both the Emergency Operating Procedures and operator training require the operators to verify the reactor trip breakers are open prior to manually initiating safety injection. Sufficient redundancy exists via the reactor trip on automatic safety injection signals to compensate for the untested contacts.

The probability of an accident has not been increased. No change to any event precondition or initiator, for which the Reactor Trip System has been designed has occurred. The consequences of an accident are not increased. The ability of the Reactor Trip System to identify, terminate and mitigate the consequences of an

accident analyzed in the Updated Final Safety Analysis Report remains unchanged. No unique accident probabilities are created. The scope of the existing accident analysis remains fully bounded because no hardware or operating strategy changes have been implemented. Therefore, the margin of safety is maintained since the overall system functional capability of the Reactor Trip System is maintained in accordance with the original design standards.