



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 165 AND 145 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 June 8, 1992, the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The proposed changes are being made to TS 4.3.1.1.1, "Reactor Trip System Instrumentation," Table 4.3-1, Item 19 and TS 3.3.2.1, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Table 3.3-3, Action 20. Currently, Table 4.3-1, Item 19 requires that the safety injection input from the engineered safety feature (ESF) logic function be tested on a monthly basis. The proposed change would add Notation 5 and increase the surveillance interval from monthly (every 31 days) to every 62 days on a staggered test basis. Table 3.3-3, Action 20 allows bypassing one channel for testing purposes for 1 hour. The proposed change would increase the time that a channel may be bypassed for testing purposes from 1 to 2 hours. Also, several administrative changes would be made to the TS to provide consistency and clarity. A discussion of the proposed changes and the staff's evaluation are provided below.

2.0 DISCUSSION

There are two trains of reactor trip system (RTS) and ESFAS instrumentation for both NA-1&2. The two trains of instrumentation are verified operable by performing surveillance procedures PT-36.1A and PT-36.1B, "Solid State Protection System Test." These tests place one train of the solid state protection system (SSPS) in bypass and test the inputs and outputs to ensure that the train is operable. Specifically, the safety injection input from ESF, auxiliary feedwater pump start automatic actuation logic and steam line isolation automatic actuation logic functions are proven operable by these tests.

TS 3.3.1.1 requires that the RTS instrumentation channels and interlocks of Table 3.3-1 be operable with response times as shown in Table 3.3-2. The safety injection input from ESF function is part of the RTS instrumentation.

Recently, the licensee conducted a review to ensure that surveillance requirements are incorporated into appropriate surveillance test procedures. During this review, the licensee determined that TS 4.3.1.1.1 requires testing both trains of safety injection input from ESF logic each month. Since that time, both trains of SSPS have been tested each month in order to meet the surveillance requirement.

TS 3.3.2.1 requires that the ESFAS instrumentation channels shown in Table 3.3-3 are operable with the trip setpoints set consistent with the values shown in the trip setpoint column of Table 3.3-4 and with response times as shown in Table 3.3-5. The auxiliary feedwater pump start automatic actuation logic and the steam line isolation automatic actuation logic functions are part of the ESFAS instrumentation. It was determined during the licensee's recent review that Table 3.3-3, Action 20 did not allow adequate time to perform the required monthly testing of either the auxiliary feedwater pump start automatic actuation logic function for NA-1&2, or the steam line isolation automatic actuation logic function for NA-2. Table 3.3-3 does permit sufficient time (i.e., 2 hours) when testing the steam line isolation automatic actuation logic function for NA-1, and therefore, no change is required.

### 3.0 TECHNICAL SPECIFICATION CHANGES

#### TS 4.3.1.1.1, Table 4.3-1, Item 19

This change would modify TS 4.3.1.1.1, Reactor Trip System Instrumentation, Table 4.3-1, Item 19, Safety Injection Input from ESF, to increase the surveillance interval from monthly (every 31 days) to every 62 days on a staggered test basis. This is accomplished by adding Notation 5, which states "Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS," to Item 19.

The change is consistent with the requirements for the rest of the SSPS and is more stringent than the requirements of NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4. Before the review indicated the need to perform testing on both trains each month, all testing for the SSPS was performed on a staggered test basis frequency. The frequency at which the SSPS is now being tested increases the possibility of inadvertent actuations and decreases the amount of time that both trains of SSPS are operable. Testing on a staggered test basis is adequate to ensure the continued reliability of the system, limit the possibility of inadvertent actuations, and maximize the amount of time that both trains of SSPS are operable.

#### TS 4.3.1.1.1, Table 4.3-1, Items 21 and 22

The word "and" has been changed to "&" in several places for consistency

TS 3.3.2.1, Table 3.3-3, Action 17

The statement consists of two independent statements that have been spliced together with a comma. This change will substitute a period for the comma and capitalize the next word.

TS 3.3.2.1, Table 3.3-3, Action 19

The word "requirements" is changed to singular to agree with the verb.

TS 3.3.2.1, Table 3.3-3, Action 20

This change modifies TS 3.3.2.1, Table 3.3-3, Action 20, to allow a channel to be bypassed for up to 2 hours for testing purposes.

The monthly channel functional test requirement is met by implementing surveillance procedures PT-36.1A and PT-36.1B, "Solid State Protection System Test." These tests place one train of SSPS in bypass and test the different inputs and outputs to ensure that the system is operable. During the time that the inputs and outputs are bypassed, the channel is inoperable. One of the actions that must be entered during this time frame is Action 20. Action 20 currently states that "With the number of OPERABLE Channels one less than the Total Number of Channels, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 1 hour for surveillance testing per Specification 4.3.2.1.1 provided the other Channel is OPERABLE." However, the entire channel functional test takes between 1 and 2 hours to complete.

The proposed change is consistent with Table 3.3-3, Action 22, of NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4. Action 22 allows the auxiliary feedwater pump start automatic actuation logic and the steam line isolation automatic actuation logic functions to be bypassed for up to 2 hours when testing in accordance with TS 4.3.2.1.1. In addition, the NRC has previously issued guidance in Generic Letter (GL) 87-09 that it is not desired to knowingly perform maintenance or a surveillance which will require entering an action state that would cause a unit to shut down.

The change also converts "WITHIN" to lower case letters for Unit 1 only because it is not a defined term.

TS 3.3.2.1, Table 3.3-3, Action 21

This change will insert "the next" after "HOT STANDBY within" to clarify the fact that the 6 hours to HOT STANDBY starts after the 48 hours to restore the channel ends. This does not change the intent of the requirement.

#### 4.0 EVALUATION

Testing the safety injection input from the ESF function on a staggered basis increases the operability time for the two trains of RTS instrumentation. Also, the consequences of allowing up to an additional hour to test each train of ESFAS logic are not significantly increased because the time spent testing is not significantly increased and the opposite train is still available to perform its design function. Finally, the proposed changes are consistent with other testing requirements and are at least as stringent as the requirements of NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4. Based on all of the above, the staff finds the proposed changes to be acceptable.

#### 5.0 STATE CONSULTATION

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

#### 6.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (57 FR 30264). Accordingly, this amendment meets 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 this amendment.

#### 7.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

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