Duquesne Light Company

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January 30, 1998 L-98-021

Beaver Valley Power Station, Unit No. 1 Docket No. 50-334 License No. DPR-66 LER 97-043-00

United States Nuclear Regulatory Commission Document Control Desk Washington, DC 20555

In accordance with Appendix A, Beaver Valley Technical Specifications, the following Licensee Event Report is submitted:

LER 97-043-00, 10 CFR 50.73(a)(2)(i), "Inadequate Surveillance Testing of Solid State Protection System Resulted in Entry into Technical Specification 3.0.3."

S. C. Jain

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JEH/ds

Attachment

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 cc: Mr. H. J. Miller, Regional Administrator United States Nuclear Regulatory Commission Region 1 475 Allendale Road King of Prussia, PA 19406 2

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Manager, Nuclear Licensing and Operations Support Virginia Electric & Power Company 5000 Dominion Blvd. Innsbrook Tech. Center Glen Ailen, VA 23060

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On December 31, 1997 at 1300 hours, with Unit 1 in Mode 3 in operator noted during a performance of the monthly Train A Solid State Protection System (SSPS) functional surveillar or test OST 1.1.11 that the method for testing the Safety Injection System transfer to recirculation manual initiation function appeared to make two of the four Refueling Water Storage Tank (RWST) Engineered Safety Features Actuation System (ESFAS) level instrument loops inoperable without bypassing them. The Nuclear Shift Supervisor was notified, and an investigation initiated. Investigation verified that opening the test switch for an RWST ESFAS instrument loop caused the loop to fail low and be inoperable but not bypassed. This resulted in the SSPS receiving an actual low ('tripped') signal to both trains from each of the two RWST ESFAS level instrument loops being tested. Unit 1 Technical Specifications (TS) Table 3.3.3, "Engineered Safety Feature Actuation System Instrumentation", Action 16, does not permit any RWST ESFAS low level instrument channels to be inoperable without being placed in the bypass position. As a result, inadvertent entry into TS 3.0.3 occurred each time a RWST ESFAS low level instrument loop was taken out of service (made inoperable) without being placed in the bypass mode during monthly performances of OST 1.1.11. This has occurred since 1978. The same condition existed for the monthly Train B SSPS functional surveillance test OST 1.1.12. Entry into TS 3.0.3 is a condition prohibited by TS and is thus reportable pursuant to the requirements of 10 CFR 50.73(a)(2)(i). There were no automatically or manually initiated safety system responses as a result of this event.

The apparent cause of this event was a misinterpretation of TSs during procedure development. It is apparent that the procedure developer was not aware that TS 3.0.3 would be entered during performance of the surveillance tests.

It has been determined that the monthiy surveillance of the Safety Injection System transfer to recirculation manual initiation function is already being met through alternate testing, so the test method currently specified in 1OST-1.11 and 1OST-1.12 will be deleted.

Should an actual Safety Injection signal have occurred while two channels were tripped, a transfer to recirculation mode would have occurred causing a loss of suction to all high-head and low-head safety injection pumps. However, the period of time during which both channels were tripped was approximately 20 minutes per month for both trains. Based on this, the safety consequences were low.

NRC FORM 366 (4-95)

NRC FORM 366 (4-95)		U.I	S. NUCLEAR REO	ULATORY CO	MMISSION
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION				
FACILITY NAME (1)	DOCKET NUMBER (2)		PAGE (3)		
Beaver Valley Power Station Unit 1	05000334	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	and the second
		97	043	00	2 OF 3

PLANT AND SYSTEM IDENTIFICATION

Westinghouse Pressurized Water Reactor (PWR)

Solid State Protection System (SSPS) {JC}*

* Energy Industry Identification System (EIIS), system and component function identifier codes appear in the text as {S/CC}.

CONDITIONS PRIOR TO OCCURRENCE

Unit 1: Mode 3, 0 percent Reactor Power

DESCRIPTION OF EVENT

On December 31, 1997 at 1300 hours, with Unit 1 in Mode 3, an operator noted during a performance of the monthly Train A Solid State Protection System (SSPS) {JC} functional surveillance test OST 1.1.11 that the method for testing the Safety Injection System transfer to recirculation manual initiation function appeared to make two of the four Refueling Water Storage Tank (RWST) Engineered Safety Features Actuation System (ESFAS) level instrument loops inoperable without bypassing them. The Nuclear Shift Supervisor was notified, and an investigation initiated. Investigation verified that opening the test switch for an RWST ESFAS instrument loop caused the loop to fail low and be inoperable but not bypassed. This resulted in the SSPS receiving an actual low ('tripped') signal to both trains from each of the two RWST ESFAS level instrument loops being tested. Unit 1 Technical Specifications (TS) Table 3.3.3, "Engineered Safety Feature Actuation System Instrumentation", Action 16, does not permit any RWST ESFAS low level instrument channels to be inoperable without being placed in the bypass position. As a result, inadvertent entry into TS 3.0.3 occurred each time a RWST ESFAS low level instrument loop was taken out of service (made inoperable) without being placed in the bypass mode during monthly performances of OST 1.1.11. This has occurred since 1978. The same condition existed for the monthly Train B SSPS functional surveillance test OST 1.1.12.

There were no automatically or manually initiated safety system responses as a result of this event.

This has been determined to not be applicable to Unit 2.

Upon discovery of this event, Condition Report Number 972398 was initiated.

REPORTABILITY

Entry into TS 3.0.3 is a condition prohibited by TS and is thus reportable pursuant to the requirements of 10 CFR 50.73(a)(2)(i).

CAUSE

The apparent cause of this event was a misinterpretation of TSs during procedure development. It is apparent that the procedure developer was not a sare that TS 3.f.s would be entered during performance of the surveillance tests.

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

CORRECTIVE ACTIONS

1. It has been determined that the monthly surveillance of the Safety Injection System transfer to recirculation manual initiation function is already being met through alternate testing, so the test method currently specified in 1OST-1.11 and 1OST-1.12 will be deleted. This will be completed by February 4, 1998.

SAFETY IMPLICATIONS

Should an actual Safety Injection signal have occurred while two channels were tripped, a transfer to recirculation mode would have occurred causing a loss of suction to all high-head and low-head safety injection pumps. However, the period of time during which both channels were tripped was approximately 20 minutes per month for both trains. Based on this, the safety consequences were low.

PREVIOUS SIMILAR EVENTS

A review of Licensee Event Reports for the past two years identified the following similar events:

LER 1-97-015-00 entitled "Proceduralized Voluntary Entry Into T. S. 3.0.3 by Allowing Bypass of Both Source Range Channels Input to High Flux Trip."

LER 1-97-030-00 entitled "Failure to Comply with Emerger.cy Diesel Generator Technical Specification Action Statement."

LER 1-97-034-00 entitled "Residual Heat Removal System Technical Specification Requirements Historically Not Satisfied During Refueling Cavity Draining Operations."

LER 1-97-041-00 entitled "Failure to Remove Power From the Isolated RCS Loop Isolation Valve Operators Within One Hour as Required by Tech Specs."

LER 1-97-042-00 entitled "Failure to Perform Axial Flux Difference Monitor Surveillance as Required by Technical Specifications."

LERs that resulted from reviews conducted in response to NRC Generic Letter 96-01 are not included because they are based upon inadequate surveillance of logic testing requirements of safety related logic circuits. Similar events to this event have been identified based upon misinterpretation of Technical Specifications incorporated into procedures.