



Duquesne Light

Nuclear Group
P.O. Box 4
Shippingport, PA 15077-0004

Telephone (412) 393-6000

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L-98-228

Beaver Valley Power Station, Unit No. 2
Docket No. 50-412 License No. NPF-73
LER 98-013-00

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 98-013-00, 10 CFR 50.73(a)(2)(i), "Inadequate Operating Surveillance Procedure Leads to Failure to Comply with Technical Specifications."

K. L. Ostrowski
Division Vice President
Nuclear Operations and
Plant Manager

Attachment



The Nuclear Professionals

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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

Mr. D. S. Brinkman
BVPS Senior Project Manager
United States Nuclear Regulatory Commission
Washington, DC 20555

Mr. David M. Kern
BVPS Senior Resident Inspector
United States Nuclear Regulatory Commission

Mr. J. A. Hultz
Ohio Edison Company
76 S. Main Street
Akron, OH 44308

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Mr. Michael P. Murphy
Bureau of Radiation Protection
Department of Environmental Protection
RCSOB-13th Floor
P.O. Box 8469
Harrisburg, PA 17105-8469

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

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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TITLE (4)
 Inadequate Operating Surveillance Procedure Leads to Failure to Comply with Technical Specifications

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
11	06	98	98	013	00	12	02	98	N/A	
									N/A	

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	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 R. D. Hart, Senior Licensing Supervisor	TELEPHONE NUMBER (Include Area Code) (412) 393-5284
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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		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		N/A		

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

On November 6, 1998, at approximately 1046 hours, during maintenance activities on 138 kV breaker OCB-85, it was identified that, contrary to the requirements of the Technical Specifications (TS), one of the two required AC circuits aligned from the offsite transmission network to the onsite Class 1E distribution system was not capable of supplying power from remote sources according to the description in the Updated Final Safety Analysis Report (UFSAR). The affected AC power circuit was declared inoperable and the appropriate TS action statement was entered. Operability of the remaining AC sources was demonstrated at 1110 hours. However, since the condition which rendered one of the two offsite AC sources inoperable had existed since 0805 hours, when 138 kV circuit breaker OCB-85 was opened for maintenance, the TS required action was not performed within the allowable one hour interval. This is an operation or condition prohibited by TS and is reportable as a Licensee Event Report (LER) pursuant to the requirements of 10CFR50.73(a)(2)(i). At 1320 hours, maintenance on OCB-85 was completed, the breaker was closed, the onsite AC distribution system returned to the normal lineup and applicable TS action statement was exited. There were no automatic or manual safety system actuations as a result of this event. The apparent cause of this event was the use of an inadequate procedure. The procedure was in conflict with the UFSAR, due to the inadequate review and evaluation of a procedure revision during the preparation and approval processes. When the Operating Surveillance Test procedure for offsite to onsite distribution system breaker alignment verification was revised June 4, 1991, to include a footnote which permitted OCB-85 to be open and AC power supplied to one of the System Station Service Transformers (SSST) from an offsite source, the review and evaluation failed to identify that the source was not acceptable according to the UFSAR. No actual loss of AC power occurred during this event. UFSAR Chapter 15 accident analyses assume a loss of offsite AC power (LOOP) and conclude that safe shutdown of the plant can be achieved during a design basis accident (DBA) without offsite sources. In addition, both emergency diesel generators (EDGs) remained operable. Therefore, there were no implications to the health and safety of the public.

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse Pressurized Water Reactor (PWR)

138 kV Circuit Breaker OCB-85 Supply to System Station Service Transformer 2A from Bus 2{EB/BKR}

* Energy Industry Identification System (EII) system and component function identifier codes appear in the text as {SS/CCC}

DESCRIPTION OF THE EVENT

On November 6, 1998, at approximately 1046 hours, Beaver Valley Power Station (BVPS) Unit 2 was in Mode 1 at 100% reactor power. During maintenance activities on 138 kV breaker OCB-85 {EB/BKR}, it was identified that, contrary to the requirements of the Technical Specifications (TS), one of the two required AC circuits aligned from the offsite transmission network to the onsite Class 1E distribution system was not capable of supplying power from remote sources according to the description in the Updated Final Safety Analysis Report (UFSAR). TS 3.8.1.1.a requires two operable, physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system in Modes 1, 2, 3 and 4. One of the two onsite circuits in the Class 1E distribution system, System Station Service Transformer 2A, was aligned to 138 kV line Z-30 from Midland while circuit breaker OCB-85 was open for maintenance. UFSAR description in Section 8.2.1.1 indicates that Z-30 is not capable of supplying power to BVPS. TS 3.8.8.1 action "a" requires, with one offsite circuit inoperable, that the operability of the remaining AC sources be demonstrated by verifying correct breaker alignment and indicated power availability within 1 hour and every 8 hours thereafter. At 1046 hours, it was identified that the existing offsite power configuration was in conflict with the UFSAR. The affected AC power circuit was declared inoperable and TS 3.8.1.1 action statement "a" was entered. Operability of the remaining AC sources was demonstrated at 1110 hours. However, since the condition which rendered one of the two offsite AC sources inoperable had existed since 0805 hours, when 138 kV circuit breaker OCB-85 was opened for maintenance, the TS required action was not performed within the allowable one hour interval. This is an operation or condition prohibited by TS and is reportable as a Licensee Event Report (LER) pursuant to the requirements of 10CFR50.73(a)(2)(i). At 1320 hours, maintenance on OCB-85 was completed, the breaker was closed, the onsite AC distribution system returned to the normal lineup and the TS action statement was exited. There were no automatic or manual safety system actuations as a result of this event.

CAUSE OF THE EVENT

The apparent cause of this event was the use of an inadequate procedure. The procedure was in conflict with the UFSAR, due to the inadequate review and evaluation of a procedure revision during the preparation and approval processes. The Operating Surveillance Test procedure for offsite to onsite distribution system breaker alignment verification was revised June 4, 1991, adding a footnote which permitted OCB-85 to be open and AC power supplied to System Station Service Transformer 2A from the 138 kV Z-30 (Midland) line. The review and evaluation of the procedure change failed to identify that Z-30 was not an acceptable offsite power source according to the UFSAR description of the transmission network.

ANALYSIS OF THE EVENT

Unit 2 Surveillance Test 2OST-36.7, "Offsite to Onsite Power Distribution System Breaker Alignment Verification" contained a note concerning the required position of OCB-85 in order to verify an operable offsite source is aligned to the Train A onsite Class 1E power source. The note indicated that if OCB-85 is open, the Acceptance Criteria may be satisfied by System Station Service Transformer 2A being energized by the Midland Z-30 line.

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

Contrary to this position, UFSAR Section 8.2.1.1 states that "...all transmission lines, except the J&L (Z-31, Z-32, Z-33), and the Midland (Z-30) 138 kV circuits, are capable of supplying power from remote sources to BVPS-1 and/or BVPS-2." In addition, UFSAR Section 8.2.1.3 states "...offsite power is supplied to the two independent, redundant onsite power systems by two BVPS-2 system station service transformers, each powered from a different bus of the 138 kV switchyard...". The Midland Z-30 line receives power, on the 138 kV level, from 138KV Bus 1 of the BVPS Switchyard, which is the supply for the 2B System Station Service Transformer. The line-up permitted in 2OST-36.7 could result in both system station service transformers being supplied from the same 138 kV bus (Bus 1). This condition has existed since June 4, 1991 when the OST was revised to introduce the conflicting footnote. The 10CFR50.59 Safety Evaluation screening failed to recognize the footnote was in conflict with the UFSAR.

BVPS procedures do not credit alignment to the J&L (Z-31, Z-32, Z-33) 138 kV transmission lines, for supplying onsite power from remote sources, in agreement with description in the UFSAR. The physical capability to align a remote source (Z-30) to directly supply an onsite System Station Service Transformer (SSST) is unique to Unit 2 and SSST 2A. The Z-30 line, when disconnected from Bus 1, has insufficient capacity to supply SSST 2A. This condition does not exist at Unit 1, since there is no alternate power supply available to the SSSTs from offsite sources. The Unit 1 SSSTs can only be supplied by 138 kV Buses 1 and 2.

A review of plant records for approximately the past two years identified two other instances when OCB-85 was open: 1) January 28, 1997 and 2) May 21, 1998. On January 28, 1997, Unit 2 was in Mode 1. TS LCO 3.8.1.1.a was not invoked at that time. On May 21, 1998, Unit 2 was shutdown and in Mode 5 where only one offsite power circuit is required to be operable, therefore entry into TS LCO 3.8.1.1.a was not required.

CORRECTIVE ACTIONS

Procedure 2OST-36.7 was revised and approved on November 23, 1998 to eliminate the footnote which permitted the Z-30 line to supply SSST 2A and thereby satisfy the Acceptance Criteria when OCB-85 is open. Operating Manual Chapter 36 was revised on December 1, 1998, to include a Precautions and Limitations statement that opening OCB-85 necessitates entry into TS LCO 3.8.1.1.a, since alignment of SSST 2A to the Z-30 line does not satisfy TS requirements.

Administrative controls for procedure changes have improved since the change to 2OST-36.7 which introduced the conflicting footnote in 1991. Current Nuclear Power Division Administrative Procedures (NPDAPs) have introduced a number of improvements to the 10CFR50.59 process. The 10CFR50.59 screening form, which must be prepared prior to the submittal of a procedure change to the Onsite Safety Committee (OSC), now requires review by an individual who is a trained and qualified reviewer. This was not required by the procedure review and approval process or the OSC presentation form used in 1991. Safety-related procedures such as Operating Surveillance Test procedures and others which require review by the OSC, specify within the body of each that they must be screened for 10CFR50.59 applicability prior to revision. System Engineering is required to review all TS-related surveillance test intent procedure changes.

The UFSAR search capabilities have also been improved since 1991, by the introduction of an electronic version of the documents, which is "word-searchable" and available as a tool to those with the need to prepare a procedure revision or other change. However, the controlled hardcopy is the definitive document for all such searches.

REPORTABILITY

As discussed above, for the identified condition, the LCO ACTION statement constraints required demonstration of the OPERABILITY of the remaining AC sources by performance of TSSR 4.8.1.1.1.a within 1 hour.

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TSSR 4.8.1.1.1.a is implemented by performing the breaker alignment verification of 2OST-36.7. 2OST-36.7 was started at 1046 hours, completed at 1110 hours and therefore, not performed within one hour of entering the LCO (which was unknowingly entered at 0805 hours). Since the condition which rendered one of the two offsite AC sources inoperable had existed since 0805 hours, when 138 kV circuit breaker OCB-85 was opened for maintenance, the TS required action was not performed within the allowable one hour interval. This is an operation or condition prohibited by TS and is reportable as a Licensee Event Report (LER) pursuant to the requirements of 10CFR50.73(a)(2)(i).

SAFETY IMPLICATIONS

No actual loss of AC power occurred during this event. Upon recognition that the existing configuration between the offsite and onsite AC power systems was in conflict with the UFSAR, the appropriate TS action was taken to demonstrate operability of the remaining AC sources. This action was accomplished approximately two hours later than required by TS, hence the necessity for this report. UFSAR Chapter 15 accident analyses assume a loss of offsite AC power (LOOP) and conclude that safe shutdown of the plant can be achieved during a design basis accident (DBA) without offsite sources. In addition, both emergency diesel generators (EDGs) remained operable. Therefore, there were no implications to the health and safety of the public as a result of this event.

SIMILAR EVENTS

A review of BVPS Licensee Event Reports for the past two years that involved TS surveillance discrepancies caused by inadequate procedures identified the following similar events:

- LER 2-98-002, "Inadequate Testing of Diesel Fuel Oil Transfer Pumps as Required by Tech Specs."
- LER 2-98-007, "Inadequate Beaver Valley Power Station Unit 2 Procedures to Ensure Compliance with Tech Specs."
- LER 2-98-008, "Generic Letter 96-01 - Tech Spec Instrumentation Surveillance Inadequacies."
- LER 2-97-005, "Conditions Prohibited by Technical Specifications During Routine 4.16kV and 480 Volt Emergency Bus Surveillance Testing."
- LER 2-97-006, "Technical Specification Requirements for 4.16 kV Bus Undervoltage Trip Feeder Breaker Function ESF Response Time Not Met."
- LER 2-97-007, "Inadequate Routine Surveillance Testing of the Power Range, Neutron Flux High Positive Rate Reactor Trip Function."
- LER 2-97-009, "Missed Surveillance of the Gaseous Waste Storage Tank Radioactive Material Quantity Determination."
- LER 1-98-001, "Failure to Perform Required Valve Surveillances for Component Cooling and Service Water as Required by Technical Specifications."
- LER 1-98-003, "Failure to Perform Chemical Addition System Valve Cycling Surveillance as Required by Technical Specifications."
- LER 1-98-004, "Failure to Perform Required Valve Surveillances for Boron Injection, ECCS, and Quench Spray as Required by Technical Specifications."
- LER 1-98-005, "Failure to Comply with the Surveillance Requirement for the Boron Injection Tank Surge Tank Boron Concentration"
- LER 1-98-006, "Inadequate Routine Weekly Surveillance Testing of the Onsite A.C. Power Distribution System"
- LER 1-98-007, "Failure to Inspect Diesel Generators in Accordance with Technical Specifications."