

Docket Nos. 50-338
and 50-339

July 2, 1990

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 - TECHNICAL SPECIFICATION (TS) CHANGE
REQUEST REGARDING TS 4.7.1.7.2 (TAC NOS. 77068 AND 77069)

The Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" to the Office of the Federal Register for publication.

The notice relates to your June 28, 1990 application to amend the Technical Specifications to eliminate turbine governor valve freedom testing during plant intermediate power ranges.

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:
See next page

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

North Anna Power Station
Units 1 and 2

cc:

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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 PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION 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 Virginia Electric and Power Company (the licensee) for operation of the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2) located in Louisa County, Virginia. The proposed amendments would permit a suspension of cycling the turbine governor valves during end-of-cycle power coastdown between 835 MWe (87% full power) and 386 MWe (40% full power) based on the results of the Westinghouse Risk Management Report, "Probabilistic Evaluation of Effects of Not Testing Turbine Governor Valves During Coastdown" (August 1989) for NA-1&2.

The present NA-1&2 Technical Specification (TS) 4.7.1.7.2 requires that a turbine governor valve freedom test be performed every 31 days in order to demonstrate operability of the overspeed protection system. The probabilistic risk assessment concluded that a test suspension of up to 75 days (corresponding to a typical coastdown period from 100% to 40% reactor power) would be acceptable, after which the demonstration of turbine governor valve freedom would be required by reducing power from 40% to 20% to perform the test in accordance with Westinghouse's turbine operation recommendation. Westinghouse has recommended that the governor valves not be cycled within the intermediate power range (87% - 40%) to preclude subjecting the first stage (control stage)

blading of the high pressure turbine to loadings which exceed design conditions. During governor valve freedom testing at intermediate power, governor valve operation is such that steam is passed through diagonally opposed nozzle chambers to the high pressure turbine. As a result of the thus-created intermittent steam flow condition, the rotating control stage blading is "shocked" twice per revolution with changing forces as it enters and then leaves the steam flow path. This double shock blade loading condition may overstress the turbine control stage blading because the blading is designed for a resonant loading frequency of once per revolution. Thus, the Westinghouse recommendation is not to test the governor valves while the turbine is operating in the intermediate power range.

The other alternative of reducing turbine power to a level below the restricted range may induce a transient based on the effects of xenon at this point in core life which could affect core stability. A decision to perform the test at the lower power level would also result in an extended reduction in power in order to minimize the effects of any transient on the core and to ensure that secondary plant performance is controlled and monitored closely. Not only would the power reduction result in lost generation, but it would also subject the plant to increased risk of an unnecessary transient such as a reactor trip.

Before 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.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant

increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. The basis for this proposed determination is provided below.

The licensee provided an analysis that addressed the above three standards in the amendment application as follows:

Virginia Electric and Power Company has reviewed this proposed change and determined that the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for this determination is that this change:

1. Does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change has no adverse impact upon probability or consequences of any accident previously evaluated. Only surveillance requirements (i.e., frequency) for cycling the turbine governor valves are changed and only during the final few months of the operating cycle. No new or unique accident precursors are introduced by this change in surveillance requirements.

The heavy hub design of the turbine rotors and proceduralized manual backup to the automatic initiation of the turbine trip provide further assurance that the probability of the generation of destructive missiles remains minimal. Based upon the results of the probabilistic risk assessment, the probability of a turbine generated missile is less than 10^{-5} per year which the Commission has endorsed as the acceptable level for turbine operation for unfavorably oriented turbines (Letter from C. E. Rossi (USNRC) to J. A. Martin (Westinghouse), February 2, 1987).

Turbine governor valve testing performed to date has demonstrated the reliability of these valves. The operability of the turbine governor valves will be demonstrated on an ongoing basis as turbine load is periodically adjusted downward to match reactor power during the power coastdown. This can be confirmed by monitoring the changes in governor valve position as turbine power is adjusted. In addition, the operability of the other turbine valves (i.e., turbine throttle valves, turbine stop valves, turbine intercept stop valves) will continue to be verified every 31 days throughout the coastdown period.

The demonstrated high reliability of the governor valves and the monitoring of the governor valve position changes during the coastdown

and the verification of the operability of the other turbine valves provide adequate assurance that the turbine overspeed protection system will operate as designed, if needed, until the end-of-cycle shutdown for refueling. Therefore, the proposed change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. Does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Since the implementation of the proposed change to the surveillance requirements will require no hardware modifications (i.e., alterations to plant configuration), operation of the facilities with these proposed Technical Specifications does not create the possibility for any new or different kind of accident which has not already been evaluated in the Updated Final Safety Analysis Report (UFSAR). In addition, the results of the probabilistic risk assessment indicated that no additional transients have been introduced.

The proposed revision to the Technical Specifications will not result in any physical alteration to any plant system, nor would there be a change in the method by which any safety-related system performs its function. The design and operation of the turbine overspeed protection and turbine control system are not being changed. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does not involve a significant reduction in a margin of safety.

The design and operation of the turbine overspeed protection and the turbine control systems are not being changed and the operability of the turbine governor valves will be demonstrated on an ongoing basis as turbine load is periodically adjusted. In addition, the results of the accident analyses which are documented in the UFSAR continue to bound operation under the proposed changes, so that there is not safety margin reduction. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The staff reviewed the licensee's no significant hazards consideration determination and agrees with the analysis. Therefore, the staff proposes to determine that the application for amendment involves no significant hazards consideration.

Therefore, based on the above considerations, the Commission has made a proposed determination that the amendment request involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted by mail to the Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Written comments may also be delivered to Room P-223, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland, from 7:30 a.m. to 4:15 p.m. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By August 9, 1990 , 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 petition for leave to intervene. Request 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. Interested persons should consult a current copy of 10 CFR 2.714 which is available at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555 and at the Local Public Document Room located at The Alderman Library, Manuscripts Department, University of Virginia,

Charlottesville, Virginia 22901. 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 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 prehearing 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 which are sought to

be litigated in the matter. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. Petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. 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.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the request for amendment involves no significant hazards consideration, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If a final determination is that the amendment involves a significant hazards consideration, any hearing held would take place before the issuance of any amendments.

Normally, the Commission will not issue the amendments until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendments before the expiration of the 30-day notice period, provided that its final determination is that the amendments involve no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

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 Services Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L 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 1-(800) 325-6000 (in Missouri 1-(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, 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

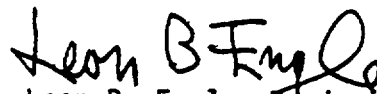
Commission, Washington, D.C. 20555, and to Michael W. Maupin, Esq, Hunton and Williams, P.O. Box 1535, Richmond, Virginia 23212, attorney for the licensee.

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 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).

For further details with respect to this action, see the application for amendment dated June 28, 1990, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555 and at the Local Public Document Room located at The Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901.

Dated at Rockville, Maryland, this 2nd day of July 1990.

FOR THE NUCLEAR REGULATORY COMMISSION



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