

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION



In the Matter of  
VIRGINIA ELECTRIC AND POWER COMPANY  
(North Anna Power Station, Unit 2)

Docket No. 50-339

The Commission has authorized the Director, Office of Nuclear Reactor Regulation, to issue license NPF-7, Facility Operating License for North Anna Power Station, Unit No. 2. In conjunction with Commissioner Gilinsky's approval he requested dissemination of his attached concurring views.

  
SAMUEL J. CHILK  
Secretary of the Commission

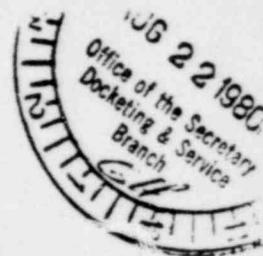
Dated at Washington, D.C.,  
this 21<sup>st</sup> day of August, 1980.

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August 20, 1980



COMMISSIONER GILINSKY'S SEPARATE STATEMENT ON  
NORTH ANNA 2 FULL POWER AUTHORIZATION

As today marks the first instance of the Commission itself granting initial permission for full power reactor operation, several remarks are in order about the procedure followed by the Commission and the merits of the present application. Previous operating licenses have been issued by the responsible NRC staff office after a staff review and, in the case of a contested license, after authorization by an Atomic Safety and Licensing Board. The Commissioners were not normally involved unless the Licensing Board decision in a contested case was appealed to the Appeal Panel and a further appeal was subsequently taken up by the Commission. In practice, this meant that even if the Commissioners did become involved in the case such involvement came long after the start of reactor operation and that the Commissioners only reviewed a narrow set of issues which survived the two-stage appeal process. This delegation of the Commissioners' most important decisionmaking function, coupled with the ex parte bars on discussing cases in controversy with parties or interested persons, meant that the Commissioners, who were putatively in charge, were in practice not at all in charge and were not even well informed about the most important activity of the agency.

I proposed a number of changes some years ago to rectify this situation: elimination of one level of review, direct appeal from Licensing Board decisions to the Commission, and a change in the Commission's rules so that major power reactor licensing decisions would not become effective until the Commissioners themselves acted. There was not a majority for these changes.

In the wake of the Three Mile Island accident, of the extensive new licensing requirements that were in the process of being imposed as a result of that experience, and of the sensitivity with which further power reactor licensing was regarded after the accident, the Commissioners announced 1/ that they would themselves rule on all major reactor licenses. In effect, the Commission suspended the rule which gave immediate effectiveness to decisions of the Commission's Licensing Boards. I regard this decision as the most important single step taken by the Commission after the accident. 2/

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1/ On September 6, 1979.

2/ The North Anna Unit 2 operating license proceeding is, at this stage, an uncontested case. The procedures the Commission will employ in a contested case are contained in 10 CFR Part 2, Appendix B.

The review undertaken by Commissioners is necessarily an audit of the staff's review which is itself an audit of the applicant's submissions. In making the various statutory findings that are required by law and our regulations, the Commission must lean heavily on the conclusions of the technical staff. The Commission's review is nevertheless an important and valuable one, both in terms of the North Anna 2 application and in terms of improving the safety review process through closer involvement of the Commissioners. 3/

My own review of the application before us and of its evaluation by the NRC technical staff and my visit to the reactor lead me to conclude with reasonable assurance that the requisite standards of the law are met and therefore the application should be approved. At the same time, I want to make clear that deficiencies still attach to this application. While these deficiencies are not sufficiently severe to justify denial of a license, they are nevertheless important from the point of view of safety. Some of the deficiencies involve requirements, such as the qualification of electrical equipment for accident conditions, which were imposed on all plants and which must be complied with at future dates. Others, such as the deferment of the date for the installation of a reactor coolant system vent to relieve hydrogen buildup, are the result of VEPCO's inability to comply with present requirements in a timely fashion. Finally, there are some matters with which I am not personally satisfied. A few of the specific matters that concern me are mentioned here.

(1) More than half of the categories of critical electrical equipment, some 57 categories out of 92, involving over 200 pieces of equipment, have not been shown to be qualified for operation under accident conditions. The applicant has informed NRC that 9 categories of equipment require corrective action and that 48 categories lack detailed test data and/or require documentation of their qualification. The NRC staff believes that, except for the 9 categories requiring changes, the problem is one of documentation and not of actual qualification. As a condition of the license, the applicant must complete such documentation by November 1 and in this respect North Anna 2 is being treated no less strictly than operating plants. The fact remains that the applicant has been on

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3/ I would note that the Licensing Board proceeding on the North Anna 2 operating license was completed on December 13, 1977. The Appeal Board took sua sponte review of only two issues: pumphouse settlement and the risks posed by turbine missiles. The pumphouse settlement issue was decided in the spring of 1980. The turbine missile issue is not resolved but the Appeal Board appears to be satisfied that turbine missiles will not become a hazard until the turbines have been in use for some time. Neither the Appeal Board nor the Licensing Board addressed issues arising from the TMI accident.

notice for more than two years that the Commission will insist on documented evidence that key categories of electrical equipment can function in an accident environment. That the situation is still not in order reflects a disturbing lack of attention on VEPCO's part.

I should add that not all aspects of the possible accident environment are dealt with by NRC standards and that this reflects a lack of attention on NRC's own part. In particular there are still no requirements that electrical equipment within the containment be able to withstand a hydrogen burn such as the one that took place during the Three Mile Island accident.

(2) There are still important deficiencies in the control room layout and instruments:

Standing in front of the main panel I found I could not see certain indicators of plant status displayed on the bottom of the back panel, for example, the indicator lights showing whether containment isolation has occurred.

Since the core outlet thermocouples provide a valuable means for detecting core overheating, the thermocouple measurements should be readily visible in the control room and there should be means for immediately bringing to the attention of the operators any increase in temperature outside the normal range. The Advisory Committee on Reactor Safeguards recently said it "believes that instruments displaying thermocouple readings should be readily available in plant control rooms, consistent with the philosophy underlying ACRS Generic Item 43: 'Instrumentation to Follow the Course of an Accident.'" In the North Anna control room, the core outlet thermocouple readings can be displayed individually on a meter, located some distance from the main control panels, which reads only up to 700°F. The reactor computer can print out up to much higher temperatures but it needs to be queried by the operator.

(3) The Emergency Operations Facility (EOF) should be moved farther from the reactor.

By letter of October 10, 1979, the staff required an immediate upgrade of all licensees' emergency plans and facilities, including designation of an Emergency Operations Facility (EOF), by January 1, 1980. VEPCO identified its visitors center as the interim EOF. That center is located about one-quarter mile from the reactor, on a hill at approximately stack height, with a direct line of sight to the reactors. In the event of a serious accident, the facility which would be depended upon to direct public protection measures may itself have to be evacuated. The staff has concluded that the EOF is adequate for full power operation. I would require upgrading of an alternate facility to be the primary EOF as soon as possible.

(4) Finally, while I am not prepared at this point to describe it as a deficiency, it appears the North Anna 2 configuration of low pressure injection (LPI) and residual heat removal (RHR) systems could be improved substantially in terms of its ability to deal with accidents. The North Anna plant has separate low pressure injection and residual heat removal systems; on its face, this separation appears to be an improvement. However, the LPI, intended to supply makeup water for core cooling during a loss of coolant accident (LOCA), does not include a heat exchanger. If the plant goes into the recirculation mode following a LOCA, decay heat would have to be removed from the containment via heat exchangers in the containment spray recirculation systems.

The RHR system, located inside the containment and intended to remove decay heat from the primary system during the refueling mode, does have a heat exchanger but, because the RHR is not regarded as a safety system, it has not been qualified for operation in an accident environment. If so qualified, this system could serve as an alternative to the steam generators as a heat sink under accident conditions.

The staff and the ACRS should reexamine the desirability of attaching a heat exchanger to the LPI system and of environmentally qualifying the RHR system:

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There remains the troublesome question of the legal sufficiency of the Commission's findings. Section 185 of the Atomic Energy Act permits the Commission to issue an operating license if it finds that the facility has been constructed and will operate "in conformity with the provisions of...[the Atomic Energy] Act and of the rules and regulations of the Commission..." In view of the lack of a documented connection between the regulations and the safety review performed by the staff, the legality of the Commission's licensing process is not as firmly based as it should be. The General Counsel has advised the Commission that it can lawfully grant a license for North Anna Unit 2. At the same time he recommends a program to correct the present legal infirmities by documenting the relationship between the regulations and the safety review process. <sup>4/</sup> I believe that the Commission should forthwith implement the General Counsel's recommendations.

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<sup>4/</sup> Memorandum from the General Counsel to the Commission, August 14, 1980 (attached).