VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 28, 1975

REGULATORY DOCKET FILE COPY

Mr. Norman C. Moseley, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Serial No. 791
PO&M/JTB:clw

Docket No. 50-280
License No. DPR-32

Dear Mr. Moseley:

The Virginia Electric and Power Company hereby submits forty (40) copies of Special Report No. SR-S1-75-07 describing a recent event which occurred at the Surry Power Station, Unit No. 1.

The substance of this report has been reviewed by both the Station Nuclear Safety and Operating Committee and the System Nuclear Safety and Operating Committee.

Very truly yours,

C. M. Stallings

C. M. Stallings
Vice President-Power Supply
and Production Operations

Enclosure

cc: Mr. Robert W. Reid
39 copies SR-S1-75-07

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SPECIAL REPORT

SR-S1-75-07

INADVERTENT BENDING OF CONTROL ROD DRIVE SHAFT

DOCKET NO. 50-280
LICENSE NO. DPR-32

NOVEMBER 20, 1975

SURRY POWER STATION

VIRGINIA ELECTRIC AND POWER COMPANY

I. INTRODUCTION

On October 25, 1975, Unit No. 1 was in the refueling shutdown condition following fuel movement and replacement of the upper internals package. The manipulator crane was being moved in preparation for latching the full length control rods. During this movement the manipulator outer mast was inadvertently driven into the upper internals package, and damaged the drive shaft at core location P-8. The drive shaft was not latched to its control rod at the time of the impact.

II. SUMMARY OF OCCURRENCE

Initial inspection of the drive shaft indicated the impact resulted in a bend in the drive shaft. The drive shaft was removed from the guide tube for detailed television inspection and an evaluation was made of the guide tube, guide tube combs, RCC hub, comb welds, guide tube hold down bolts, "donut" hold down springs, and the rod itself. Details of the evaluation are as follows:

(1) Inspection of the guide tube and RCCA revealed no evidence of obstruction in the guide tube hub and RCCA vane guide path and no apparent damage to the RCCA hub and vane.

(2) Measured friction drag forces throughout the full (145 inch) travel range of the P-8 drive line were within the normal range and were consistent with the forces measured at other core locations.

(3) The removable insert was inspected, dressed and refitted. No difficulties were encountered in removal or replacement operations. Hand manipulation after installation indicated no looseness.

(4) The integrity of the upper guide tube hold down cap screws was verified by visual and physical examination.

(5) Straight edge measurements established that the top vertical west and south faces of the P-8 upper guide tube were minutely displaced. This minor displacement, however, does not necessarily reflect the displacement of the guide tube centerline. Rod drop tests will verify this shift does not interfere with rod motion.

III. CONCLUSIONS

Based on a review of the examinations and tests performed on the P-8 drive line, it has been concluded that the drive line (guide tube assembly and RCCA) is acceptable for reuse. Controlled tests have been conducted in the reactor vendor's test loops which indicate that guide tube misalignment of this magnitude will not have a significant effect on drive line operation and drop times. The nuclear steam supply system manufacturer, the Westinghouse Electric Corporation, has reviewed the matter and concurs that the continued use of the component will not significantly affect the operation of the system.

As final assurance of the adequacy of the P-8 drive line, an extensive rod drop test program will be conducted on this rod prior to the reactor start-up. In addition, the drive line will be re-inspected during the next refueling outage to assure that no abnormal wear is occurring.

The occurrence reported herein did not affect the health and safety of the general public.