

LICENSEE EVENT REPORT

CONTROL BLOCK: 1 6 1

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 V A S P S 1 2 0 0 - 0 0 0 0 0 0 - 0 0 3 4 1 1 1 1 4 5

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0 1 L 6 0 5 0 0 0 3 3 8 7 d 7 1 5 7 9 3 d 8 2 0 7 9 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | On 7/15/79 at about 0548 following a power reduction caused by Secondary Plant

0 3 | problems, a quadrant power tilt alarm was observed. Subsequent tilt calculations

0 4 | were performed utilizing Excore detector currents which indicated that the tilt

0 5 | reached a maximum of 1.056 at 0652 and decreased below the 1.02 limit of T.S. 3.2.4

0 6 | at C920. This event is reportable pursuant to T.S. 6.9.1.9.b. The health and

0 7 | safety of the general public were not affected.

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0 9 | R C 11 X 12 X 13 Z Z Z Z Z Z 14 Z 15 Z 16

17 LER/RO REPORT NUMBER 7 9 0 8 5 0 3 L 0

ACTION TAKEN X 18 FUTURE ACTION X 19 EFFECT ON PLANT B 20 SHUTDOWN METHOD Z 21 HOURS 0 0 0 0 ATTACHMENT SUBMITTED Y 23 NPRO-4 FORM SUB. N 24 PRIME COMP. SUPPLIER N 25 COMPONENT MANUFACTURER W 1 2 0 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | This event was preceded by two similar events reported in LER/RO 79-076/03L-0 and

1 1 | LER/RO 79-079/03L-0. This problem is currently being investigated by both Vepco

1 2 | and Westinghouse. Core flux mapping surveillance has been increased, however

1 3 | sufficient information has not been obtained to determine the exact cause.

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1 5 | E 28 0 5 3 29 NA 30 A 31 Operator Observation 32

1 6 | Z 33 Z 34 NA 35 NA 36

1 7 | 0 0 0 37 Z 38 NA 39

1 8 | 0 0 0 40 NA 41

1 9 | Z 42 NA 43

2 0 | N 44 NA 45

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NRC USE ONLY

Virginia Electric and Power Company
North Anna Power Station, Unit #1
Docket No.: 50-338
Report No.: LER 79-085/03L-0

Attachment: Page 1 of 2

Description of Event:

On 7/15/79 at approximately 0548 during a Power Escalation following maintenance on a secondary plant feedwater pump and main condenser, the alarm on core tilt deviation was observed. Seven periodic tests which evaluate the tilt utilizing excore detector currents were performed. The tilt peaked in the upper half of the core with a tilt ratio of 1.0561 at 0652 and the alarm cleared when the tilt ratio decreased to 1.0178 at 0920. The action statements of T.S. 3.2.4 were followed until the tilt reduced below the 1.02 limit.

Probable Consequences of Occurrence

The limit of T.S. 1.02 provides for DNB and linear heat generation rate protection of X-Y plane power tilts. A period of two hours of operation between 1.02 and 1.09 is allowed by Technical Specifications to allow for problem analysis and correction. A power reduction from 100% is necessary to reinstate the margin of uncertainty for FQ. Since the reactor was at reduced power during this event, the health and safety of the general public were not affected.

Cause of Concurrence

An evaluation of potential causes of the tilt condition has been performed. Preliminary results from the evaluation ruled out control rod misalignment, burnable poison rod failure, imbalance of loop thermal power, fuel enrichment variations, and calculational errors as being the cause of the tilt condition. The possibility of dropped RCCA rodlets has not been ruled out. Therefore, a detailed safety evaluation to assess continued operation with a few dropped RCCA rodlets was performed. The results of this safety evaluation conclude that there will be no adverse impact on safety from continued operation with the current Technical Specifications limit. Specifically, shutdown margin is adequate, achievable power distribution during the remainder of NAI, Cycle 1 operation is bounded by the power distribution assumed in the FSAR, and the presence of dropped RCCA rodlets will not result in an inoperable control rod. These results have been discussed with the NRC Division of Nuclear Reactor Regulation.

Immediate Corrective Action

After the presence of the tilt was noted, the actions required by T.S. 3.2.4 were followed. Since the power level was approximately 50% no further power reduction was required to restore the margin of safety for F.Q. and since the duration of the tilt condition was less than 4 hours, no Power Range neutron flux-high trip setpoint reduction was required.

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Scheduled Corrective Action

To continue to perform more frequent flux mapping (i.e., bi-weekly whenever core conditions permit) as well as acquire and analyze relevant data obtained during operations which result in an increased tilt. To conduct a visual examination of the core to determine the condition of the control rods.

Actions Taken To Prevent Recurrence

No specific actions have been outlined. However, the tilts are being reviewed on a case-by-case basis in an attempt to prescribe an operating technique which would reduce the magnitude and frequency of tilt occurrences. As a result of more detailed evaluation and core inspection, additional actions may be taken.