UNITED STATES NUCLEAR REGULATORY COMMISSION

VIRGINIA ELECTRIC AND POWER COMPANY, ET AL.

DOCKET NO. 50-338

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-4, issued to Virginia Electric and Power Company and Old Dominion Electric Cooperative (the licensee), for operation of the North Anna Power Station, Unit No. 1 (NA-1) located in Louisa County, Virginia, in accordance with the licensee's application for amendment dated January 17, 1986.

The proposed change would allow 7 percent Steam Generator (SG) tube plugging levels at NA-1 to support power operation at the currently licensed reactor thermal power of 2775 Megawatts thermal (MWt). The currently approved level for SG tube plugging is 5%.

Recent eddy current inspections of the NA-1 SG tubes indicated a need to plug additional tubes beyond the Fuel Cycle 5 level of 3.17%. The plugging level was increased to 3.89% during the recent NA-1 Cycle 5 to Cycle 6 refueling outage. Since it is possible that future eddy current inspections may require that the plugging level be increased to a level beyond the currently approved 5% limit, the licensee has provided an evaluation of the impact on Loss-of-Coolant Accidents (LOCA) and non-LOCA analyses at higher levels of SG tube plugging up to 7%.

Since sufficient tube plugging can reduce primary system flow, result in more severe pump coastdown characteristics, and reduce the primary system volume, the impact of tube plugging on non-LOCA transient analyses was

previously evaluated by the licensee and submitted to the NRC by letter dated February 12, 1982. The evaluation provided a conservative estimate of actual Reactor Coolant System (RCS) flowrate versus SG tube plugging level for NA-1&2. The evaluation showed that at 7% tube plugging the primary system flowrate would still be more than 2.5% greater than the current NA-1&2 thermal design flow. Thus the current licensing analyses, in which flowrate is an important concern (DNB limited events), remain valid at 7% plugging. Seven percent SG tube plugging results in a 3% change in the total loop resistance. The evaluation indicated that this change would have a minimal impact on the pump coastdown curve. Also, the evaluation determined that 7% steam generator tube plugging would reduce the RCS volume by 2% and this would reduce the dilution time by 2%. However, during dilution events it was determined that sufficient time (approximately 60 minutes) remained to criticality to allow operator action.

The currently docketed analysis is based on a SG tube plugging level of 5%. A new LOCA analysis has recently been submitted by the licensee to the NRC (by letter dated May 2, 1985) in support of the Phase 3 NA-1&2 core uprate program which assumes a SG tube plugging level of 7%. This analysis, which is being submitted by the licensee to support the proposed change for 7% SG tube plugging at the currently licensed thermal power level for NA-1, bounds the currently licensed design conditions for NA-1.

The primary conservatisms in the new LOCA analysis are the higher reactor power and the lower reactor coolant flow, both of which tend to increase the peak clad temperature during a LOCA. The 50 pounds per square inch absolute (psia) reduction in steam pressure and the one degree difference in vessel average coolant temperature are shown to have a minor impact on peak clad temperature. Previous experience has shown that the effects of the power and RCS flow will dominate the other differences to produce a conservative

peak clad temperature. Therefore, operation at the current licensed reactor thermal power of 2775 MWt will be bounded by the results of the uprated analysis when operating at the FQ limit (2.15) determined from the new analysis.

Three aspects must be considered when evaluating the effect of steam generator tube plugging level on small break LOCA transients. They are reduced heat transfer area, the increased initial temperature difference between the primary and secondary side and the countercurrent flow limit (CCFL). Since only a small portion of the steam generator heat transfer area is required to provide an effective heat sink during a small break transient, plugging some steam generator tubes will not affect small break LOCA transients in view of the available heat transfer area. The increased temperature difference between the primary and secondary side disappears immediately after the break when the secondary side pressure reaches the steam generator safety valve setpoint and therefore, has no impact on the transients. The CCFL has been shown to have insignificant impact on the peak clad temperature for small levels of steam generator tube plugging (up to approximately 20%). Since the plugging levels will not exceed 7%, there will be no impact on small break LOCA and the currently approved small break LOCA analysis (Section 15.3.1 of the NA-1&2 Updated Final Safety Analysis Report) remains bounding.

The Commission has made a proposed determination that the request for amendment 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. Specifically, as discussed above, the proposed change will not increase the probability of occurrence or consequences of any malfunction or accident previously addressed. The re-analyzed large break LOCA analysis, which is attached, shows that operation under the revised specifications would not result in any increase in accident consequences. The analysis assumptions for the remainder of the UFSAR Chapter 15 transient analyses have not changed and they remain bounding. Also, new accident types or equipment malfunction scenarios will be introduced as a result of operating in accordance with the revised specifications. And, finally, the margin of safety, as defined in the basis for the affected Technical Specifications, is not reduced. Operation at the lower FQ limit will not reduce the margin to the LOCA acceptance limits. Therefore, based on these considerations and the criteria given above, the Commission has made a proposed determination that the amendment request does not involve a 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.

Comments should be addressed to the Rules and Records Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

By April 7, 1986 , the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license 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. 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 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, 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.

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 amendment request 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 amendment.

Normally, the Commission will not issue the amendment 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 amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves 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, DC 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W., Washington, DC, 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 Lester S. Rubenstein: (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 Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to Michael W. Mauphin, Esq., Hunton, Williams, Gay and Gibson, 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 designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be 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 January 17, 1986, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, DC, and at the Board of Supervisors Office, Louisa County Courthouse, Louisa, Virginia 23093 and the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901.

Dated at Bethesda, Maryland, this 3rd day of March, 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

L S Rubenstein

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