

Virginia Electric and Power Company  
Surry Power Station  
P. O. Box 315  
Surry, Virginia 23883

July 1, 1991

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

Serial No.: 91-370  
Docket Nos.: 50-280  
50-281  
License Nos.: DPR-32  
DPR-37

Gentlemen:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Units 1 and 2.

REPORT NUMBER

91-010-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by the Corporate Management Safety Review Committee.

Very truly yours,



M. R. Kansler  
Station Manager

Enclosure

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

9107080031 910701  
PDR ADOCK 05000280  
S PDR

*IFZ*  
*||*

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) **05000280** PAGE (3) **1 OF 04**

TITLE (4) **Inservice Testing Instrumentation Uncertainty Exceeded +/- 2% Due to Personnel Error**

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)
0	5	3	0	9	1	9	1	0	1	0
									Surry, Unit 2	05000281
										05000

OPERATING MODE (8) **N** THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10) <b>100</b>	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.406(c)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
									<input checked="" type="checkbox"/>										

LICENSEE CONTACT FOR THIS LER (12)

NAME **M. R. Kansler, Station Manager** TELEPHONE NUMBER **804 357-3184**

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)  YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15) MONTH  DAY  YEAR

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

On May 30, 1991, with Unit 1 at 100% power and Unit 2 at Cold Shutdown, it was discovered that flow instrumentation used for testing pumps in accordance with Surry Units 1 and 2 ASME Section XI Inservice Testing Programs may not have instrument accuracies within the code required +/-2%. Following this discovery, an evaluation of the accuracy of instruments used for inservice testing was performed which concluded that accuracies of certain flow instruments ranged from 2.5% to 3.19%, thus exceeding code requirements. No significant safety implications were posed by this event because, after adjusting for the decreased instrument accuracies, pumps which were previously considered operable remained operable. This event occurred as the result of a cognitive personnel error. A utility project engineer failed to ensure actions necessary to implement calibration requirements identified during the development of design change packages were effectively communicated to the organizations responsible for implementing the requirements. This occurrence was considered to be a violation of Technical Specification 4.0.3 and therefore is being reported pursuant to 10CFR50.73(a)(2)(i)(B).

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	0 1 0	0 0 0	2	OF	0 4

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

**1.0 DESCRIPTION OF THE EVENT**

On May 30, 1991, with Unit 1 at 100% power and Unit 2 at Cold Shutdown, station utility personnel discovered that flow instrumentation used for testing pumps in accordance with Surry Units 1 and 2 ASME Section XI Inservice Testing (IST) Program may not have been calibrated within the code required +/-2% accuracy. This discovery was made during the investigation of an apparent flow instrumentation inaccuracy when station personnel reviewed the applicable loop uncertainty calculations and the assumptions associated with those calculations.

The completeness of Surry IST Program pump testing in accordance with ASME Section XI requirements has been limited by a lack of appropriate installed instrumentation. Surry committed to install the appropriate instrumentation in relief requests submitted in 1987. NRC approval of subsequent relief requests associated with IST Program Revisions 4 (Surry Unit 1) and 2 (Surry Unit 2) was granted August 13, 1990, contingent upon completing installation of the necessary instrumentation during the next refueling outages.

During the preparation of instrumentation installation Design Change Packages (DCPs) 88-37-1 and 88-38-2, instrument loop uncertainty calculations were performed to determine which existing instrumentation would satisfy the code required +/-2% accuracy, thereby minimizing the number of hardware additions and changes required. The architect engineering firm performing these calculations determined that, in some cases, existing instrumentation would meet code accuracy requirements if certain calibration procedure revisions were made. On May 14, 1990 the utility project engineer responsible for these DCPs was notified of the results of these calculations and need for calibration procedure changes to ensure code required instrument accuracies would be satisfied. These calculation assumptions also applied to certain new calibration procedures which were required to be developed as a result of the installation of new instrumentation. Because the project engineer failed to ensure actions necessary to implement calibration requirements identified during the development of design change packages were effectively communicated to the organizations responsible for implementing the requirements, procedures were not developed or revised to ensure that instrumentation was calibrated within code accuracy requirements.

This occurrence was considered to be a violation of Technical Specification 4.0.3 and therefore is being reported pursuant to 10CFR50.73(a)(2)(i)(B).

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	— 0 1 0	— 0 0	0 3	OF	0 4

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

**2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS**

No significant safety implications were posed by this event. After adjusting the affected pumps recorded flow rates for the uncertainties resulting from the decreased instrument accuracies, it was concluded that pumps were operable, therefore the health and safety of the public were not affected.

**3.0 CAUSE OF THE EVENT**

The development of design change packages for the implementation of ASME Section XI testing requirements identified certain calibration requirements for the new instrumentation installed by the design modifications and other existing instrumentation. The noncompliance of the flow instrumentation with code accuracy requirements resulted when the project engineer failed to ensure that the requirements were effectively communicated to the organizations responsible for implementing the requirements.

**4.0 IMMEDIATE CORRECTIVE ACTION(S)**

The NRC was notified via telecon on May 30, 1991 that flow instrumentation used for testing pumps in accordance with Surry's IST Program may not have instrument accuracies within the code required +/- 2%, and an analysis of existing calibration information was initiated to determine if instruments were actually outside the +/-2% code accuracy requirement.

**5.0 ADDITIONAL CORRECTIVE ACTION(S)**

Calibration data for installed instrumentation used to perform inservice testing was evaluated. This evaluation determined that accuracies of certain flow instruments ranged from 2.5% to 3.19%, exceeding the code required +/-2%.

On June 7, 1991 interim relief from the flow instrument accuracy requirement of ASME Code, Section XI, subparagraph IWP 4110, Table IWP 4110-1 was requested pursuant to 10 CFR50.55a(g)(5) until the first scheduled pump test following September 30, 1991 for those pumps whose instruments were determined to be outside the +/-2% code accuracy requirement.

The instrument loop uncertainty calculations supporting DCPs 88-37-1 and 88-38-2 are being reverified to ensure no additional actions are required to comply with the +/-2% code accuracy requirement.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	0 1 0	0 0	0 4	OF	0 4

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

**6.0 ACTIONS TO PREVENT RECURRENCE**

Calibration procedures are being developed or revised as appropriate to ensure instrument loops are calibrated within the +/-2% code accuracy requirement.

The project engineer involved was counseled by his supervisor and the event was reviewed with other project engineers. These discussions emphasized the project engineer's responsibility for coordinating between the design authority and the implementing organization(s), and that actions necessary to implement design changes must be effectively communicated to the organizations responsible for their implementation.

An internal assessment will be performed of interfaces associated with the design change process. Any additional recommendations to prevent recurrence will be properly dispositioned.

**7.0 SIMILAR EVENTS**

None.

**8.0 ADDITIONAL INFORMATION**

None.