
Safety Evaluation Report

related to the operation of
North Anna Power Station,
Unit 2

Docket No. 50-339

Virginia Electric and Power Company
Supplement No. 12

August 1980

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

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1.0 INTRODUCTION AND GENERAL DISCUSSION

1.1 Introduction

On June 4, 1976, the Nuclear Regulatory Commission (Commission) issued its Safety Evaluation Report regarding the application by the Virginia Electric and Power Company (VEPCO, licensee) for licenses to operate the North Anna Power Station, Units 1 and 2. The Safety Evaluation Report was supplemented by Supplement No. 1 through 11 which documented the resolution of several outstanding issues in further support of the licensing activities.

On November 26, 1977, the Facility Operating License NPF-4 was issued for North Anna Power Station, Unit 1. The license permitted fuel to be loaded into Unit 1 and was subsequently amended [Amendment No. 3] on April 1, 1978 to permit Unit 1 to operate at 100 percent power.

On April 10, 1980, the Commission issued Supplement No. 10 to the Safety Evaluation Report related to the issuance of an operating license for North Anna Power Station, Unit 2. This action permitted VEPCO to load fuel and to achieve criticality, and to operate Unit 2 at power levels not to exceed five percent of full power, i.e., low power operation in accordance with requirements developed from the lessons learned from the TMI-2 accident.

Subsequently on July 3, 1980, authorization was granted by the NRC to VEPCO to conduct its special low power test program. The program consisted of conducting seven special tests involving conditions for natural circulation heat removal. Training was provided for the operators during the conduct of the tests. Further

details of the program and the results are given in Section 22.2 Item I.G.1 of Supplement No. 11 to the Safety Evaluation Report.

In August, 1980 we issued Supplement No. 11 to the Safety Evaluation Report. In Supplement No. 11 we concluded that subject to resolving matters related to emergency preparedness, the operating license can be issued to allow power operation at full rated power (2775 megawatts thermal).

The purpose of this supplement is to update the safety evaluation presented in Section 22.2 (Item III.A.1.1) of Supplement No. 11 to the Safety Evaluation Report related to emergency preparedness. In this report we stated that prior to authorizing full power a successful emergency exercise had to be performed. This was accomplished on August 16, 1980.

Section 22.2 (Item III.A.1.1) is supplementary to and not in lieu of the discussion in the Safety Evaluation Report and the supplements thereto, except where specifically noted. Appendix A is a continuation of the chronology of any principal actions related to the processing of the application.

On the basis of staff review including a letter from FEMA dated August 19, 1980, we conclude that the North Anna, Unit 2 facility may be operated safely at full power in accordance with the facility Technical Specifications without undue risk to the health and safety of the general public.

22.2 FULL POWER REQUIREMENTSIII. Emergency Preparations and Radiation ProtectionIII.A.1.1 Upgrade Emergency PreparednessPOSITION

- a. Provide an emergency response plan in substantial compliance with NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Response Plans and Preparedness in Support of Nuclear Power Plants" (which may be modified after May 13, 1980, based on public comments) except that only a description of a completion schedule for the means for providing prompt notification to the population (App. 3), the staffing for emergencies in addition to that already required (Table B.1), and an upgraded meteorological program (App. 2) need be provided. NRC will give substantial weight to FEMA findings on offsite plans in judging the adequacy against NUREG-0654.
- b. Perform an emergency response exercise to test the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations.

DISCUSSION AND CONCLUSIONS

In Section 22.2 (Item III.A.1.1) of Supplement No. 11 to the Safety Evaluation Report, we stated that we reviewed the applicant's revised emergency plan and found that it is in substantial compliance with NUREG-0654 and meets the requirements of 10 CFR 50, Appendix E.

We also stated that, the Federal Emergency Management Agency was reviewing the State and local emergency plans and that we had not received their findings and determinations. We also stated that

prior to authorizing full power operation, we would require a successful emergency response exercise to test the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations.

The Federal Emergency Management Agency (FEMA) has reviewed the State and local radiological emergency response plans and found them to be in substantial compliance with NUREG-0654. Based on that review and the successful Joint Emergency Response Exercise conducted on August 16, 1980, FEMA stated in a letter dated August 19, 1980, that the State and local governments have successfully demonstrated the capability to respond to a radiological emergency.

Based on our review of the FEMA's findings on State and local radiological emergency preparedness and our evaluation of the successful Joint Emergency Response Exercise, we conclude that the emergency preparedness program for North Anna and the related emergency planning zones is acceptable, capable of being implemented and meets the regulatory requirements of 10 CFR 50, Appendix E.

23.0 CONCLUSIONS

Based on our evaluation of the application as set forth in our Safety Evaluation Report issued on June 4, 1976 and Supplement Nos. 1 through 11 and our evaluation as set forth in this supplement, we conclude that the operating license can be issued to allow power operations at full rated power (2775 megawatts thermal) subject to license conditions which will require further Commission approval and license amendments before the stated condition can be removed.

We conclude that the construction of the facility has been completed in accordance with the requirements of Section 50.57(a)(1) of 10 CFR Part 50, and that construction of the facility has been monitored in accordance with the inspection program of the Commission's staff.

Subsequent to the issuance of the operating license for full rated power for the North Anna Power Station, Unit 2, the facility may then be operated only in accordance with the Commission's regulations and the conditions of the operating license under the continuing surveillance of the Commission's staff.

We conclude that the activities authorized by the license can be conducted without endangering the health and safety of the public, and we reaffirm our conclusions as stated in our Safety Evaluation Report and its supplements.

APPENDIX A

Continuation of Chronology of Radiological Review

July 16, 1980	Letter from applicant concerning auxiliary feedwater system requirements.
July 18, 1980	Letter from applicant supporting their request for a full power license. Letter discusses emergency plan implementing procedures.
July 22, 1980	Letter to applicant concerning emergency preparedness program for a full power license.
July 22, 1980	Letter from applicant concerning multiple structure ARS concern.
July 23, 1980	Representatives from PSE&G, VEPCO, TVA & NRC meet in Bethesda, Maryland to discuss matters related to TMI-2 dated requirements. (Summary issued August 8, 1980.)
July 25, 1980	Letter from applicant concerning multiple structure ARS concern.
July 28, 1980	Letter from applicant concerning NUREG-0588 and concerning safety in start-up and operation of North Anna Unit 2.
July 28, 1980	Letter from applicant concerning Auxiliary Feedwater System Requirement.
July 30, 1980	Letter from Applicant concerning multiple structure ARS concern.
July 30, 1980	Letter from applicant concerning containment pressure boundary fracture toughness requirements.
July 31, 1980	Letter to applicant (generic) concerning interim criteria for shift staffing.
August 4, 1980	Letter to applicant concerning emergency action levels of Section 4.
August 12, 1980	Representatives from VEPCO, the State of Virginia and NRC Staff meet in Bethesda, Maryland to be briefed on the planned joint emergency exercise.
August 12, 1980	Letter to applicant transmitting 20 copies of Supplement No. 11 of the North Anna, Unit No. 2 Safety Evaluation Report.
August 18, 1980	Letter to applicant transmitting Amendment No. 2 to License NPF-7 granting an exception to Technical Specification 8.1 of Appendix A to perform a water hammer demonstration test.

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16. ABSTRACT (200 words or less) <p>On June 4, 1976, the Nuclear Regulatory Commission issued its Safety Evaluation regarding the application for licenses to operate the North Anna Power Station, Units 1 & 2. The application was filed by Virginia Electric and Power Company. Supplement No. 1 to the Safety Evaluation Report was issued on June 30, 1976; Supplement No. 2 was issued August 2, 1976; Supplement No. 3 was issued on September 15, 1976; Supplement No. 4 was issued on December 8, 1976; Supplement No. 5 was issued on December 29, 1976; Supplement No. 6 was issued on February 2, 1977; Supplement No. 7 was issued on August 18, 1977; Supplement No. 8 was issued on December 14, 1977; Supplement No. 9 was issued on March 31, 1978; and Supplement No. 10 was issued on April 10, 1980. Supplements 1 through 9 documented the resolution of several outstanding items. Supplement No. 10 addresses the requirements for fuel loading and conducting low power testing of North Anna Unit 2. Supplement No. 11 addresses the requirements which must be completed prior to the issuance of a full power operating license for Unit 2. This Supplement, No. 12 addresses emergency preparedness.</p>					
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