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February 11, 1994  
Refer to: RC-94-0034

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  
LER 94-001

Attached is Licensee Event Report No. 94-001 for the Virgil C. Summer Nuclear Station. This report is submitted pursuant to the requirements of 10CFR50.73(a)(2)(ii) and satisfies the requirements of 10CFR21.2(c).

Should there be any questions, please call us at your convenience.

Very truly yours,

John L. Skolds

RJB:lcd  
Attachment

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Virgil C. Summer Nuclear Station	COCKET NUMBER (2)  0 5 0 0 0 3 9 5 9 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (if more space is required, use additional NRC Form 366A's) (17)

PLANT IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

EQUIPMENT IDENTIFICATION:

Chill Water Valves XVX06524A, B, C EIIS--KM

IDENTIFICATION OF EVENT:

This report is being submitted pursuant to the requirements of 10 CFR 50.73 and satisfies the requirements of 10 CFR 21.2(c). A condition was identified for Appendix R analysis where the plant is determined to be outside the Design Basis for circuits susceptible to "Hot Shorts." The circuits provide control to the C/SI pumps lube oil cooler chill water supply valves. This condition is determined to be an Appendix R concern and not an operability concern.

EVENT DATE: January 13, 1994

REPORT DATE: February 12, 1994

This report was initiated by Off-Normal Occurrence report 94-004.

CONDITIONS PRIOR TO THE EVENT:

Mode 1, 100% Power

DESCRIPTION OF EVENT:

From October 1984 until January 1986, an Appendix R reanalysis was performed at the Virgil C. Summer Nuclear Station. Modifications initiated during this review period were not added to the scope of the work. On completion of the reanalysis, the Appendix R Evaluation Form was developed. Work packages for all modifications that were worked during the reanalysis were forwarded to the Architect Engineer, Gilbert Associates, Inc., now identified as Gilbert/Commonwealth, Inc., Reading, Penn., for review to ensure Appendix R compliance.

Contained in the work package forwarded in January of 1986 was modification MRF 20578, which installed isolation valves in the Chill Water (VU) supply to the lube oil coolers for the C/SI pumps. The Appendix R review performed at this time indicated there was only a minor impact and this was subsequently addressed in the as-built phase of the modification.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	CLOCK NUMBER (2)	LER NUMBER (6)			PAGE (3)	
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TEXT (if more space is required, use additional NRC Form 385A (1) (17))

In November, 1993, MRF 22594 was forwarded to Gilbert/Commonwealth for design review. MRF 22594 was developed for the replacement of the three isolation valves installed by MRF 20578. During the routine Appendix R review it was identified that the Appendix R impact was greater than originally determined during the review of MRF 20578. The review concluded that thirteen circuits are routed in fire zones which are "prohibited" for the associated piece of equipment. Ten separate fire zones were affected, five in the Auxiliary Building, four in the Control Building and one in the Intermediate Building.

CAUSE OF EVENT:

The cause of this event is attributed to personnel error. Based on the review of the documents associated with MRF 20578, other MRFs reviewed during the same period, and the procedures used to perform the review, it appears that the omissions of the original review were an error on the part of the individuals performing the review and verification activities and represents an isolated occurrence during their reviews of MRFs for their impact on Appendix R.

ANALYSIS OF EVENT:

During a postulated fire in one of the prohibited zones, seven of the thirteen circuits had the possibility of causing a spurious valve operation if a "hot short" were to occur. Since the valves were "energized to close," a spurious operation would close the valve isolating cooling water to the associated pump. A hot short would occur if the conductors in question were to fuse with an adjacent energized conductor. The postulated hot shorts for these cables are a mixture of hot shorts caused by other cables located in the same cable tray or hot shorts caused by a hot conductor within a conduit.

IMMEDIATE CORRECTIVE ACTIONS:

One hour fire watch patrols were established for fire zones effected, control power leads to the valve associated with the C/SI pump to be maintained in operation were lifted to preclude closure of the valve, and notification to NRC operations center was made in accordance with 10CFR50.72(b)(1)(ii)(B).

ADDITIONAL CORRECTIVE ACTIONS:

A revision will be made to the Fire Emergency Procedures (FEP) to include the action to "fail open" the chill water isolation valves for fires in the affected zones. This action will return the plant to within the Appendix R analysis requirement and will be completed by March 1, 1994.

Further modification to the system will include rerouting of the electrical circuits and the elimination of manual action required by the revision to the FEPs. This modification is not required for the plant to be in full compliance with the Appendix R design basis.