

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 9984

FILE: _____

FROM: Duke Power Co. Charlotte, N.C. A.G.Thies			DATE OF DOC 9-24-74	DATE REC'D 9-28-74	LTR xxxxxx	TWX	RPT	OTHER
TO: Mr. Norman C. Moseley			ORIG 1-signed	CC	OTHER	SENT AEC PDR xxxxxxxx SENT LOCAL PDR xxxxxxxx		
CLASS	UNCLASS xxxxxxx	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-270		

DESCRIPTION:

Ltr Trans the Following:

ACKNOWLEDGED

DO NOT REMOVE

PLANT NAME:

Oconee Unit 2

ENCLOSURES:

Abnormal Occurrence on 9-10-74 concerning Power level cutoff during transient xenon conditions
.....

FOR ACTION/INFORMATION

11-25-74 JGB

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INTERNAL DISTRIBUTION

REG FILE	TECH REVIEW	DENTON	LIC ASST	A/T IND
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CGC, ROOM P-506A	MACCARY	GAMMILL	GEARIN (L)	SALTZMAN
MUNTZING/STAFF	KNIGHT	KASTNER	GOULBOURNE (L)	B. HURT
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GIAMBUSSO	SHAO	SPANGLER	LEE (L)	PLANS
BOYD	STELLO		MAIGRET (L)	MCDONALD
MOORE (L) (BWR)	HOUSTON	ENVIRO	REED (E)	CHAPMAN
DEYOUNG (L) (PWR)	NOVAK	MULLER	SERVICE (L)	DUBE w/input
SKOVHOLT (L)	ROSS	DICKER	SHEPPARD (L)	E. COUPE
GOLLER (L)	IPPOLITO	KNIGHTON	SLATER (E)	
P. COLLINS	TEDESCO	YOUNGBLOOD	SMITH (L)	THOMPSON (2)
DENISE	LONG	REGAN	TEETS (L)	BLECKER
REG OPR	MAINAS	PROJECT LDR	WILLIAMS (E)	EISENHUT
FILE & REGION (3)	GENAROYA		WILSON (L)	
MORRIS	VOLIMER	HARLESS		
STEELE				

EXTERNAL DISTRIBUTION

As

LOCAL PDR Walhalla, SC	NATIONAL LABS	1 - PDR SAN/LA/NY
TIC (ABERNATHY) (1)(2)(10)	1 - ASLBP (EAW Bldg, Rm 529)	1 - BROOKHAVEN NAT LAB
1 - NSIC (BUCHANAN)	1 - W. PENNINGTON, Rm E-201 GT	1 - G. ULRIKSON, ORNL
1 - ASLB	1 - B&M SWINEBROAD, Rm E-201 GT	1 - AGMED (RUTH GUSSMAN)
1 - Newton Anderson	1 - CONSULTANTS	Rm B-127 GT
1 - ACRS	NEWMARK, BLUME/AGBABIAN	1 - R. D. MUELLER, Rm E-201
Sent to Lic Asst. Sheppard		GT

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

September 24, 1974

Regulatory

Plis Cy.

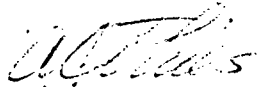
Mr. Norman C. Moseley, Director
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Region II - Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Re: Oconee Unit 2
Docket No. 50-270

Dear Mr. Moseley:

Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station
Technical Specifications, please find attached Abnormal Occurrence
Report AO-270/74-11.

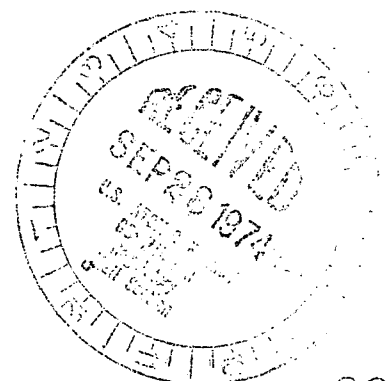
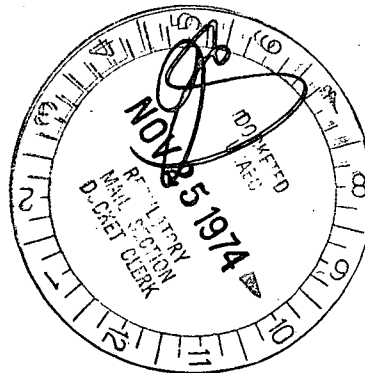
Very truly yours,



A. C. Thies

ACT:gje
Attachment

cc: Mr. Angelo Giambusso



9926

DUKE POWER COMPANY
OCONEE UNIT 2

Report No.: AO-270-74-11

Report Date: September 24, 1974

Occurrence Date: September 10, 1974

Facility: Oconee Unit 2

Identification of Occurrence: Power level cutoff exceeded during transient xenon conditions

Conditions Prior to Occurrence: Unit at approximately 80 percent full power

Description of Occurrence:

On September 10, 1974, Oconee Unit 2 was operating at approximately 80 percent full power while waiting for xenon to approach equilibrium. The following sequence of events took place:

- 1547 Turbine bypass valves 2MS-19 and 2MS-22 opened
- 1550 Reactor power increased to 81.4 percent full power. An Instrument and Control Engineer investigated but could not identify any problem.
- 1553 2MS-19 and 2MS-22 closed
- 1554 2MS-19 and 2MS-22 opened
- 1602 Reactor power increased to 82.9 percent full power
- 1607 Reactor power decreased below 82.5 percent full power
- 1635 Control operator put A loop turbine bypass hand/auto station in manual and slowly closed the bypass valves; then returned the hand/auto station to auto. Instrument and control personnel checked the bypass valve controls and found nothing abnormal.
- 1749 2MS-19 and 2MS-22 opened
- 1751 Control operator put hand/auto station in manual and closed the bypass valves
- 1754 Reactor power had increased to 84.1 percent full power
- 1807 Control operator closed the bypass valves and decreased reactor power to 78.5 percent full power. He then verified valve controller was calling for the valves to be closed and placed the hand/auto station in auto. Both A loop bypass valves opened.

- 1809 Reactor power increased to 81.9 percent full power. Control operator placed A loop turbine bypass hand/auto station in manual and began closing the bypass valves.
- 1816 Bypass valves closed and hand/auto station left in manual.
- 1817 2MS-19 and 2MS-22 opened
- 1824 Reactor power increased to 88.4 percent full power. The shift supervisor closed the bypass valves from the auxiliary shutdown panel.
- 1832 With reactor power still slightly above the power cutoff level of 82.5 percent full power, a control rod drive programmer motor fault caused the ICS to go into track and the Diamond control station to go into manual. Reactor power, megawatts electric and feedwater began increasing and unit average temperature began decreasing.
- 1833 The control operator reset the motor fault and placed the Diamond control station in auto with a slight positive neutron error. The control rods began withdrawing and the control operator returned the Diamond control station to manual.
- 1834 The control operator placed the Bailey reactor master station in manual and the Diamond station in auto and began to withdraw the control rods to return the unit average temperature to normal.
- 1844 Reactor power had increased to 88.4 percent full power and the control operator began an immediate reduction of power.
- 1854 Reactor power below 82.5 percent full power.

Refer to Figure 1 for a schematic arrangement of the ICS stations involved.

Designation of Apparent Cause of Occurrence:

Oconee Technical Specification 3.5.2.5.d does not allow reactor power to be increased above 82.5 percent full power unless xenon reactivity is within 10 percent of the value for operation at steady-state rated power. Reactor power was increased above 82.5 percent full power each time by the Integrated Control System in response to the opening of the A loop turbine bypass valves. As the bypass valves opened, dumping steam directly to the condenser, the ICS increased reactor demand in order to hold unit load. The bypass valves opened improperly because of two failed modules within the turbine bypass valve controls. While reactor power was still above 82.5 percent full power, the control operator, in error, increased reactor power further above the power level cutoff in order to return the unit average temperature to normal.

Analysis of Occurrence:

This occurrence increased reactor power above the power level cutoff. The power level cutoff is designed to maintain power peaking within the limits of the AEC criteria for a Loss of Coolant Accident. Although xenon reactivity was not within prescribed limits, the other parameters, which affect power peaking, power tilt and imbalance, were within the normal operating limits.

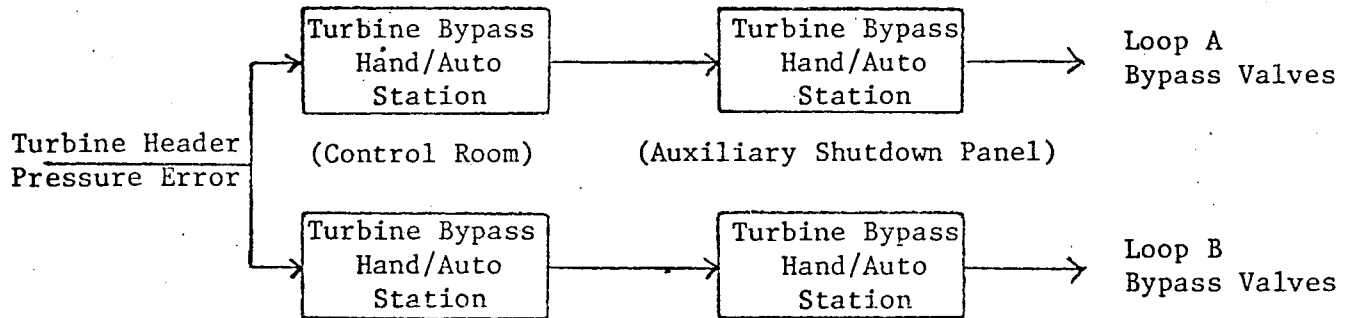
Operation above the power level cutoff was limited to a short period of time. It is concluded the occurrence did not affect the safe operation of the unit nor the health and safety of the public.

Corrective Action:

The two failed modules in the turbine bypass valve control section of the ICS were replaced and a functional check performed to verify their correct operation.

The occurrence was reviewed with all operations personnel to identify corrective actions such as immediate power reductions that should be taken to avoid improperly exceeding the power level cutoff.

TURBINE BYPASS VALVE CONTROL



REACTOR CONTROL

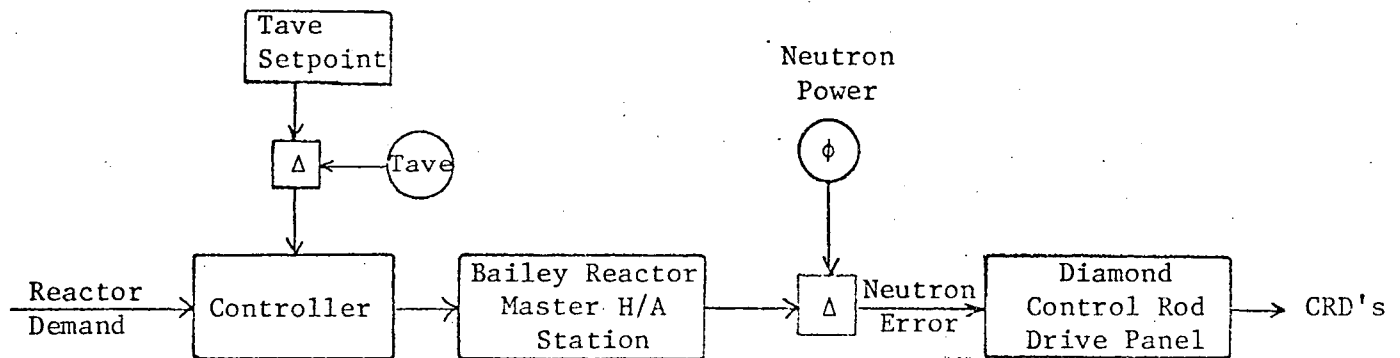


Figure 1