

July 25, 1990

Docket Nos. 50-338
and 50-339

DISTRIBUTION
See attached sheet

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

Dear Mr. Stewart:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: MAIN
RESERVOIR WATER LEVEL (TAC NOS. 75156 AND 75157)

The Commission has issued the enclosed Amendment Nos. 131 and 115 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 October 13, 1989, as supplemented November 21, 1989.

The amendments add a requirement to close the isolation valve on the drain pipe in the flood control dyke around the west end of the NA-2 turbine and service buildings within 4 hours of the main reservoir reaching a level of 252 feet above mean sea level (MSL).

In addition, the trigger level for escalating surveillance of the main reservoir water level is reduced from 255 feet MSL to 251 feet MSL and the surveillance interval is decreased from once every 24 hours to once every 8 hours when the reservoir level is below 251 feet MSL.

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. 131 to NPF-4
2. Amendment No. 115 to NPF-7
3. Safety Evaluation

cc w/enclosures:
See next page

SEE COMMENTS

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OFC	LA:PD22	PM:PD22	D:PD22	OGC		
NAME	DMiller*	LEngle	H Berkow	PJehle*		
DATE	07/10/90	7/25/90	7/27/90	07/13/90		

*SEE PREVIOUS CONCURRENCE OFFICIAL RECORD COPY
Document Name: AMENDMENT NA1&2

Mr. W. L. Stewart
Virginia Electric & Power Company

North Anna Power Station
Units 1 and 2

cc:

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DATED: July 25, 1990

AMENDMENT NO.131 TO FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO.115 TO FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Docket File

NRC & Local PDRs

PDII-2 Reading

S. Varga, 14/E/4

G. Lainas, 14/H/3

H. Berkow

D. Miller

L. Engle

OGC-WF

D. Hagan, 3302 MNBB

E. Jordan, 3302 MNBB

B. Grimes, 9/A/2

G. Hill (8), P-137

Wanda Jones, P-130A

J. Calvo, 11/F/23

ACRS (10)

GPA/PA

OC/LFMB

PD Plant-specific file [Gray File]

M. Sinkule, R-II

Others as required

cc: Plant Service list



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

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. 131
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 October 13, 1989, as supplemented November 21, 1989, 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.

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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. 131, 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 the date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION


Herbert N. Berkow, 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: July 25, 1990

PLANT SYSTEMS

3/4.7.5 ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.5.1 The ultimate heat sinks shall be OPERABLE:

a. Service Water Reservoir with:

1. A minimum water level at or above elevation 313 Mean Sea Level, USGS datum, and
2. An average water temperature of $\leq 95^{\circ}\text{F}$ as measured at the service water pump outlet.

b. The North Anna Reservoir with:

1. A minimum water level at or above elevation 244 Mean Sea Level, USGS datum, and
2. An average water temperature of $\leq 95^{\circ}\text{F}$ as measured at the condenser inlet.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the requirements of the above specification not satisfied, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIRMENTS

4.7.5.1 The ultimate heat sinks shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

4.7.5.2 Data for calculating the leakage from the service water reservoir shall be obtained and recorded at least once per 6 months.

PLANT SYSTEMS

3/4.7.6 FLOOD PROTECTION

LIMITING CONDITION FOR OPERATION

3.7.6.1 Flood protection shall be provided for all safety related systems, components and structures when the water level of the North Anna Reservoir exceeds 256 feet Mean Sea Level USGS datum, at the main reservoir spillway.

APPLICABILITY: At all times

- ACTION:**
- A. With the water level at the main reservoir spillway above elevation 252 feet Mean Sea Level USGS datum, close the sluice gate on the east end of the drain pipe through the flood protection dyke within 4 hours.

 - B. With the water level at the main reservoir spillway above elevation 256 feet Mean Sea Level USGS Datum:
 - 1. Be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours, and
 - 2. Initiate and complete within 36 hours, the following flood protection measures:
 - a) Stop the circulating water pumps, and
 - b) Close the condenser isolation valves.

SURVEILLANCE REQUIREMENTS

- 4.7.6.1 The water level at the main reservoir spillway shall be determined to be within the limits by:
- A. Measurement at least once per 8 hours when the water level is below elevation 251 feet Mean Sea Level USGS datum.
 - B. Measurement at least once per 2 hours when the water level is equal to or above 251 feet Mean Sea Level USGS datum.

ATTACHMENT TO LICENSE AMENDMENT NO. 131

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

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

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

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. 115
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 October 13, 1989, as supplemented November 21, 1989, 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.

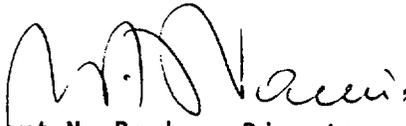
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 115, 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 the date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION


Herbert N. Berkow, 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: July 25, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 115

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

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

Page

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PLANT SYSTEMS

3/4.7.6 FLOOD PROTECTION

LIMITING CONDITION FOR OPERATION

3.7.6.1 Flood protection shall be provided for all safety related systems, components and structures when the water level of the North Anna Reservoir exceeds 256 feet Mean Sea Level USGS datum, at the main reservoir spillway.

APPLICABILITY: At all times

- ACTION:**
- A. With the water level at the main reservoir spillway above elevation 252 feet Mean Sea Level USGS datum, close the sluice gate on the east end of the drain pipe through the flood protection dyke within 4 hours.

 - B. With the water level at the main reservoir spillway above elevation 256 feet Mean Sea Level USGS Datum:
 - 1. Be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours, and
 - 2. Initiate and complete within 36 hours, the following flood protection measures:
 - a) Stop the circulating water pumps, and
 - b) Close the condenser isolation valves.

SURVEILLANCE REQUIREMENTS

- 4.7.6.1 The water level at the main reservoir spillway shall be determined to be within the limits by:
- A. Measurement at least once per 8 hours when the water level is below elevation 251 feet Mean Sea Level USGS datum.
 - B. Measurement at least once per 2 hours when the water level is equal to or above 251 feet Mean Sea Level USGS datum.

PLANT SYSTEMS

3/4.7.7. CONTROL ROOM EMERGENCY HABITABILITY SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.7.1 The following control room emergency habitability systems shall be OPERABLE:

- a. The emergency ventilation system,
- b. The bottled air pressurization system*, and
- c. Two air conditioning systems.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With either the emergency ventilation system or the bottled air pressurization system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in at least COLD SHUTDOWN within the following 30 hours.
- b. With both the emergency ventilation system and the bottled air pressurization system inoperable, restore at least one of these systems to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in at least COLD SHUTDOWN within the following 30 hours.
- c. With one air conditioning system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in at least COLD SHUTDOWN within the following 30 hours.
- d. With both air conditioning systems inoperable, restore at least one system to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in at least COLD SHUTDOWN within the following 30 hours.

*Shared with Unit 1



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 131 AND 115 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

INTRODUCTION

By letter dated October 13, 1989, as supplemented November 21, 1989, the Virginia Electric and Power Company (the licensee) requested changes to the Technical Specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). Specifically, the changes would add a new requirement to close the isolation valve on a drain pipe which passes through a flood control dyke. This dyke was recently added around the west end of the NA-2 turbine and service buildings. The change would require the closing of the isolation valve within 4 hours of the main reservoir reaching a level of 252 feet above mean sea level (MSL). In addition, the alert level for escalating surveillance of the main reservoir water level would be reduced from 255 feet MSL to 251 feet MSL, and the surveillance interval would be decreased from once every 24 hours to once every 8 hours when the reservoir is below 251 feet MSL.

The November 21, 1989 letter provided additional information concerning rain runoff in the dyke depression area. The additional information did not alter in any way the staff's initial determination of no significant hazards consideration or the action noticed in the Federal Register on November 15, 1989 (54 FR 47610).

DISCUSSION

A reanalysis of potential flooding conditions of NA-1&2 necessitated the addition of a flood control dyke around the west end of the NA-2 turbine and service buildings. The flood control dyke will provide protection to safety-related equipment and facilities based on worst-case flooding conditions. In order to accommodate drainage of normal accumulation from within the dyke-enclosed area, a drain pipe is provided through the dyke. During potential flooding conditions, this drain pipe must be isolated to prohibit reverse flow of water into the enclosure and then into the turbine and service buildings. This drain pipe has a manual valve, which is operated from within the enclosed area, and an in-series check valve. The check valve provides redundant isolation.

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After the valve has been closed, rain falling directly into the enclosure area and runoff from the turbine and service building roofs will accumulate in the depression area. The runoff has been calculated to accumulate to a point where it would enter the turbine building basement and fill to a maximum elevation of 256 feet MSL. However, safety-related equipment that could be affected by flooding from the turbine building is protected to an elevation of 257 feet MSL by flood barriers at the doorways. Also, there are three non-safety grade pumps in each of the three turbine building sumps (nine pumps total), and each pump has a flow capacity of 1300 gallons per minute with a discharge head of 57 feet.

Based on an analysis of the worst-case flooding condition, the reservoir level would be rising at a rate of 0.8 foot per hour. Flooding of the turbine and service buildings occurs at 257 feet above MSL and, at that rate, would occur 6 hours after the water level had risen to 252 feet. Therefore, the requirement to close the drain pipe valve within 4 hours after reaching the 252-foot level will ensure that the required protective actions will be taken in a timely manner and that the facility flood control measures will provide protection to the safety-related equipment. To insure that the drain pipe isolation valves remain operational, a periodic test will be implemented to operate the valves through a full-stroke movement at least once every 3 months.

The reduction of the trigger level for escalating surveillance from 255 feet to 251 feet and the decrease in the surveillance interval from once every 24 hours to once every 8 hours, with the reservoir level below 251 feet, will ensure that an increasing water level will be detected in sufficient time to perform the actions required to isolate the dyke drain pipe during the maximum postulated lake inflow.

Therefore, the NA-1&2 TS Action Statement 3.7.6 would be modified to require closing of the drain pipe isolation valve within 4 hours of the main reservoir level reaching 252 feet MSL. TS Surveillance Requirement 4.7.6 would be changed to reduce the normal surveillance interval for measuring the reservoir level from 24 to 8 hours. In addition, the reservoir level at which the level surveillance frequency is escalated from once per 8 hours to once per 2 hours, is reduced from 255 feet MSL to 251 feet MSL.

EVALUATION

The proposed changes will provide additional controls, not currently in place in the NA-1&2 TS, to reduce the probability of flooding and provide more restrictive surveillance requirements for identifying potential flooding conditions. In addition, the installation of the dyke and the proposed TS change and surveillance requirements for potential worst-case flooding conditions will enhance protection of safety-related equipment for currently analyzed accidents. Based on the above, we find the proposed changes to be acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. We have 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. 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 these amendments.

CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: July 25, 1990

Principal Contributor:
Leon Engle