Duquesne Light

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

Telephone (412) 393-6000

April 30, 1993
ND3MNO:3450

Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, Licensee No. NPF-73
LER 93-007-00

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

Gentlemen:

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

LER 93-007-00, 10 CFR 50.73.a.2.i.B, "Inadequate Testing of Reactor Trip Breakers."

L. R. Freeland
General Manager
Nuclear Operations

JGT/sl

Attachment

IE22
1/1

cc: Mr. T. T. Martin, Regional Administrator
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Mr. G. E. Edison, BVPS Licensing Project Manager
United States Nuclear Regulatory Commission
Washington, DC 20555

Larry Rossbach, Nuclear Regulatory Commission,
BVPS Senior Resident Inspector

J. A. Holtz, Ohio Edison
76 S. Main Street
Akron, OH 44308

Larry Beck
Centerior Energy
6200 Oak Tree Blvd.
Independence, OH 44101-4661

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

Mr. Robert Barkanic
Department of Environmental Resources
P.O. Box 2063
16th Floor, Fulton Building
Harrisburg, PA 17120

Director, Safety Evaluation & Control
Virginia Electric & Power Co.
P.O. Box 26666
One James River Plaza
Richmond, VA 23261

W. Hartley
Virginia Power Company
5000 Dominion Blvd.
2SW Glenn Allen, VA 23060

J. M. Riddle
Halliburton NUS
Foster Plaza 7
661 Anderson Drive
Pittsburgh, PA 15220

Bill Wegner, Consultant
23 Woodlawn Terrace
Fredricksburg, VA 22405

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Beaver Valley Power Station Unit 2	05000 3 3 4	1 OF 04

TITLE (4)
Inadequate Testing of Reactor Trip Breakers

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									N/A	05000 N/A
0 4	0 5	9 3	9 3	-- 0 0 7 --	0 0	0 4	3 0	9 3	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)	
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER	
20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)		
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
L. R. Freeland, General Manager Nuclear Operations	4 1 2 6 4 3 - 1 2 5 8

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
D	J C	W120	XXXX	N						

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

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

On 4/5/93, with the Unit at 100% reactor power, a review of Information Notice 93-15 identified a deficiency in the testing of the reactor trip breaker manual shunt trip circuitry. Technical Specification (TS) Surveillance Requirement 4.3.1.1.1, Table 4.3-1, Item 1 requires independent testing of the reactor trip breaker shunt trip and undervoltage trip circuitry. The surveillance procedure utilized to satisfy this requirement failed to independently test the manually actuated shunt trip circuitry. This surveillance procedure was in effect since initial Unit startup in 1987. The cause of this event is a deficient procedure. A Discretionary Enforcement request was approved, permitting continued unit operation until the next entry into Operating Mode 3. The surveillance procedure was revised to include an independent check of the manual shunt trip circuitry. There were minimal safety implication as a result of this event. The Solid State Protection System was verified to indirectly energize the shunt trip coil, upon manual actuation, through testing conducted by Instrument and Control personnel. Testing of the automatic actuation of both the undervoltage and shunt trip circuitry was properly included in station procedures and was available at all times.

DESCRIPTION OF THE EVENT

On 4/5/93, with the Unit at 100% reactor power, a review of Information Notice 93-15 by Instrument and Control personnel identified a deficiency in the testing of the reactor trip breaker manual shunt trip circuitry. Technical Specification (TS) Surveillance Requirement 4.3.1.1.1, Table 4.3-1, Item 1 requires independent testing of the reactor trip breaker shunt trip and undervoltage trip circuitry. The test for the Manual Reactor Trip function did not adequately test the direct shunt trip circuit continuity from the Main Control Board manual reactor trip switches to the shunt trip coil. This surveillance procedure operates one of the two manual reactor trip handswitches. Operation of the handswitches causes a shunt trip by sending a direct signal to energize the shunt trip coil, and also by de-energizing the undervoltage circuits which utilize a relay to actuate the shunt trip coil. Since the procedure did not bypass the undervoltage circuitry associated with the shunt trip actuation, operation of the direct handswitch shunt trip was not separately verified. This testing deficiency has existed since initial Unit startup in 1987.

Independent verification of the direct manual shunt trip was performed during pre-operational and shunt trip installation testing.

CAUSE OF THE EVENT

The cause of this event was a deficient procedure. The review and approval of the original issue, and subsequent revisions of the surveillance procedure, failed to identify the failure to independently test the shunt trip.

CORRECTIVE ACTIONS

The following corrective actions have been or will be taken as a result of this event:

1. Technical Specification 4.0.3 was entered on at 1530 hours on 4/05/93, to permit performance, within 24 hours, of the surveillance requirement for testing of the manual shunt trip circuitry.

2. This surveillance discrepancy and actions necessary to mitigate a manual shunt trip actuation failure have been reviewed by all Operations shift personnel to enhance operator readiness in the unlikely event of an automatic and manual reactor trip failure.

3. The surveillance test procedure has been revised to independently verify operation of the shunt trip circuitry during all future performances of the test.

4. All licensed operators will continue to receive training on anticipated transient without scram (ATWS) events as part of normal licensed operator retraining.

5. The Emergency Operating Procedures were reviewed and found to contain sufficient guidance to address the ATWS event.

6. Since testing at-power is not technically possible without risking initiation of a plant transient, a request for approval of Discretionary Enforcement was submitted to allow continued plant operation until the next entry to Hot Shutdown (Operating Mode 3), at which time the direct manual shunt trip will be independently tested to ensure proper operation. This approval was granted on 4/06/93 at 1524 hours.

REPORTABILITY

This written report is being submitted in accordance with 10CFR50.73.a.2.i.B, as a condition prohibited by Technical Specifications.

SAFETY IMPLICATIONS

There were minimal safety implications as a result of this event. Independent verification of the manual shunt trip was performed during pre-operational and shunt trip installation testing. At least once per eighteen months, opening of both reactor trip breakers has been initiated by use of one of the two manual reactor trip handswitches in the control room. This operation does not verify that both the shunt and undervoltage features function independently. It does verify that the trip breakers would be opened by at least one of the two diverse means required. It has been determined that, based on extensive testing, and in the presence of the diverse trip features (undervoltage and shunt trip attachment), the reactor trip breakers and reactor trip bypass breakers are fully functional and capable of opening in response to a Main Control Board manual trip actuation. Additionally, all automatic features were properly tested, as well as the undervoltage initiated portion of the manual shunt trip circuitry.

PREVIOUS OCCURRENCES

There have been no previous LERs involving surveillance deficiencies associated with reactor trip and bypass breaker testing at Beaver Valley.