VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 16, 2002

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

Serial No.: 02-168B
NL&OS/GDM R4
Docket No.: 50-281
License No.: DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNIT 2
THIRTY-DAY RESPONSE TO NRC BULLETIN 2002-01
REACTOR PRESSURE VESSEL HEAD DEGRADATION AND REACTOR COOLANT PRESSURE BOUNDARY INTEGRITY

On March 18, 2002 the NRC issued NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity." The bulletin requires licensees to provide information related to 1) the integrity of the reactor coolant pressure boundary including the reactor vessel head and the extent to which inspections have been undertaken to satisfy applicable regulatory requirements, and 2) the basis for concluding that plants satisfy applicable regulatory requirements related to the structural integrity of the reactor coolant system pressure boundary and that future inspections will ensure continued compliance with the applicable regulatory requirements.

As required by the bulletin, Dominion provided a fifteen-day response that included the information requested by items 1.A through D of the bulletin in a letter dated April 1, 2002 (Serial No. 02-168). Our fifteen-day response noted that inspection of the reactor vessel head for Surry Power Station Unit 2 was planned for the Spring 2002 refueling outage. This inspection effort has recently been completed, and consistent with 30-day bulletin reporting requirements 2.A and 2.B, the inspection scope and results of the Surry Unit 2 reactor vessel head inspection are provided in the attachment.

In summary, no evidence of boric acid leakage was identified above the reactor vessel head insulation, no evidence of through-wall leakage was identified for any reactor vessel head penetration, and no indication of reactor vessel head degradation (i.e., wastage of the reactor vessel head base metal) other than minor surface corrosion was identified during the performance of the inspections for Surry Unit 2. Consequently, no corrective actions or root cause evaluations were required.

If you have any further questions or require additional information, please contact us.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

A095

Attachment

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

Mr. R. A. Smith – ANII
Surry Power Station

SN: 02-168B
Docket No.: 50-281
Subject: 30 Day Response to NRC Bulletin 2002-01

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Engineering, of Virginia Electric and Power Company. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 16th day of May, 2002.

My Commission Expires: March 31, 2004.

Notary Public

(SEAL)

Attachment
30-Day Response to NRC Bulletin 2002-01

Surry Power Station Unit 2

2. *Within 30 days after plant restart following the next inspection of the reactor pressure vessel head to identify any degradation, all PWR addressees are required to submit to the NRC the following information:*

A. *the inspection scope (if different than that provided in response to Item 1.D.) and results, including the location, size and nature of any degradation detected,*

A qualified bare-metal visual inspection of the reactor vessel head (RVH) area inside of the control rod drive mechanism (CRDM) ventilation shroud was performed on Surry Unit 2 during the Spring 2002 refueling outage. The inspected area within the shroud includes the sixty-five CRDM penetrations, the single head vent penetration and the reactor head surface area surrounding the penetrations. The visual inspection was performed by qualified VT-2, Level II or III inspectors and was supported by the use of remote video equipment that provided detailed, high-resolution images of the bare-metal surface under the insulation. A remote-controlled video crawler was used for the majority of the head inspection, while the remaining less accessible head surface area was inspected using a boroscope camera to permit access to periphery penetration locations. As noted in our April 1, 2002 fifteen-day bulletin response, the interference fit for the reactor vessel head penetrations is such that there is a gap at operating temperature and pressure. Consequently, any through-wall flaw in a penetration tube that extends above the J-groove weld or a flaw in the J-groove weld itself would result in leakage that would be apparent on the surface of the reactor vessel head. The penetrations exhibited no evidence of through-wall leakage, nor was any degradation of the reactor vessel head surface detected other than limited areas of minor surface corrosion. Further, no fixed boric acid deposits existed on the reactor vessel head that would have prevented a clear, unobstructed inspection of the head surface. A small amount of loose debris (e.g. insulation, paint chips, etc.) was noted on the reactor vessel head that was easily removed with low-pressure air.

In addition to the bare-metal reactor vessel head inspection discussed above, a visual examination was also performed above the vessel head insulation in accordance with our Augmented Inspection Program. The purpose of this inspection was to identify any signs of active reactor coolant leakage from sources other than the penetrations at the reactor vessel head-to-penetration interface, such as leaking mechanical connections or welds. Indication of boric acid leakage would require further investigation to determine the source, extent, root cause, corrective actions, etc. A qualified VT-2, Level III inspector performed this inspection. No evidence of boric acid leakage was detected.

The acceptance criteria used for both of the above inspections were equivalent to the applicable requirements of ASME, Section XI, paragraph IWB-3522. The requirement

for these visual inspections is included in Dominion's Augmented Inspection Program since the scope and frequency of the inspections exceed the requirements of current versions of ASME Section XI. At the conclusion of the inspection, the reactor vessel head was pressure-washed to establish a base-line condition for future inspections.

B. the corrective actions taken and the root cause of the degradation.

No evidence of boric acid leakage was identified above the reactor vessel head insulation, no evidence of through-wall leakage was identified for any reactor vessel head penetration, and no indication of reactor vessel head degradation (other than minor surface corrosion) was identified during the performance of the inspections discussed above. Therefore, neither corrective actions nor root cause evaluations were required.