

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 3, 1988

U. S. Nuclear Regulatory Commission
Attn: Dr. J. Nelson Grace
Region II
101 Marietta St., N.W.
Suite 2900
Atlanta, Georgia

Serial No. 88-632
NO/ESG:rmh R2
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Dear Dr. Grace:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
REACTOR CAVITY SEAL - ACTION PLAN

During a management meeting at the Region II offices on September 16, 1988, we presented our plans for ensuring that the Surry Unit 2 cavity seal assembly was capable of adequately performing its function prior to the flooding of the cavity as part of the refueling sequence. Since that time, it has been determined that the Unit 1 reactor will be defueled prior to Unit 2, to inspect fuel assemblies for suspected defects, and to replace fuel assemblies as necessary. This letter provides our plan for actions to be taken prior to utilizing the Unit 1 seal.

These actions will encompass four major areas: design, testing, procedures, and training, as follows:

Design

1. Review the instrument air and backup nitrogen bottle systems for the inflatable seals. The backup nitrogen system will be installed in accordance with an approved design document.
2. Upgrade the applicable sections of the Instrument Air drawings for the inflatable seals.
3. Inspect the cavity seal assembly, including the inflatable seals, J-seals, the reactor vessel and diaphragm ring sealing surfaces. A load test to determine the effect of hydrostatic head on deflection of the diaphragm ring will be performed. Based on this inspection, modifications will be made to the diaphragm ring and J-seals to further ensure sealing. Installation of the modified seal assembly will be in accordance with appropriate procedures.
4. Provide a remote method to monitor reactor cavity level.

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Testing

The cavity seal assembly will be tested to demonstrate its ability to function as designed. Testing will include a pressure drop test on the inflatable seals, as well as a functional test of the passive seals with the inflatable seals deflated. Acceptance criteria for the functional test will be developed to address allowable leakage.

Procedures

Procedures will be enhanced to correct the weaknesses noted, as well as address any modifications being performed to the cavity seal. These procedure revisions include:

1. An operating procedure that will provide specific instructions for operation of the cavity seal system, including the backup air bottles, valves and regulators.
2. A checklist has been developed to provide instructions for periodic verification of cavity level, cavity seal drain status, and status of air to the inflatable seals.
3. The abnormal procedure for loss of cavity level has been revised to provide more explicit guidance regarding makeup sources, evacuation of containment and notifications to Health Physics. Further definition of potential radiological hazards of a loss of cavity level is also being developed, and will be included in the procedure prior to conducting the functional test of the passive seal.

Training

Operators will be trained, prior to use of the cavity seal on: the loss of cavity level experienced on Unit 1 in May; modifications made for this outage; and, procedural changes. This training will also include discussion of the need for increased sensitivity to abnormal events.

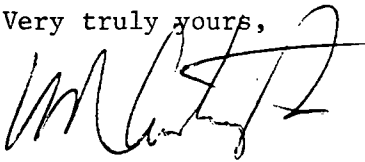
The above actions will also be performed prior to use of the Unit 2 cavity seal, following completion of the fuel movements in Unit 1. These actions will include the necessary modifications to the Unit 2 seal system, and functional testing.

In addition to the above actions, which will be completed prior to use of the cavity seal in each unit, other programmatic efforts are underway, as discussed during our meeting on September 16. These include:

1. The Station Manager has reviewed the cavity seal event with the station supervisory staff. This discussion focused on the need for sensitivity to off-normal events.
2. The control and operation of valves by the Local Leak Rate Testing personnel has been reviewed by the Superintendent Operations and the Station Nuclear Safety and Operating Committee. Emphasis has been placed on ensuring that valve manipulations are addressed by appropriate administrative controls.

3. A process for ensuring control of commitments placed in procedures will be in place by October 31, 1988.
4. A review of the station-based event review function is in progress. Interim changes in the handling of station deviations have been made to enhance the initial review of these events. Multidisciplinary groups will be used, as appropriate to investigate significant events, as demonstrated by the recent investigation into the observed flow reduction in the Unit 2 RHR system on September 19, 1988. In addition, further organizational changes are being considered.
5. The station Instrument Air systems are being evaluated in conjunction with the effort required by Generic Letter 88-14 to determine if any enhancements to drawings and administrative controls are necessary. This evaluation will be completed by February 9, 1989.

Very truly yours,



W. R. Cartwright
Vice President - Nuclear

Attachments

cc: U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Mr. W. E. Holland
NRC Senior Resident Inspector
Surry Power Station