

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

August 13, 1989

U. S. Nuclear Regulatory Commission
Document Control Desk
016 Phillips Building
Washington, D.C. 20555

Serial No.: 89-030
Docket No.: 50-280
License No.: DPR-32

Gentlemen:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Unit 1.

REPORT NUMBER

89-029-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,


M. R. Kansler
Station Manager

Enclosure

cc: Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Surry Power Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	PAGE (3) 1 OF 0 5
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TITLE (4) Intake Canal Level Instrumentation Inoperable Due to Installation of Stop Logs in the Intake Structure and Channel Not Placed in Trip

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
07	14	89	89	029	000	08	13	89			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10) 0 1 8	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)	
	20.405(a)(1)(i)			50.38(c)(1)			50.73(a)(2)(v)			73.71(c)	
	20.405(a)(1)(ii)			50.38(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
	20.405(a)(1)(iii)			50.73(a)(2)(i) <input checked="" type="checkbox"/>			50.73(a)(2)(viii)(A)				
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)				
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)					

LICENSEE CONTACT FOR THIS LER (12)									
NAME M. R. Kansler, Station Manager							TELEPHONE NUMBER		
							AREA CODE 8 0 4 3 5 7 - 3 1 8 4		

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)							EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)							<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On July 14, 1989, Unit 1 was operating at 18% power and Unit 2 was in cold shutdown. At 1210 hours, stop logs were installed in the Unit 2 "A" Circulating Water (CW) high level intake structure. Isolation of the intake structure resulted in the inoperability of an intake canal level sensor channel. Technical Specification 3.7 requires that an inoperable channel be placed in a "trip" condition within one hour. Contrary to the above requirement, the inoperable channel was not placed in "trip" within one hour. Further review of this event determined that a similar event had occurred on July 2, 1989. The cause of these events has been attributed to personnel error. Operators failed to recognize that installation of the stop logs defeated a canal level channel. The affected channel was identified as being inoperable and was placed in trip. The stop logs were subsequently removed from the 2A intake structure and the level sensor channel was restored to normal operation. Procedures will be developed for stop log installation.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

1.0 Description of the Event

On July 14, 1989, Unit 1 was operating at 18% power and Unit 2 was in cold shutdown. At 1210 hours, stop logs were installed in the Unit 2 "A" Circulating Water (CW) high level intake structure (EIIS-NN). This installation was controlled and documented by a Temporary Modification (TM) log. Intake canal level sensor channel III, for the CW intake canal (EIIS-CNL) level protection system (EIIS-JE), is located in the 2A intake structure. Isolation of the intake structure results in the inoperability of the level sensor. Technical Specification 3.7, Table 3.7-2, requires that if either unit is above 350 degrees Fahrenheit and 450 psig that an inoperable intake level channel be placed in a "trip" condition within one (1) hour. Contrary to the above requirement, the inoperable channel was not placed in "trip" at the time of the stop log installation. However, at 1521 hours, the 2A level trip intake structure was dewatered to below the level trip setpoint and the channel automatically generated a trip signal. At 1910 hours on July 14, the channel was manually placed in trip.

Further review of this event determined that a similar event had occurred earlier. On June 25, 1989, stop logs were installed in the 2A intake structure to support Unit 2 maintenance activities and were not removed until July 5. At the time of this stop log installation, both units were in Cold Shutdown (CSD). Therefore, the operability of the canal level protection system was not required and the affected channel was not manually placed into the tripped condition. However, on July 2 Unit 1 conditions exceeded 350 degrees Fahrenheit and 450 psig. At this time, the 2A intake structure had already been dewatered which caused the channel to trip. However, it had not been manually placed in trip as required by Technical Specifications.

2.0 Safety Consequences and Implications

The intake canal level protection system consists of four (4) safety-related level sensor channels installed in four of the eight high level intake

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structures, one channel in each intake structure. Two intake structures with the level sensors are located on Unit 1 and the other two are located on Unit 2. Actuation of three out of four channels on a low canal level of 23.5 feet will trip both unit's turbines, close the CW and Service Water (SW) valves to the Component Cooling and Bearing Cooling Heat Exchangers (EIIS-HS), and close all condenser CW inlet and outlet valves (EIIS-ISV). These actuations are designed to ensure adequate intake canal inventory to provide SW flow to the Recirculation Spray Heat Exchangers. Each channel is provided with the capability of being placed in a tripped mode to allow for testing or continued unit operation with an inoperable channel while maintaining the required degree of redundancy.

At all times during these events, the remaining three channels were operable and capable of performing the required actions on low canal level. With one level channel inoperable and not in the trip mode, an additional channel failure in a non-conservative direction during an event could prevent an automatic initiation of the required CW and SW isolation. However, control room indications and annunciators exist to alert operators of a low canal level condition. Abnormal, emergency, and annunciator response procedures exist that provide operator guidance on actions to be taken to manually establish the required canal isolation in the event of a low level condition. In addition, while the stop logs were installed, the intake structure was drained during most of the duration of both events. For the first event, the level channel was already in the tripped condition when the unit exceeded 350 degrees Fahrenheit and 450 psig. During the second event, the level channel was not in the trip mode for approximately three hours. Therefore, the above events did not affect the health and safety of the public.

3.0 Cause

The cause of this event has been attributed to personnel error. Operators failed to recognize that installation of the stop logs on the unit in cold shutdown defeated a canal level channel on the

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operating unit. The stop logs were installed in a Unit 2 structure which was not in operation at the time. This led to an inadequate review of the safety consequences of the stop log installation. The temporary modification form requires that the need for a safety evaluation be reviewed if the modification will make an inoperable system operable or is installed on an operable system. The modification was interpreted as not meeting these requirements and the need for a safety evaluation was not reviewed.

Several other factors were identified as contributing to this error. Procedures did not exist for the installation of stop logs. Installation was controlled by the use of the temporary modification log.

Operating startup checklists had not been updated to ensure the stop logs were removed on the opposite unit prior to unit conditions exceeding 350 degrees Fahrenheit and 450 psig.

4.0 Immediate Corrective Action(s)

The affected channel was identified as being inoperable and was placed in trip at 1910 hours on July 14.

5.0 Additional Corrective Action(s)

The stop logs were removed from the 2A intake structure at 1157 hours on July 17, and the affected level channel was restored to normal operation.

6.0 Action(s) Taken to Prevent Recurrence

Operators have been reminded that a high level of awareness of one unit's activities which could affect systems or components required for operation of the other unit must be maintained.

Maintenance Operating Procedures (MOPs) have been implemented for the installation of stop logs in the CW intake structure.

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Startup checklists will be revised to evaluate installed stop logs which could affect the operability of any Technical Specification required system prior to exceeding the operating mode at which the systems are required.

The temporary modification (TM) process has been revised to ensure that every TM is screened to determine if a safety evaluation is required.

7.0 Similar Events

None.

8.0 Manufacturer/Model Number(s)

N/A