VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 10, 1997

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

Serial No. 97-061
SPS/GDM R2'
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 1 AND UNIT 2
SUPPLEMENTAL RESPONSE TO A NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-338/96-10 AND 50-339/96-10

Virginia Electric and Power Company received two violations in NRC Inspection Report Nos. 50-338/96-10 and 50-339/96-10 dated December 2, 1996. We responded to these two violations in our letter dated January 2, 1997 (Serial No. 96-622). Violation B identified three examples of noncompliance regarding implementation of the maintenance rule. In our response to Violation B, we identified that we had contracted with a consultant to perform an independent assessment of our implementation of the maintenance rule program. We further noted that upon completion of our review of the results of that assessment, we would develop an appropriate corrective action plan and advise the resident inspectors accordingly.

Following subsequent telephone conversations between Mr. D. A. Sommers of Virginia Electric and Power Company and Mr. G. A. Belisle of the NRC, we agreed to submit a supplemental response to Violation B instead of briefing the North Anna Resident Inspectors on the self-assessment. This response provides a summary of the assessment findings, as well as additional details on our long term corrective actions. This additional information is provided in Attachment 1 to this letter. It should be noted that the corrective actions detailed in Attachment 1 are also the subject of a pre-decisional enforcement conference for Surry Power Station to be held at NRC Region II offices in Atlanta, Georgia on March 11, 1997. Additional information regarding the implementation of the maintenance rule program will be discussed at that time.

As noted in the recent SALP report for North Anna, station maintenance on systems, structures and components is being effectively performed. This is evidenced by the high availability and excellent performance of safety related systems and components. However, we recognize the regulatory significance of not effectively implementing the

maintenance rule and are committed to the prompt correction of the issues identified in the independent assessment.

We have no objection to this letter being made part of the public record. The specific commitments made in this letter are summarized in Attachment 2. Please contact us if you have any questions or require additional information.

Very truly yours,

James P. O'Hanlon
Senior Vice President - Nuclear

Attachments

cc: U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

Mr. R. D. McWhorter
NRC Senior Resident Inspector
North Anna Power Station

ATTACHMENT 1

SUPPLEMENTAL RESPONSE TO VIOLATION B
NRC INSPECTION CONDUCTED SEPTEMBER 22 - NOVEMBER 2, 1996
NORTH ANNA POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-338/96-10 AND 50-339/96-10

SUPPLEMENTAL RESPONSE TO VIOLATION B
NORTH ANNA POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-338/96-10 AND 50-339/96-10

In a letter dated January 23, 1997, the NRC requested Virginia Electric and Power Company to submit a supplemental response to Violation B identified in NRC Inspection Reports Nos. 50-338/96-10 and 50-339/96-10. The supplemental response was requested to submit additional detail regarding long term corrective actions planned for North Anna Power Station in response to an independent assessment of our implementation of the maintenance rule. Consequently, Item No. 3, "Corrective Steps Which Will Be Taken to Avoid Further Violations," and Item No. 4, "The Date When Full Compliance Will Be Achieved," provided in our original response to Violation B are amended by the additional information provided below.

Independent Assessment Results

The independent assessment of maintenance rule implementation concluded that although significant effort had been expended in establishing the maintenance rule program, major elements of the maintenance rule and associated industry guidelines were not thoroughly understood by the personnel responsible for the implementation of the maintenance rule and had not been effectively implemented.

The assessment identified that weaknesses existed in implementation of the following major elements of the maintenance rule:

- determining structures, systems and components (SSCs) that are within the scope of the maintenance rule
- determining safety significant SSCs through the use of probabilistic safety assessment (PSA) and deterministic safety significance methodologies
- establishing appropriate performance criteria commensurate with safety
- monitoring SSC performance to determine whether performance criteria are achieved or not achieved
- establishing cause, corrective action and goals to achieve desired performance
- controlling the removal of SSCs for maintenance to assure overall plant safety is maintained and that balance is applied between the need to improve reliability while minimizing out of service time

Specific issues/examples were noted in each area.

The assessment also identified those areas for which the maintenance rule program could most significantly be improved by corrective efforts:

- Additional staff training to ensure that the requirements of the maintenance rule, applicable industry guidance, and the application of probabilistic and deterministic risk assessment methodologies are thoroughly understood by the personnel responsible for implementing the maintenance rule

- Improving the process for data verification, including scoping and functional failure screening for maintenance preventable functional failures

- Improving the level of detail in, and compliance with, the station administrative procedure that establishes the maintenance rule program

- Improving supporting/interfacing station procedures necessary for maintenance rule implementation and administratively associating them with the maintenance rule program

Due to the extent of the weaknesses identified in the independent assessment, we have initiated, and continue to take, corrective actions to integrate the maintenance rule processes into day-to-day operations and decisions to promote verbatim compliance with the maintenance rule. The corrective actions are being applied programmatically. Consequently, these actions apply to both North Anna and Surry Power Stations. Our corrective action plan is provided below.

CORRECTIVE ACTION PLAN

1. Establish a Maintenance Rule Recovery Team

To address the issues identified in the independent assessment, Virginia Electric and Power Company has established a maintenance rule recovery team to facilitate compliance with the maintenance rule. The recovery team will ensure proper implementation of maintenance rule requirements at all levels and ensure that appropriate direction and oversight are provided for each aspect of the program. The recovery team reports directly to the Manager - Nuclear Engineering and consists of a multi-discipline team of personnel who have been dedicated to coordinate the following corrective actions:

- Provide expanded guidance to ensure that scoping, evaluation of safety significance, performance criteria, corrective actions and goal setting for SSCs are in accordance with approved industry guidance. This guidance will be documented in procedures.

- Perform a complete verification and validation of the maintenance rule baseline by re-performing the steps used for the initial implementation of

the maintenance rule but in accordance with the expanded guidance. This verification/validation includes the following activities:

- Scoping to identify the SSC functions included in the rule
- Identifying SSC functions that are considered risk significant using PSA methods and deterministic review by an expert panel
- Developing performance criteria that are commensurate with safety
- Performing a historical review of SSC reliability and availability
- Dispositioning functional failures identified during the historical review
- Comparing the results of the historical review and performance criteria to determine SSC classification
- Dispositioning SSCs with unacceptable performance with appropriate initial evaluations, corrective actions and goals

The validated baseline will be reviewed and approved by the appropriate system engineers and the station maintenance rule working groups.

- Resolve identified issues related to maintenance rule program implementation regarding functional failure disposition and the timeliness of the dispositions.
- Develop enhanced guidelines for the evaluation and classification of SSCs for placement into the (a)(1) category including goal setting.
- Improve the current process for performing on-line maintenance to ensure that risk is appropriately addressed when SSCs are removed from service for maintenance and competing requirements of availability and reliability are reasonably considered.
- Develop a method to improve the availability and use of operating experience in the required portions of the maintenance rule program.
- Develop a transition plan to transfer ownership of the Maintenance Rule program from the corporate operations support group to the engineering department.

2. **Provide Staff Training on the Maintenance Rule**

The maintenance rule recovery team expert panel, as well as certain corporate and station management personnel, have received training on the maintenance rule from a consultant who was personally involved in the development of NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Training on the use of PSA in the maintenance rule program was also provided by a corporate PSA engineering representative. Additional training is currently being scheduled for other personnel who have specific responsibilities in the ongoing implementation of the maintenance rule program (e.g., management, training, system engineering, operations, planning and maintenance personnel). This training will also address the use of PSA in the implementation of the maintenance rule. Furthermore, continuing technical training for station and corporate personnel will include training on the maintenance rule in future sessions.

3. **Revise Applicable Station Procedures**

Station administrative procedures VPAP-0815, "Maintenance Rule Program," and VPAP-2001, "Station Planning and Scheduling," have been revised to provide additional guidance for the control of SSCs that are out of service. VPAP-2001 was revised to provide additional emphasis on the use of PSA information when removing SSCs from service. VPAP-0815 was revised to 1) provide a clear definition of when an SSC is considered "unavailable" and to correct the definition for a maintenance rule functional failure, 2) add criteria for addressing the balance between SSC reliability and unavailability requirements, 3) require approval by the maintenance rule Working Group for maintenance preventable functional failures and (a)(1) evaluations, and 4) require generic failure concerns to be addressed by cause determinations.

The procedures that control the implementation of design changes and revisions of Emergency Operating Procedures (EOP) at the station will be revised to ensure that any effects of the design change or EOP revisions on the maintenance rule program are appropriately considered as part of the design change implementation and close-out process and the EOP revision process.

4. **Perform a Follow-up Assessment of the Maintenance Rule Program**

A follow-up assessment will be conducted of the revised maintenance rule program within approximately ninety days of declaring full compliance with the maintenance rule. This assessment is meant to ensure that outstanding implementation issues have been adequately resolved and the overall program has been effectively implemented.

5. **Perform an Assessment of Management Oversight of the Maintenance Rule Program**

An assessment of the management factors that contributed to the deficiencies in the development and implementation of the maintenance rule program has been completed by an independent consultant. Management is currently reviewing the results of the assessment and will take corrective actions as considered warranted.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Completion of our corrective actions and return to full compliance with the maintenance rule will be achieved by June 30, 1997. The follow-up self-assessment discussed above will be performed approximately three months later to ensure the program has been implemented appropriately and to make any process enhancements as deemed necessary.

ATTACHMENT 2

SUMMARY OF COMMITMENTS

SUMMARY OF COMMITMENTS

1. The recovery team reports directly to the Manager-Nuclear Engineering and consists of dedicated, cross-functional personnel who have been assigned to coordinate the following corrective actions:

   - Provide expanded guidance to ensure that scoping, evaluation of safety significance, performance criteria, corrective actions and goal setting for SSCs are in accordance with approved industry guidance. This guidance will be documented in procedures.

   - Perform a complete verification and validation of the maintenance rule baseline by re-performing the steps used for the initial implementation of the maintenance rule but in accordance with the expanded guidance. This verification/validation includes the following activities:

     - Scoping to identify the SSC functions included in the rule

     - Identifying SSC functions that are considered risk significant using PSA methods and deterministic review by an expert panel

     - Developing performance criteria that are commensurate with safety

     - Performing a historical review of SSC reliability and availability

     - Dispositioning functional failures identified during the historical review

     - Comparing the results of the historical review and performance criteria to determine SSC classification

     - Dispositioning SSCs with unacceptable performance with appropriate initial evaluations, corrective actions and goals

     The validated baseline will be reviewed and approved by the appropriate system engineers and the station maintenance rule working groups.

   - Resolve identified issues related to maintenance rule program implementation regarding functional failure disposition and the timeliness of the dispositions.

   - Develop enhanced guidelines for the evaluation and classification of SSCs for placement into the (a)(1) category including goal setting.

   - Improve the current process for performing on-line maintenance to ensure that risk is appropriately addressed when SSCs are removed from service

for maintenance and competing requirements of availability and reliability are reasonably considered.

- Develop a method to improve the availability and use of operating experience in the required portions of the maintenance rule program.

- Develop a transition plan to transfer ownership of the Maintenance Rule program from the corporate operations support group to the engineering department.

2. Additional training is currently being scheduled for other personnel who have specific responsibilities in the ongoing implementation of the maintenance rule program (e.g., management, training, system engineering, operations, planning and maintenance personnel). This training will also address the use of PSA in the implementation of the maintenance rule. Furthermore, continuing technical training for station and corporate personnel will include training on the maintenance rule in future sessions.

3. The procedures that control the implementation of design changes and revisions of Emergency Operating Procedures (EOP) at the station will be revised to ensure that any effects of the design change or EOP revisions on the maintenance rule program are appropriately considered as part of the design change implementation and close-out process and the EOP revision process.

4. A follow-up assessment will be conducted of the revised maintenance rule program within approximately ninety days of declaring full compliance with the maintenance rule. This assessment is meant to ensure that outstanding implementation issues have been adequately resolved and the program has been effectively implemented.