

January 12, 1999

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

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - ISSUANCE OF  
AMENDMENTS REGARDING A TECHNICAL SPECIFICATION CHANGE ON  
EMERGENCY DIESEL GENERATOR STEADY-STATE FREQUENCY  
REQUIREMENTS (TAC NOS. MA2426 AND MA2423)

Dear Mr. O'Hanlon:

On December 10, 1998, the Commission issued Amendment Nos. 216 and 197 to Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Unit Nos. 1 and 2. The amendments consisted of changes to the Technical Specifications (TS) in response to your letter dated July 28, 1998, as supplemented October 16, 1998.

In your letter dated December 22, 1998, you stated that the TS Bases changes associated with the amendment request were inadvertently omitted from your October 16, 1998, submittal, and were being sent as an attachment to the December 22 letter. You also stated that the Bases changes were being provided for information and will be incorporated into the TS during the implementation of Amendment Nos. 216 and 197. Your letter further stated that it has been determined that these changes do not involve an unreviewed safety question, as defined in 10 CFR 50.59. Accordingly, the regulations authorize you to make the TS Bases change without our review. Your changes to Bases will be subject of our future inspections and/or audits, if any.

Sincerely,  
Original signed by:

N. Kalyanam, Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-338 and 50-339

Enclosure: TS Bases changes

cc w/encl: See next page

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| OFFICE | PM:PDII-2 <i>NO</i>          | LA:PDII-2 <i>ETO</i>  | PD:II-2 <i>[Signature]</i>                 |  |
| NAME   | NKalyanam <i>[Signature]</i> | EDunnington   | HBerkow <i>[Signature]</i>                 |  |
| DATE   | 1/11/99                      | 1/11/99   | 1/11/99                                    |  |
| COPY   | Yes No                       | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Yes <input checked="" type="checkbox"/> No |  |

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Senior Vice President - Nuclear  
Virginia Electric and Power Company  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060

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Sincerely,

A handwritten signature in black ink, appearing to read "N. Kalyanam", with a horizontal line underneath.

N. Kalyanam, Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosure: TS Bases changes

cc w/encl: See next page

Mr. J. P. O'Hanlon  
Virginia Electric & Power Company

North Anna Power Station  
Units 1 and 2

cc:

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Mineral, Virginia 23117

BASES3/4.8.1 and 3/4.8.2 A.C. and D.C. POWER SOURCES AND DISTRIBUTION (Continued)

The operability requirements for the AAC DG are specified in the Technical Requirements Manual. In addition, to be considered OPERABLE to support the fourteen day action statement the AAC DG must be capable of providing power to the affected bus (i.e., connectable to the bus with the associated breakers and control power available). If the AAC DG becomes inoperable during the 14 day action statement, the OPERABILITY of the remaining EDGs does not need to be demonstrated since the AAC DG was designed and purchased according to specifications which adequately ensure that common cause failure is not likely.

The ACTION requirements specified in Modes 5 and 6 address the condition where sufficient power is unavailable to recover from postulated events (i.e., fuel handling accident). Implementation of the ACTION requirements shall not preclude completion of actions to establish a safe conservative plant condition. Completion of the requirements will prevent the occurrence of postulated events for which mitigating actions would be required.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods, 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and 3) sufficient power is available for systems necessary to recover from postulated events in these MODES, e.g., the control room emergency ventilation system fans during a fuel handling accident.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guide 1.9 "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, and 1.108 "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants" Revision 1, August 1977, as modified by Amendment No. 83 issued August 22, 1986.

The testing of the largest post-accident load rejection in Surveillance Requirement (SR) 4.8.1.1.2.d.2, for demonstrating the OPERABILITY of the EDGs, is in accordance with the testing recommendations of Regulatory Guide 1.9, Revision 1, Section C.5.

The EDG testing in SRs 4.8.1.1.2.c, 4.8.1.1.2.d.5, 4.8.1.1.2.d.11.b), and 4.8.1.1.2.e separate the start requirements for voltage and frequency from the steady state limits. The 10-second start requires the EDG to meet the minimum values for voltage and frequency. The EDG's voltage must exceed the 95% value of rated voltage in order for the output breaker to automatically close. The minimum frequency requirement is based on the safety analyses assumption for steady state

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## 3/4.8.1 and 3/4.8.2 A.C. and D.C. POWER SOURCES AND DISTRIBUTION (Continued)

frequency. The steady state voltage and frequency limits are not required to be maintained during the 10-second start requirement. Following the fast start of the EDG, the time to reach steady state voltage and frequency is periodically monitored in the performance tests. The tests can be used to identify degradation of the governor and voltage regulator performance. The EDG is unloaded in some portions of these surveillance tests and short-term variations in voltage and frequency, outside the steady state limits may occur in this condition. The safety analyses assume the long-term steady state electrical power requirements for voltage and frequency to the ECCS equipment is  $4160 \pm 420$  volts and  $60 \pm 0.5$  Hz.

In lieu of actual accident loading demonstration during the performance of SRs 4.8.1.1.2.d.4 and 4.8.1.1.2.d.6, the EDGs are allowed to supply the required loads by a combination of evolutions. This testing may include a series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. This method of testing adequately verifies the capability of each EDG system to energize the emergency bus and supply the power necessary for the required safety equipment to mitigate analyzed events.

The Surveillance Requirements for demonstrating the OPERABILITY of the Emergency Diesel Generator batteries and the Station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std. 450-1980, "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Generating Stations and Substations," as modified by Amendment No. 97 issued March 25, 1988.

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during the 14 day action statement, the OPERABILITY of the remaining EDGs does not need to be demonstrated since the AAC DG was designed and purchased according to specifications which adequately ensure that common cause failure is not likely.

The ACTION requirements specified in Modes 5 and 6 address the condition where sufficient power is unavailable to recover from postulated events (i.e., fuel handling accident). Implementation of the ACTION requirements shall not preclude completion of actions to establish a safe conservative plant condition. Completion of the requirements will prevent the occurrence of postulated events for which mitigating actions would be required.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods, 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status, and 3) sufficient power is available for systems necessary to recover from postulated events in these MODES, e.g., a fuel handling accident.

The Surveillance Requirements for demonstrating the OPERABILITY of the Emergency Diesel Generators are in accordance with the recommendations of Regulatory Guide 1.9 "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, and 1.108 "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants" Revision 1, August 1977, as modified by Amendment No. 48 issued August 22, 1986.

The testing of the largest post-accident load rejection in Surveillance Requirement (SR) 4.8.1.1.2.d.2, for demonstrating the OPERABILITY of the EDGs, is in accordance with the testing recommendations of Regulatory Guide 1.9, Revision 1, Section C.5.

The EDG testing in SRs 4.8.1.1.2.c, 4.8.1.1.2.d.5, 4.8.1.1.2.d.11.b), and 4.8.1.1.2.e separate the start requirements for voltage and frequency from the steady state limits. The 10-second start requires the EDG to meet the minimum values for voltage and frequency. The EDG's voltage must exceed the 95% value of rated voltage in order for the output breaker to automatically close. The minimum frequency requirement is based on the safety analyses assumption for steady state frequency. The steady state voltage and frequency limits are not required to be maintained during the 10-second start requirement. Following the fast start of the EDG, the time to reach steady state voltage and frequency is periodically monitored in the performance tests. The tests can be used to identify degradation of the governor and voltage regulator performance. The EDG is unloaded in some portions of these surveillance tests and short-term variations in voltage and frequency, outside the steady state limits may occur in this condition. The safety analyses assume the long-

BASES

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term steady state electrical power requirements for voltage and frequency to the ECCS equipment is  $4160 \pm 420$  volts and  $60 \pm 0.5$  Hz.

In lieu of actual accident loading demonstration during the performance of SRs 4.8.1.1.2.d.4 and 4.8.1.1.2.d.6, the EDGs are allowed to supply the required loads by a combination of evolutions. This testing may include a series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. This method of testing adequately verifies the capability of each EDG system to energize the emergency bus and supply the power necessary for the required safety equipment to mitigate analyzed events.

The Surveillance Requirements for demonstrating the OPERABILITY of the Emergency Diesel Generator batteries and the Station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations," as modified by Amendment No. 84 issued March 25, 1988.

Containment electrical penetration and penetration conductors are protected by either de-energizing circuits not required during reactor operation or by demonstrating the OPERABILITY of primary and backup overcurrent protection circuit breakers during period surveillance.

The surveillance frequency applicable to molded case circuit breakers and/or buses provides assurance of breaker and/or fuse reliability by testing at least one representative sample of each manufacturer's brand of circuit breaker and/or fuse. Each manufacturer's molded case circuit breakers and/or fuses are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers and/or fuses are tested. If a wide variety exists within any manufacturer's brand of molded case circuit breakers and/or fuses, it is necessary to divide that manufacturer's breakers and/or fuses into groups and treat each group as a separate type of breaker or fuse for surveillance purposes.

The OPERABILITY of the motor-operated valves thermal and overload protection and/or bypass devices ensures that these devices will not prevent safety-related valves from performing their function. The Surveillance Requirements for demonstrating the OPERABILITY of these devices are in accordance with Regulatory Guide 1.106, "Thermal Overload Protection for Electric Motors on Motor-Operated Valves," Revision 1, March 1977.