



February 24, 2000  
RC-00-0041

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

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
LICENSEE EVENT REPORT (LER 2000-002-01)  
INADEQUATE SURVEILLANCE

Gary J. Taylor  
Vice President  
Nuclear Operations

Attached is Licensee Event Report No. 2000-002-01, for the Virgil C. Summer Nuclear Station (VCSNS). The report describes inadequate surveillance testing performed on two valves operated by a common switch. This revision shows all corrective actions in the abstract to be completed, as is stated in the body of the report. It also adds a conclusion reached from the satisfactory surveillance test. This issue is being reported per 10 CFR 50.73(a)(2)(i)(B).

South Carolina Electric & Gas Co  
Virgil C. Summer Nuclear Station  
P. O. Box 88  
Jenkinsville, South Carolina  
29065

Should you have any questions, please call Mrs. April Rice at (803) 345-4232.

803.345.4344  
803.345.5209  
www.scona.com

Very truly yours,



Gary J. Taylor

GJT/CAC  
Attachment

c: J. L. Skolds  
J. J. Galan (w/o attachment)  
R. J. White  
L. A. Reyes  
K. R. Cotton  
NRC Resident Inspector  
H. C. Fields  
D. M. Deardorff  
Paulett Ledbetter  
D. L. Abstance

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**FACILITY NAME (1)**  
Virgil C. Summer Nuclear Station

**DOCKET NUMBER (2)**  
05000395

**PAGE (3)**  
1 of 4

**TITLE (4)**  
Inadequate surveillance on two safety-related valves operated by a common switch

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 NAME	DOCKET NUMBER
01	11	00	2000	0002	01	02		00		05000
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OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)				
1	100	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)	Specify in Abstract below or in NRC FORM 366A
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)	

**LICENSEE CONTACT FOR THIS LER (12)**

**NAME**  
A. R. Rice  
Manager, Nuclear Licensing & Operating Experience

**TELEPHONE NUMBER (Include Area Code)**  
(803) 345-4232

**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES	NO						
(If yes, complete EXPECTED SUBMISSION DATE.)	X						

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

The digital rod position indication (DRPI) cooling unit inlet header isolation valve, XVT03165, and the DRPI cooling unit outlet header isolation valve, XVT03169, are stroked by a common control switch. The surveillance test procedure times both safety-related valves from switch activation until the closed light only is illuminated. While researching an indication problem that occurred during surveillance testing, it was discovered that the control switch indication does not reflect the valves actual stroke time. Therefore, it is questionable whether past testing met surveillance requirements for Technical Specification 4.0.5. Subsequently, it was discovered that an individual valve could be verified for stroke times using indication on the integrated plant computer system computer isolation cards.

The test procedure was revised to reflect individual valve stroke testing and the valves were satisfactorily tested. The plant has identified no other instance where two or more safety-related valves are operated from a common control switch with similar indication logic.

**LICENSEE EVENT REPORT (LER)**

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

**PLANT IDENTIFICATION**

Westinghouse - Pressurized Water Reactor

**EQUIPMENT IDENTIFICATION**

XVT03165 and XVT03169-Service Water (EIIS ISV-KG)

**IDENTIFICATION OF EVENT**

While researching an indication problem, it was identified that individual valve stroke times were not determined. This issue was documented on CER # C-00-0041.

**EVENT DATE**

January 11, 2000

**REPORT DATE**

February 07, 2000

**CONDITIONS PRIOR TO EVENT**

Mode 1, 100% power.

**DESCRIPTION OF EVENT**

The digital rod position indication (DRPI) cooling unit inlet header valve, XVT03165, and the DRPI cooling unit outlet header isolation valve, XVT03169, are both operated by actuating a single control switch. A surveillance test is required to measure and evaluate the stroke time of these valves. The procedure attempted to do this by timing both valves' using the time interval from switch activation until only the "valves closed" indicator light is lit. While researching an indication problem, identified by Operations personnel, that occurred during valve stroke testing, it was discovered that control light indication does not adequately reflect the valves actual position. Therefore, it was determined that past testing did not meet surveillance requirements for ASME code and Technical Specification 4.0.5.

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**CAUSE OF EVENT**

The event is due to the indication circuitry logic being designed so the open indicator only reflects that both valves are not full closed and the closed indication only reflects that the valves are not full open. With this design, the open/closed indication is not acceptable for stroke time testing for combined valves.

**ANALYSIS OF EVENT**

A common switch on the HVAC control panel operates valves XVT03165 and XVT03169. The valves are stroked timed from switch initiation to a green light (valves closed) indication only. The limit switches for the valves are wired as follows: The red indication is illuminated when both valves are not fully closed and the green indication is illuminated when both valves are not fully open. During the last stroke test, the red indication went out after approximately 12 seconds. Approximately two seconds later, the green indication lit. This time was recorded as the stroke time of both valves.

Operations personnel questioned the response of the indicator lights. As troubleshooting began, it was realized that individual valve stroke times could not be taken from the common switch indication.

When the valve stroke times were measured using computer isolation cards LEDs, it was noted that one valve was almost closed before the second valve began to move.

The DRPI cooling unit is a non-safety system and is supplied by the industrial cooling system during normal operations. It is isolated by these valves as part of a redundant boundary isolation design upon a safety injection signal. Their only safety function is to close. Although the surveillance was not accurately measuring the stroke times of these valves; the valves are safety-related, fail safe in the closed direction, and receive a local verification that they are achieving their required position in each refueling outage. This provides a high level of assurance that there was no impact to the safety function of the service water system by this inadequate surveillance. In addition, when the test method was revised, both valves operated satisfactorily.

**CORRECTIVE ACTIONS**

The plant entered the limiting conditions for operation (LCOs) Technical Specifications 3.6.2.3 and 3.6.3. With a successful retest approximately 10 hours later, the plant exited the LCOs.

**LICENSEE EVENT REPORT (LER)**

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

The surveillance test procedure (STP-123.003A) was revised to measure individual stroke times using indication located on the IPCS computer isolation cards. The valves were satisfactorily tested using the revised procedure.

Plant Support Engineering has identified no other instances where two or more safety-related valves are operated from a common control switch with similar indication logic exists.

**PRIOR OCCURRENCES**

None.