VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 92-715
NL&P/ETS R4
Docket Nos. 50-280
50-281
50-338
50-339
License Nos. DPR-32
DPR-37
NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
NORTH ANNA POWER STATION UNITS 1 AND 2
10 CFR 50, APPENDIX J EXEMPTION REQUEST
TYPE A TEST ACCEPTANCE CRITERIA

Pursuant to 10 CFR 50.12, Virginia Electric and Power Company requests a permanent exemption from the requirement of Section III.A.5(b)(2), of 10 CFR 50 Appendix J. Section III.A.5(b)(2) requires that "The leakage rate Lam shall be less than 0.75 La (where La equals 1.0 weight percent per 24 hours at calculated peak containment pressure)."

This requirement can impact the results of containment integrated leak rate tests. Type A test leakage rates are normally determined for both the "as-left" and "as-found" conditions. The "as-left" leakage rate is determined during the Type A test. The "as-found" leakage rate is determined by including the change in individual penetration leakage rates, due to repairs and adjustments completed from the local leak rate program (leakage savings), to the "as-left" test results. Specifically, included in the "as-found" measured leakage rate are the results of the Type B and C tests performed during that outage as well as those Type B and C tests performed during the previous operating cycle.

Because the requirement does not distinguish between "as-found" and "as-left" leakage rates, we are requesting a permanent exemption from Section III.A.5(b)(2) such that the stated leak rate of 0.75 La is not applicable for the "as-found" leakage rate. In place of the 0.75 La acceptance criteria of Section III.A.5.(b)(2), we intend to use 1.0 La as the "as-found" acceptance criterion which is consistent with the accident analysis assumptions. The "as-found" acceptance criterion will be used only to determine the Type A test schedule, pursuant to 10 CFR 50 Appendix J, Section III.A.6

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(a) and 6(b) and reportability pursuant to 10 CFR 50.73. The "as-left" acceptance criteria will continue to be 0.75 La in accordance with Section III.A.5.(b)(2).

A detailed justification supporting this exemption request, which provides background information, the information required by 10 CFR 50.12, a summary of the safety impact, a no significant hazards consideration determination, and an assessment of the environmental consequences is included in the attachment to this letter.

This request for exemption from 10 CFR 50 Appendix J requirements has been reviewed and approved by the North Anna and Surry Station Nuclear Safety and Operating Committees. It has been determined that the requested exemption does not pose an unreviewed safety question as defined by 10 CFR 50.59 nor does it pose a significant hazards consideration as defined by 10 CFR 50.92.

If you have any questions or need additional information to process this request, please contact us.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

Attachment

1. 10 CFR 50 Appendix J Exemption Justification

cc: U. S. Nuclear Regulatory Commission
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ATTACHMENT

10 CFR 50, Appendix J
Exemption Justification

Exemption Justification

Background

10 CFR 50, Appendix J, Section III.A.5(b)(2), Periodic Leakage Rate Tests Acceptance Criterion, states that "The leakage rate shall be less than 0.75 La". Considerable confusion exists throughout the industry concerning this acceptance criterion with respect to "as-found" and "as-left" requirements. The "as-found" leakage is used to trend containment performance (integrity) over the operating cycle. Using 0.75 La as the acceptance criterion for the "as-found" test results is overly restrictive. If the "as-found" containment leakage rate is less than 1.0 La the leakage remains bounded by the accident analysis assumptions. Therefore, "as-found" results greater than 0.75 La but less than 1.0 La should not be considered a failure.

Using 1.0 La as the "as-found" leakage rate acceptance criterion will not reduce the margin of safety. The "as-left" leakage rate acceptance criterion will remain at less than 0.75 La. This maintains the existing 0.25 La margin for increased containment leakage (integrity degradation) over the operating cycle prior to reaching the maximum allowable leakage assumed in our accident analysis for design basis accidents and offsite dose calculations.

In Proposed Rule Making, published in the Federal Register on October 29, 1986, the NRC discussed the basis for "as-found" and "as-left" acceptance criteria during Type A testing. The proposed rule provides clarification for the "as-found" and "as-left" acceptance criteria. The ambiguities and inconsistent interpretation of the regulation for the Type A test program would be removed.

10 CFR 50.12 Requirements

10 CFR 50.12 states that the Commission may grant an exemption from requirements contained in 10 CFR 50 provided that: (1) the exemption is authorized by law, (2) the exemption will not present an undue risk to the public health and safety, (3) the exemption is consistent with the common defense and security and, (4) special circumstances as defined in 10 CFR 50.12(a)(2), are present.

1. The Requested Exemption is Authorized by Law

   No law exists which would preclude the activities covered by this exemption request.

2. The Requested Exemption Does Not Present an Undue Risk to the Public Health and Safety

   10 CFR 50 Appendix J states that the purpose of the regulation is to assure that leakage through primary containment and systems and components penetrating containment does not exceed allowable values, as specified in the Technical Specifications or associated bases, and that proper maintenance and repair are performed throughout the service life of the containment boundary components. This exemption request is consistent with the intent of the

regulation. This specific exemption will exclude the "as-found" Type A leakage rate acceptance criterion from the Appendix J, Section III.A.5.(b)(2) leakage rate of 0.75 La. The proposed alternative acceptance criterion, less than 1.0 La, will be used only to determine the Type A test schedule and test result reportability. The "as-left" Type A test leakage rate acceptance criterion will remain at less than 0.75 La and will be used to establish containment integrity prior to plant operations. The difference in the "as-found" and "as-left" acceptance criteria (0.25 La) is the amount of degradation the containment and/or the isolation components can tolerate before accident analysis assumptions are violated. Therefore, having an "as-found" acceptance criterion consistent with the design assumption will not present any undue risk to the public health and safety.

3. The Requested Exemption Will Not Endanger the Common Defense and Security

The common defense and security are not endangered by this exemption request.

4. Special Circumstances are Present Which Necessitate the Request for an Exemption to the Regulations of 10 CFR 50 Appendix J Section III.A.5(b)(2)

10 CFR 50.12(a)(2) provides the special circumstances that must be present prior to the Commission granting an exemption. Pursuant to 10 CFR 50.12(a)(2), the following special circumstances are present:

"item (ii). Application of the regulation in the particular circumstances would not serve the intent of the regulation."

The underlying purpose of the rule is to ensure the containment leakage rate is maintained within acceptable levels during the operating cycle. Revision of the "as-found" leakage rate acceptance criterion from less than 0.75 La to less than 1.0 La will eliminate test failures and subsequent retesting when a leakage margin still exists before reaching the design basis accident assumed leakage (i.e., 1.0 La is assumed for the first hour of the accident before returning the containment subatmospheric). Maintaining the "as-left" acceptance criterion at less than 0.75 La will continue to provide a 25% margin of leakage degradation over the operating cycle. If the measured integrated leakage rate is less than La, the assumptions in the UFSAR for the design basis accident analysis remain bounding. Therefore, the underlying intent of the rule, to maintain containment leakage rate within acceptable limits during the operating cycle, is met, in that the "as-left" leakage acceptance criterion remains at less than 0.75 La providing the 25% leakage margin over the operating cycle.

"item (iii) Compliance with the regulation would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted."

Using the existing less than 0.75 La for the "as-found" leakage rate acceptance criterion has in the past and may now cause unnecessary retesting when the containment integrity has not significantly degraded over the operating cycle and actually meets or is well below the design base leakage rate assumption. Using less than 1.0 La as the "as-found" leakage rate acceptance criterion will eliminate unnecessary testing without any compromise of safe operation. Each Type A test currently costs approximately $130,000 to perform. The cost includes equipment calibration and rental and personnel support for the three days required to setup and perform the test. These three days represent lost generation capability, since the test is normally critical path during the outage. In addition, the exemption will minimize the number of times the containment is pressurized and therefore, eliminate potentially adverse cyclic stress to the containment structure.

Safety Impact

Virginia Electric and Power Company has reviewed this exemption and determined that changing the "as-found" Type A test leakage rate acceptance criterion to allow for normal degradation over the operating cycle will not impact nuclear safety. The existing operating margins are maintained by this exemption request . Thus, operation of Surry and North Anna Power Stations in accordance with the proposed changes will not:

1. Involve an increase in the probability of occurrence or consequences of any accident or malfunction of equipment which is important to safety and which has been evaluated in the UFSAR because modifying the "as-found" Type A leakage rate acceptance criterion does not affect the probability of occurrence of accidents, nor will projected degradation of equipment occur that would change the consequences of an accident. The exemption request is consistent with the intent of the regulation.

2. Create the possibility of a new or different type of accident or malfunction of equipment important to safety from those previously evaluated in the safety analysis report. Physical plant modifications are not being made and plant operations are not being changed. Consequently the systems' ability to perform its intended function will be maintained, no new accident precursors are being generated and therefore no new or different kind of accident is created.

3. Involve a reduction in a margin of safety. Plant operations are not being changed nor are any of the accident analysis assumptions being modified or exceeded by this change. Modifying the "as-found" Type A leakage rate acceptance criterion to be consistent with the design base does not reduce any margin. The "as-left" Type A leakage rate acceptance criterion remains unchanged. Modification of the acceptance criterion will be used to establish test schedules and reportability and does not reduce any margin of safety. Therefore, the accident analysis assumptions remain bounding and safety margins remain unchanged.

Basis for No Significant Hazards Determination

The proposed changes do not involve a significant hazards consideration because operation of Surry and North Anna Power Stations in accordance with this change would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated. Establishing the "as-found" leakage rate acceptance criterion at less than 1.0 La for Type A testing does not affect any plant equipment or its operation. It does not affect the probability or consequences of an accident. Using 1.0 La as the "as-found" leakage rate acceptance criterion only affects the test schedule and reportability for Type A containment leakage testing. Increasing the proposed "as-found" leak rate acceptance criterion to less than 1.0 La is consistent with the current safety analysis which assume a leakage rate of less than 1.0 La. Furthermore, the "as-left" leakage rate acceptance criterion remains unchanged at less than 0.75 La.

(2) Create the possibility of a new or different kind of accident from any accident previously identified. It has been determined that a new or different kind of accident is not made possible due to this change. These proposed changes do not involve any alterations to plant equipment or procedures which would introduce any new or unique operational modes or accident precursors. The changes only affect the test schedule and reportability for Type A tests.

(3) Involve a significant reduction in a margin of safety. The margin of safety for any Technical Specification basis is not changed. The UFSAR accident analyses assumes containment leakage at less than 1.0 La which is the proposed "as-found" leakage rate acceptance criterion. The "as-left" leakage rate acceptance criterion (<0.75 La) rather than the "as-found" criterion establishes the margin of safety at the start of each operating cycle. Therefore, the accident analysis assumptions remain bounding and safety margins remain unchanged.

Therefore, pursuant to 10 CFR 50.92, based on the above consideration, it has been determined that this change does not involve a significant safety hazards consideration.

Environmental Consequences

This exemption will not change the types of any effluents that may be released offsite, nor create a significant increase in individual or cumulative occupational radiation exposure.