

Docket No. 50-339

Mr. W. L. Stewart
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Dear Mr. Stewart:

SUBJECT: ENVIRONMENTAL ASSESSMENT OF EXEMPTION REQUEST FROM 10 CFR 50.49,
ENVIRONMENTAL QUALIFICATION OF ELECTRIC EQUIPMENT IMPORTANT
TO SAFETY FOR NUCLEAR POWER PLANTS-NORTH ANNA POWER STATION
UNIT NO. 2 (NA-2) (TAC NO. 84487)

Enclosed is a copy of an "Environmental Assessment and Finding of No
Significant Impact" for your information. This assessment relates to your
letter dated September 11, 1992, which requested an exemption from the
requirements of 10 CFR Part 50.49, regarding the environmental qualification
of the NA-2 control room chillers for approximately the duration of the NA-1
steam generator replacement program.

This notice is being forwarded to the Office of the Federal Register for
publication.

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:
Environmental Assessment

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 NO. 50-339ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission is considering issuance of an exemption from the requirements of 10 CFR 50.49 to Virginia Electric and Power Company (the licensee), for the North Anna Power Station, Unit No. 2 (NA-2) located in Louisa County, Virginia.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed exemption would allow temporary relief from the requirements of 10 CFR 50.49, Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants. The temporary relief would be for the environmental qualification of the NA-2 control room chillers for the work activities associated with the Phase 1, Stage 1 Service Water Restoration Project (SWRP). The Phase 1, Stage 1 will be performed concurrently with the NA-1 Steam Generator Replacement Program (SGRP). This exemption would permit temporary cooling of the NA-1 control room chillers from the common bearing cooling water system to provide normal control room temperatures and provide a reliable backup cooling system to the NA-2 air conditioning design basis. The period for the NA-1 chillers to be operating on bearing cooling water is projected to be between 90 and 120 days.

NA-1&2 each have three control room air conditioner chillers located in a missile protected room of the service building off the respective unit's turbine building basement. Ventilation of each unit's chiller room is taken

from and exhausted to the respective unit's turbine building basement. Hence, the chillers for each unit are located in the same environmental zone which is also common to the unit's turbine building basement. Therefore, as the result of an environmental qualification evaluation of the control room air conditioning systems, a station standing order was issued to require at least one of the opposite unit's chillers to remain operable while in a shutdown condition. Specifically, the station standing order requires that at least one control room chiller on the unit in Mode 5 or 6 be maintained operable while the other unit is in Mode 4 or above. This measure assures that the air conditioning system serving the control room and emergency switchgear room would be available during a postulated main steam line break accident in the turbine building.

However, with bearing cooling water supplied to the NA-1 chillers instead of service water, the reliability of the NA-1 chillers is called into question because bearing cooling is not safety-related. Bearing cooling would not be available in the event of a loss of offsite power event or design basis earthquake coincident with the main steam line break accident in the turbine building. Therefore, an exemption from 10 CFR 50.49 for the NA-2 chillers is requested for the period that the service water system is isolated from the NA-1 recirculation spray heat exchangers and the control room chillers.

While the shutdown unit's Technical Specifications (TS) do not require the air conditioning systems to remain operable in Modes 5 and 6, the environmental qualification design basis for the operating unit's air conditioning systems requires at least one of the shutdown unit's chillers to be operable as a backup to the operating unit.

The accident of concern results in an environmental condition in the NA-2 chiller room for which the NA-2 control room chillers are not qualified and may cease to function properly. The only postulated accident event that could cause this condition is the failure of a main steam line in the turbine building basement in proximity to the NA-2 chiller room. However, in order to have sufficient steam concentration in the area to disable the NA-2 chillers, the main steam trip valve on the line would also have to fail to a closed position.

This is unlikely because the trip valves are essentially check valves reversed to the flow of steam with the check disk physically held out of the steam flow path. Failure to hold the disk out of the steam flow path would cause the trip valve to slam shut. Failure of the valve where the disk is stuck open is, therefore, highly unlikely.

The Need for the Proposed Action:

The proposed exemption is needed in order to permit the completion of highly desirable repairs and replacement activities in the NA Service Water System (SWS) without unduly extending the next several scheduled NA-1&2 refueling outages.

Environmental Impacts of the Proposed Action:

The proposed exemption does not involve any measurable environmental impacts during normal operation since the plant configuration is changed only minimally and operation of NA-2 is not changed. The likelihood of the above accident scenario during the time the exemption would be in effect is low. Thus, the proposed exemption would not significantly affect the probability or consequences of potential reactor accidents and would not otherwise affect

radiological plant effluents. Consequently, the Commission concludes that there are no significant radiological impacts associated with the proposed exemption.

With regard to potential non-radiological impacts, the proposed exemption involves features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the staff concludes that there are no significant non-radiological environmental impacts associated with the proposed exemption.

Alternatives to the Proposed Action:

Since the staff has concluded that there are no measurable environmental impacts associated with the proposed exemption, any alternatives with equal or greater environmental impact need not be evaluated. The principal alternative to the exemption would be to require strict compliance with 10 CFR 50.49. Such action would not significantly enhance the protection of the environment, and would result in a significant loss of power to the licensee, as the next two refueling outages would have to be extended considerably.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the North Anna Power Station, Units No. 1 & No. 2.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the foregoing environmental assessment, the staff concludes that the proposed action would not have a significant effect on the quality of the human environment and has determined, therefore, not to prepare an environmental impact statement for the proposed exemption.

For further details with respect to this action, see the application dated September 11, 1992, which is available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document room located at the Alderman Library, Special Collections Department, University of Virginia, Charlottesville, Virginia 22903-2498.

Dated at Rockville, Maryland, this 20th day of November 1992.

FOR THE NUCLEAR REGULATORY COMMISSION

Bart C. Buckley
Bart C. Buckley, Acting Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation