

May 4, 1988

Docket Nos. 50-338  
and 50-339

Mr. D. S. Cruden  
Vice President-Nuclear  
Virginia Electric and Power Company  
P.O. Box 26666  
Richmond, Virginia 23216

Dear Mr. Cruden:

SUBJECT: NORTH ANNA UNITS 1 AND 2 (NA-1&2) - TECHNICAL SPECIFICATION CHANGE  
REQUEST REGARDING CONTAINMENT AIR TEMPERATURE UPPER LIMIT  
(TAC NOS. 67535 AND 67536)

The Commission has requested the Office of the Federal Register to publish the enclosed "Notice of Consideration of Issuance of Amendments to Facility Operating Licenses and Opportunity for Hearing." This notice relates to your application dated March 2, 1988, which would revise the NA-1&2 Technical Specification containment air temperature upper limit from 105°F to 120°F.

Sincerely,

Original signed by

Leon B. Engle, Project Manager  
Project Directorate II-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosure: As stated

cc w/enclosure:  
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Mr. D. S. Cruden  
Virginia Electric & Power Company

North Anna Power Station  
Units 1 and 2

cc:

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County Administrator  
Louisa County  
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Senior Resident Inspector  
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Mineral, Virginia 23117

UNITED STATES NUCLEAR REGULATORY COMMISSIONVIRGINIA ELECTRIC AND POWER COMPANYDOCKET NOS. 50-338 AND 50-339NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO  
FACILITY OPERATING LICENSES AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-4 and NPF-7, issued to the Virginia Electric and Power Company (the licensee), for operation of the North Anna Power Station, Units Nos. 1 & 2 (NA-1&2) located in Louisa County, Virginia.

The amendments would revise the NA-1&2 Technical Specification (TS) containment air temperature upper limit from 105°F to 120°F. NA-1&2 currently operate within an allowable air temperature range of 86°F to 105°F. The upper temperature limit is approached during the summer months because of high ambient and service water temperatures. This has required implementation of specialized manpower-intensive procedures to prevent violation of the NA-1&2 TS limits. This condition exists because there is no practical way to reduce the temperature in a large, enclosed volume or a large body of water in short periods of time. The NA-1&2 TS action statements specified in Limiting Conditions For Operations (LCO) 6.15 (Primary Containment Average Air Temperature shall be maintained at equal to or less than 105°F) and LCO 7.5.1 (Service Water Reservoir and North Anna Reservoir shall be maintained equal to or less than 95°F) provide 8 or 6 hours, respectively, to restore the respective temperature to within its limit or be in at least Hot Standby in 6 hours and in Cold Shutdown within the

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following 30 hours. For these reasons, the licensee has submitted the proposed change with a Safety Evaluation (SE) to justify increasing the upper containment temperature limit to a value of 120°F.

The containment temperature limit is determined by performing the necessary transient analyses to ensure that the containment design criteria are met following a design basis accident. Temperature is a significant initial condition for these analyses. Another important analysis input is the volume of water from the Refueling Water Storage Tank (RWST) available for the quench spray system. This volume has been defined in such a way as to permit the minimum TS volume to be reduced. This approach was chosen to permit the use of wide range level instrumentation for TS surveillance.

The plant design basis was reviewed to determine which transients are impacted by the increased service water temperature and containment bulk temperature. The containment design is based on two Condition IV transients; the Loss of Coolant Accident (LOCA) and the Main Steam Line Break (MSLB). As a result of the worst LOCA or worst MSLB, containment integrity is assured if the following three conditions are satisfied: (1) the peak calculated containment pressure is less than the pounds per square inch gauge (psig) design pressure of 45 psig, (2) the containment is depressurized to subatmospheric within 1 hour (3600 seconds) of the accident, and (3) once depressurized, the containment is maintained at a pressure less than atmospheric for the duration of the accident.

In support of the proposed change, the LOCA analysis considered a spectrum of break sizes and locations. Several different single-failure scenarios were also considered. The LOCA analysis actually consists of a peak pressure analysis, a depressurization and a third peak analysis as well as net positive

suctionhead available (NPSHA) analyses for the recirculation spray pumps and the low head safety injection (LHSI) pumps. The initial conditions were determined for each of these analyses to provide the most conservative result. The peak containment pressure was found to be 44.1 psig. The length of time to subatmospheric conditions was found to be 3310 seconds.

The MSLB scenarios involved several combinations of break size, break type and power level. In all, 20 cases were run for the peak temperature cases and then repeated for the peak pressure cases. The peak pressure was found to be 44.9 psig.

The above results indicate that the containment design criteria are not violated at the initial conditions of 120°F containment temperature, 97°F service water temperature and the lower volume of RWST water.

In addition, operability of the electrical and mechanical equipment within the containment at temperatures up to 120°F has also been considered and found to be acceptable provided procedural changes are implemented. Therefore, the licensee proposes that the appropriate TS can be changed to permit the higher containment air temperature and the lower minimum RWST volume. Finally, the maximum service water temperature, while analyzed at 97°F, would not be changed at this time, since the service water system modifications recently put into place at NA-1&2 can maintain the reservoir temperature below the currently allowable 95°F.

The proposed TS would increase the required containment test pressure for the integrated (Type A) and local (Types B and C) leak rate tests (NA-1&2 TS 3.6.1.2) from the current value of 40.6 psig to 44.1 psig. The licensee has reviewed the results of the most recent leak rate tests for NA-1&2 to determine

if the tests were conducted at pressures equal to or in excess of that required by the proposed TS discussed above. An evaluation by the licensee has been performed to compare the measured leak rates from the most recent local and integrated leak rate tests with the projected leak rates had the tests been performed at the higher pressure required by the proposed TS. The licensee states that the leak rates which would have been observed had the tests been run at 44.1 psig would be well within the NA-1&2 TS limit for each type of test. Therefore, the licensee proposes that the intent of the proposed NA-1&2 TS for integrated and local leak rate testing have been satisfied by most recent tests. However, in order to comply with the proposed NA-1&2 TS, it will be necessary for the licensee to perform the subject containment leak rate tests prior to implementation of the proposed TS changes for revising the containment air temperature upper limit from 105°F to 120°F.

Prior to issuance of the proposed license amendments, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

By June 13, 1988, the licensee may file a request for a hearing with respect to issuance of the amendments to the subject facility operating licenses and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and

Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first pre-hearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene, which must include a list of the contentions that are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendments under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W. Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to Herbert N. Berkow: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Michael W. Maupin, Esq., Hunton and Williams, P. O. Box 1535, Richmond, Virginia 23212.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

If a request for a hearing is received, the Commission's staff may issue the amendments after it completes its technical review and prior to the completion of any required hearing if it publishes a further notice for public comment of its proposed finding of no significant hazards considerations in accordance with 10 CFR 50.91 and 50.92.

For further details with respect to this action, see the application for amendments dated March 2, 1988, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Local Public Document Room Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901.

Dated at Rockville, Maryland, this 4th day of May 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, reading "Herbert N. Berkow". The signature is written in a cursive style with a large, sweeping initial "H".

Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation