

November 7, 1980

Docket No. 50-339

Mr. J. H. Ferguson  
Executive Vice President  
Power Operations  
Virginia Electric and Power Company  
P. O. Box 26666  
Richmond, Virginia 23261

Dear Mr. Ferguson:

SUBJECT: ORDER FOR MODIFICATION OF LICENSE CONCERNING ENVIRONMENTAL  
QUALIFICATION OF SAFETY-RELATED ELECTRICAL EQUIPMENT  
(NORTH ANNA POWER STATION, UNIT NO. 2)

Reference (a): Commission Memorandum and Order of May 23, 1980 (80-CLI-21)  
Reference (b): Inspection and Enforcement Bulletin Supplement No. 2 to  
IEB-79-01B, September 30, 1980.

This letter transmits an Order for Modification of License which changes the License and Technical Specifications for North Anna Power Station, Unit 2. This change is a result of Reference (a) which required the staff to codify the documentation requirements for the qualification of safety-related electrical equipment. A copy of the Order is being filed with the Office of the Federal Register for publication.

The deadline of November 1, 1980 for submittal of the qualification information is not changed by this Order. Some additional information regarding the file is contained in Reference (b). Questions regarding this Order should be directed through your Project Manager.

Sincerely,

Original signed by

B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing

*orig*  
J. Schuss  
11/11/80

CP 3

Enclosure:  
Order for Modification  
of License, with Attachments

cc w/enclosure:  
See next page

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| OFFICE  | DL: DB#3   | DL: B#1                   | OELB    | DL: B#1       | DL: DB#2  | DL: DR       |
| SURNAME | J. Lee, ph | MRushbrook/<br>ADromerick |         | B. Youngblood | MWilliams | DE [unclear] |
| DATE    | 10/22/80   | 10/ /80                   | 10/ /80 | 10/7/80       | 10/8/80   | 10/15/80     |

Mr. J. H. Ferguson  
Executive Vice President - Power  
Virginia Electric & Power Company  
P. O. Box 26666  
Richmond, Virginia 23261

ccs:

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Washington, D. C. 20555

Dr. John H. Buck  
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Washington, D. C. 20555

Mr. T. Webster  
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P. O. Box 128  
Spotsylvania, Virginia 22553



With respect to environmental qualification of safety-related electrical equipment, the Commission determined that the provisions of the two staff documents - the Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines) and NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979 (copies attached) "form the requirements which licensees and applicants must meet in order to satisfy those aspects of 10 CFR Part 50, Appendix A General Design Criterion (GDC-4), which relate to environmental qualifications of safety-related electrical equipment." The Commission directed, for replacement parts in operating plants, "unless there are sound reasons to the contrary, the 1974 standard in NUREG-0588 will apply." The Commission also directed the staff to complete its review of the information sought from licensees by Bulletin 79-01B<sup>1</sup> and to complete its review of environmental qualification of safety-related electrical equipment in all operating plants, including the publication of Safety Evaluation Reports, by February 1, 1981. The Commission imposed a deadline that, "by no later than June 30, 1982 all safety-related electrical equipment in all operating plants shall be qualified to the DOR Guidelines or NUREG-0588."

<sup>1</sup>  
Bulletin 79-01B was not sent to licensees for plants under review as part of the staff's Systematic Evaluation Program. The information sought by Bulletin 79-01B was requested from these licensees by a series of letters and meetings during the months of February and March, 1980.

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The Commission requested the staff to "keep the Commission and the public apprised of any further findings of incomplete environmental qualification of safety-related electrical equipment, along with corrective actions taken or planned," and requested the staff to provide bi-monthly progress reports to the Commission.

The Commission further directed that, "In order to leave no room for doubt on this issue, the staff is to prepare additional Technical Specifications for all operating plants which codify the documentation requirement paragraph of the Guidelines (paragraph 8.0)." The staff was directed to add these documentation requirements to each license after they were approved by the Commission.

The Commission also pointed out that the various deadlines imposed in its Order, "do not excuse a licensee from the obligation to modify or replace inadequate equipment promptly."

### III.

The Commission has approved the provisions of the license condition set forth in Section IV below which specify documentation requirements and which specifically impose on the licensee the requirement of the Commission's May 23, 1980 Memorandum and Order that by no later than June 30, 1982 all safety-related electrical equipment shall be qualified to the DOR Guidelines or NUREG-0588.

The information developed during the Commission review of the UCS Petition emphasizes the importance of prompt completion of the upgrading of

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environmental qualification of safety-related electrical equipment to conform to the DOR Guidelines or NUREG-0588 and of adequate documentation of equipment qualifications. The deadlines set forth in the Commission's Memorandum and Order dated May 23, 1980, assure that such upgrading will be accomplished promptly. In order to assure prompt completion of necessary qualification work or replacement of unqualified components, if necessary, in conformance with the requirements of the Commission's Memorandum and Order dated May 23, 1980, such upgrading work must commence immediately. Therefore, I have concluded that the public health, safety and interest require this Order for Modification of License to be effective immediately.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations in 10 CFR Parts 2 and 50, IT IS ORDERED THAT EFFECTIVE IMMEDIATELY Facility Operating License No. NPF-7 is hereby amended to add the following license condition 2.C.(4)(e) and Appendix A Technical Specification 6.10.2(o):

License Condition 2.C.(4)(e)

"By no later than June 30, 1982, all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines); or, NUREG-0588, "Interim Staff Position on Environmental

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Qualification of Safety-Related Electrical Equipment," December 1979.  
Copies of these documents are attached to Order for Modification of  
License No. NPF-7 dated November 7, 1980.

Appendix A Technical Specification 6.10.2(o)

"Records for Environmental Qualification which are covered under the  
provisions of paragraph 2.C.(4)(d) of License No. NPF-7."

To effectuate the foregoing, appropriate pages for incorporation into  
the Technical Specifications are attached to this Order.

V.

The licensee or any person whose interest may be affected by this Order may  
request a hearing within 20 days of the date of publication of this Order  
in the Federal Register. Any request for a hearing will not stay the effec-  
tive date of this Order. Any request for a hearing shall be addressed to  
the Director, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory  
Commission, Washington, D. C. 20555. A copy of the request should also be  
sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission,  
Washington, D. C. 20555, and to Michael W. Maupin, Esq., Hunton, Williams,  
Gay and Gibson, P. O. Box 1535, Richmond, Virginia 23212, attorney for the  
licensee.

If a hearing is held concerning this Order, the issue to be considered at the  
hearing shall be:

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whether all safety-related electrical equipment should be qualified as required in Section IV, above, by no later than June 30, 1982.

Operation of the facility on terms consistent with this Order is not stayed by the pendency of any proceedings on the Order.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by  
Darrell G. Eisenhut

Darrell G. Eisenhut, Director  
Division of Licensing  
Office of Nuclear Reactor Regulation

Effective Date: November 7, 1980  
Bethesda, Maryland

Attachments:

1. License and Technical Specification Pages for this Order
2. Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors
3. NUREG-0588, Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment.

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| OFFICE  | DL:IB#3  | DL:IB#1                      | OELD            | DL:IB#1      | DL:ORB#2   | DL:NR      |
| SURNAME | J Lee:ph | MH Smith/look<br>A Dromerick | <i>Woodhead</i> | B Youngblood | M Williams | D Eisenhut |
| DATE    | 10/24/80 | 10/21/80                     | 10/27/80        | 10/27/80     | 10/ /80    | 11/3/80    |

- (d) "By no later than December 1, 1980, complete and auditable records must be available and maintained at a central location which describe the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with the DOR Guidelines or NUREG-0588. Thereafter, such records should be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified to document complete compliance by June 30, 1982."
- (e) "By no later than June 30, 1982, all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualifications of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines); or NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979. Copies of these documents are attached to Order for Modification of License NPF-7 dated November 7, 1980.
- (5) Prior to operating the facility at a power level above 25 percent, VEPCO shall develop a surveillance program for fiberglass spray pond piping and supports that is in compliance with the regulatory position in Revision 2 of Regulatory Guide 1.72, or an alternative position acceptable to the Commission.
- (6) Prior to operating the facility at a power level above 90 percent, VEPCO shall perform secondary flow stability tests which have been approved by the Commission. VEPCO shall provide at least 24 hours notification to Office of Inspection and Enforcement (OIE) prior to conducting such approved tests so that these tests may be witnessed by the Commission.
- The exceptions to Technical Specifications 3.3.2.1(a), 3.3.2.1(b), 3.5.2, 3.7.1.2, and 3.7.1.3, issued with Amendment No. 2 to the Fuel-Load and Low-Power Testing License dated August 1980 shall be in effect until these are completed.
- (7) Prior to operating the facility at a power level above 90 percent, VEPCO shall demonstrate to the satisfaction of the NRC that the actual in-plant measurements of transformer tap settings are in agreement with their analysis.
- (8) Prior to operating above 90 percent power, VEPCO shall complete the visual verification of operability of the 37 feedwater system hydraulic snubbers, designated in VEPCO's letter dated August 7, 1980, at operating temperature to the satisfaction of the OIE.
- (9) VEPCO is authorized to perform steam generator moisture carryover studies at the North Anna Station. These studies involve the use of an aqueous tracer solution of two (2) curies of sodium-24. The licensee personnel will be in charge of conducting these studies and be knowledgeable in the procedures. VEPCO will impose personnel exposure limits, posting, and survey requirements in conformance with those in 10 CFR Part 20 to minimize personnel exposure and contamination during the studies. Radiological controls will be established in the areas of the chemical feed, feedwater, steam,

## ADMINISTRATIVE CONTROLS

- c. Each REPORTABLE OCCURRENCE submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to Operating Procedures.
- f. Records of radioactive shipments.
- g. Records of sealed source leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals entering radiation control areas.
- e. Records of gaseous and liquid radioactive material release to the environs.
- f. Records of transient or operational cycles for those facility components identified in Table 5.7-1.
- g. Records of reactor tests and experiments.
- h. Records of training and qualification for current members of the plant staff.
- i. Records of in-service inspections performed pursuant to these Technical Specifications.
- j. Records of Quality Assurance activities required by the QA Manual.
- k. Records of the service lives of all hydraulic snubbers listed on Table 3.7-4a including the date at which the service life commences. (This requirement commences with the Full Power License.)

## ADMINISTRATIVE CONTROLS

- l. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- m. Records of meetings of the SNSOC and the SyNSOC.
- n. Records of secondary water sampling and water quality.
- o. Records for Environmental Qualification which are covered under the provisions of Paragraph 2.C(4)(e) of License No. NPF-7.

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### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit.\* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in the protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiation Work Permit.

\* Health Physics personnel or personnel escorted by Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provide they comply with approved radiation protection procedures for entry in high radiation areas.

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