

CONTROL BLOCK

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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  
9 14 15 25 26 30 57 58 59

REPORT SOURCE L 6 0 5 0 0 0 2 8 0 7 0 5 1 2 8 0 8 0 5 2 2 8 0 9  
60 61 65 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

During Power Escalation the indicated Axial Flux difference deviated from its target band for greater than one hour in a twenty four (24) hour period. In accordance with TS 3.12.B.4.b, power was reduced to less than 50%. The power reduction took more than thirty (30) minutes which is contrary to T.S. 3.12. B.4.b.2 and is reportable as per T.S. 6.6.2.a.2. The Axial Flux Difference was returned to the band and power was reduced, therefore the health and safety of the general public were not affected.

SYSTEM CODE R B 11 CAUSE CODE A 12 CAUSE SUBCODE A 13 COMPONENT CODE Z Z Z Z Z Z 14 COMP. SUBCODE Z 15 VALVE SUBCODE Z 16

17 LER/RC REPORT NUMBER 8 0 27 EVENT YEAR 8 0 27 SEQUENTIAL REPORT NO 0 2 6 26 OCCURRENCE CODE 0 1 28 REPORT TYPE T 30 REVISION NO. 0 32

ACTION TAKEN H 18 H 19 EFFECT ON PLANT B 20 SHUTDOWN METHOD Z 21 HOURS 0 0 3 0 22 ATTACHMENT SUBMITTED Y 23 NPRD-4 FORM SUB. N 24 PRIME COMP. SUPPLIER N 25 COMPONENT MANUFACTURER Z 9 9 9 9 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

The deviation was caused by an unscheduled boron addition which initiated a rapid power reduction causing AFD to go out of the band. Power was reduced to less than 50% as required by T.S. Power reduction took more than thirty (30) minutes because of the desire to prevent challenging safeguards by rapid power reduction with unstable plant conditions present.

FACILITY STATUS F 28 % POWER 0 8 0 29 OTHER STATUS 30 METHOD OF DISCOVERY A 31 DISCOVERY DESCRIPTION Operator Evaluation 32

ACTIVITY CONTENT Z 33 Z 34 AMOUNT OF ACTIVITY N/A 35 LOCATION OF RELEASE N/A 36

PERSONNEL EXPOSURES NUMBER 0 0 0 37 TYPE 38 DESCRIPTION N/A 39

PERSONNEL INJURIES NUMBER 0 0 0 40 DESCRIPTION N/A 41

LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION N/A 43

PUBLICITY ISSUED N 44 DESCRIPTION N/A 45

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ATTACHMENT 1  
SURRY POWER STATION, UNIT NO. 1  
DOCKET NO: 50-280  
REPORT NO: 80-026/01T-0  
EVENT DATE: 05-12-80

TITLE OF REPORT: AXIAL FLUX DIFFERENCE DEVIATION

1. Description of Event

During an unscheduled power reduction on May 12, 1980, the Axial Flux Difference (AFD) deviated from its target band of +/-5% for greater than one (1) hour in a twenty-four (24) hour period. This is contrary to T.S. 3.12.B.4.b.1. and is reportable as per T.S. 6.6.2.b.2. In accordance with T.S., power was reduced to less than 50% and the high neutron flux setpoint was set at 55%. The power reduction took longer than thirty (30) minutes which is contrary to T.S. 3.12.B.4.b.2. and is reportable as per T.S. 6.6.2.a.2.

The AFD was returned to the band and power was reduced, therefore the health and safety of the general public were not affected.

2. Probable Consequences and Status of Redundant Systems

Surveillance of the Axial Flux Difference assures that the limits of heat flux hot channel factor are not exceeded during normal operation or in the event of Xenon redistribution following power changes. This provided protection against exceeding the DNBR and peak fuel clad temperatures.

Provisions are made for possible deviations caused by rapid power reductions by allowing up to one hour outside the target band in a twenty-four hour period. If the AFD cannot be returned to the target band in one hour the power must be reduced to less than 50% to provide additional protection for the hot channel factors. Power was reduced and the AFD returned to its target band thereby eliminating possible violations of hot channel factors.

3. Cause

The event was caused by an unscheduled boron addition which initiated a rapid power reduction causing the AFD to go out of the band. The boron addition resulted from the addition of water to the primary that had been flushing a mixed bed demineralizer. This makeup water had a boron concentration of 1076 ppm while the RCS was 315 ppm. The boration reduced power from 95% to 80%. While stabilizing plant parameters at 80% power, the AFD deviated from the target band for greater than one hour. A power reduction was begun and the AFD was returned to its target band in forty-two (42) minutes. The reduction in power took longer than thirty (30) minutes because of the unstable plant conditions and the desire to prevent challenging safeguards with another rapid power reduction.

4. Immediate Corrective Action

The source of borated water to the makeup system was isolated. A power reduction was begun and continued until the unit was less than 50% power. The AFD was returned to the target band during the rampdown.

5. Subsequent Corrective Action

Operations personnel will be re instructed/retrained on the proper operation of flushing and returning demineralizers to service.

6. Actions Taken to Prevent Recurrence

Completion of corrective actions will prevent recurrence.

7. Generic Implications

None