



Duquesne Light

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May 10, 1985

U.S. Nuclear Regulatory
Division of Licensing
Attn: Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing
Washington, DC 20555

Reference: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Bypass Breaker Status Indication,
Generic Letter 83-28, Item 4.3

Gentlemen:

By letter dated January 14, 1985, we provided a response to the confirmatory items identified in the Safety Evaluation (SE) for Generic Letter 83-28, Item 4.3. By letter dated March 20, 1985, you provided the NRC's position for requiring status indication for reactor trip bypass breakers.

Based on our review of the NRC's position, specifically the need to insure P-4 initiation, we have initiated a revision to our design concept of the automatic actuation for the reactor trip breaker shunt trip attachment to include status indication of the reactor trip bypass breakers. Therefore, we are providing a revised response to the confirmatory items identified in the SE dated November 8, 1984.

If you have any questions, please contact my office.

J. J. Carey
Vice President, Nuclear

Attachments

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May 10, 1985
Beaver Valley Power Station, Unit No. 1
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Bypass Breaker Status Indication,
Generic Letter 83-28, Item 4.3
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cc: Mr. W. M. Troskoski, Resident Inspector
U.S. Nuclear Regulatory Commission
Beaver Valley Power Station
Shippingport, PA 15077

U.S. Nuclear Regulatory Commission
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Washington, DC 20555

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Richmond, VA 23261

Beaver Valley 1 Response to
NRC Safety Evaluation Report on
Generic Letter 83-28, Item 4.3,
Automatic Shunt Trip Modification

NRC Condition

- (a) Submission of revised information including revised electrical schematics showing provisions of bypass breaker position status lights on the main control board as noted in Item 1.

Response (revised)

Attached is a preliminary electrical elementary diagram for the proposed automatic shunt trip modification. This diagram identifies the bypass breaker UVTA circuit, STA circuit, breaker controls and breaker status/alarms.

As part of the modification, breaker position indicating lights are to be added for the bypass breakers. The lights are to be powered from the same 125VDC supply as the shunt trip and closing circuit. The green light is to be in series with a "b" auxiliary contact, which will indicate breaker open and power available for closing. The red light is to be in series with the shunt trip coil and an "a" auxiliary contact, which will indicate breaker closed, power available for tripping and shunt trip coil continuity.

Tentatively, the status lights are proposed to be installed on Section B of the Main Control Board near the reactor trip breaker control switch, 1-RTC. However, with the limited open area around the switch, the exact location cannot be determined until the detailed design is complete.

NRC Condition

- (b) Confirmation that shunt trip components have been seismically qualified as noted in Item 6.

Response (revised)

The WOG qualification reports were received and are being reviewed for applicability to BVPS-1 design.

NRC Condition

- (c) Confirmation that testing of bypass breaker undervoltage trip attachments will be performed as noted in Item 10.

Response (not revised)

Note, Item 10 of the safety evaluation report requires testing of the shunt trip attachment; therefore, this item should reference shunt trip attachment instead of the undervoltage trip attachment.

MSPs 1.04 and 1.05, "Reactor Protection Logic System Train 'A' ('B') Bi-Monthly Test," have been revised to test the shunt trip attachment of the bypass breaker, with the breaker in the test position, via the local trip pushbutton prior to closing for reactor trip breaker testing. This verifies that the shunt trip attachment will open the bypass breaker.

NRC Condition

- (d) Confirmation that bypass breaker testing will demonstrate proper operation of control board bypass breaker position indication as identified in Item 11.

Response (revised)

The bi-monthly tests of the reactor protection system (MSPs 1.04 and 1.05) verify proper operation of annunciators A4-101 and A4-109, P-250 points Y0026D and Y0027D, and sequence-of-events points 192 and 201.

In addition, the bi-monthly tests (MSPs 1.04 and 1.05) and the startup manual reactor trip test (OST 1.1.7) will be revised to verify proper operation of the bypass breaker position indicating lights.

NRC Condition

- (e) Submission of proposed Technical Specifications noted in Items 10 and 13, following implementation of this modification.

Response (not revised)

Attached are proposed Technical Specification changes for Beaver Valley 1. These will be verified and formally submitted for approval following installation of the shunt trip modification and on-site review.

Functional Unit 24 and Note 10 are proposed for incorporation of the bypass breaker testing requirements as indicated in Item 10 of the November 8, 1984 Safety Evaluation Report.

Independent verification of the undervoltage and shunt trip attachments required by Item 11 of the November 8, 1984, Safety Evaluation Report is proposed for Functional Unit 21 during the Channel Functional Test by Note 11 on a bi-monthly frequency.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1.	Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2.	Power Range, Neutron Flux				
	a. High Setpoint	S	D(2), M(3) and Q(6)	M	1, 2
	b. Low Setpoint	S	N.A.	S/U(1)	2
3.	Power Range, Neutron Flux, High Positive Rate	N.A.	R	M	1, 2
4.	Power Range, Neutron Flux, High Negative Rate	N.A.	R	M	1, 2
5.	Intermediate Range, Neutron Flux	S	N.A.	S/U(1), M(7)	1, 2, 3*, 4*, 5*
6.	Source Range, Neutron Flux (Below P-10)	N.A.	N.A.	S/U(1), M(8)	2, 3*, 4* and 5*
7.	Overtemperature T	S	R	M	1, 2
8.	Overpower T	S	R	M	1, 2
9.	Pressurizer Pressure-Low	S	R	M	1, 2
10.	Pressurizer Pressure-High	S	R	M	1, 2
11.	Pressurizer Water Level-High	S	R	M	1, 2
12.	Loss of Flow - Single Loop	S	R	M	1

TABLE 4.3-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

BEAVER VALLEY - UNIT 1

3/4 3-12

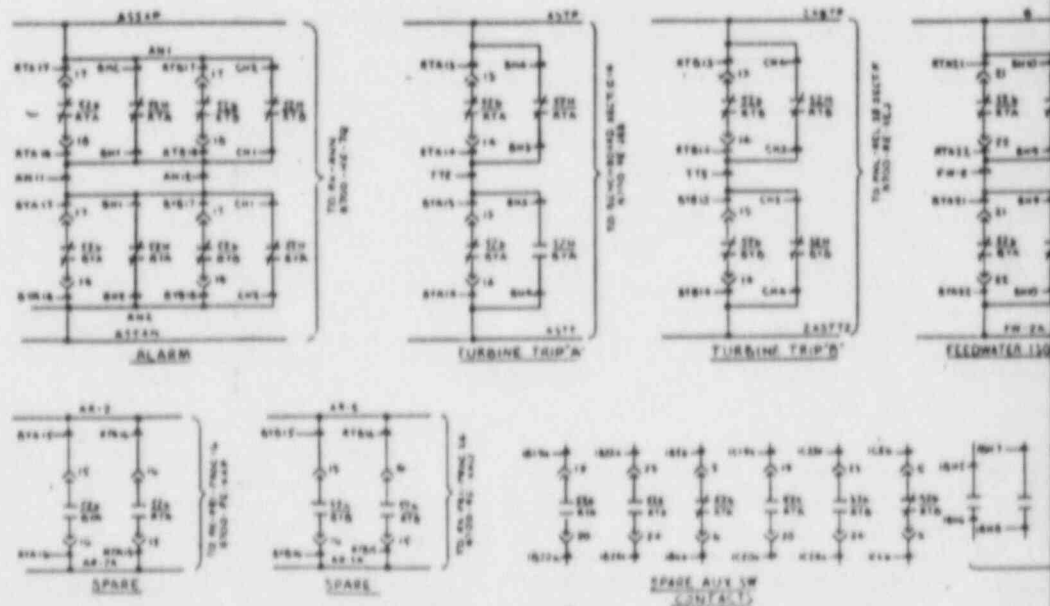
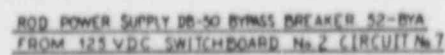
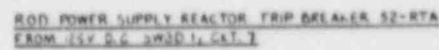
Amendment No. 83

	FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
13.	Loss of Flow - Two Loops	S	R	N.A.	1
14.	Steam/Generator Water Level-Low-Low	S	R	M	1, 2
15.	Steam Feedwater Flow Mismatch and Low Steam Generator Water Level	S	R	M	1, 2
16.	Undervoltage - Reactor Coolant Pumps	N.A.	R	M	1
17.	Underfrequency - Reactor Coolant Pumps	N.A.	R	M	1
18.	Turbine Trip				
	A. Auto Stop Oil Pressure	N.A.	N.A.	S/U(1)	1, 2
	B. Turbine Stop Valve Closure	N.A.	N.A.	S/U(1)	1, 2
19.	Safety Injection Input from ESF	N.A.	N.A.	M(4)	1, 2
20.	Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	R	N.A.
21.	Reactor Trip Breaker	N.A.	N.A.	M(5) and S/U(1)	1, 2, 5*
22.	Automatic Trip Logic	N.A.	N.A.	M(5)	1, 2, 5*
23.	Reactor Trip System Interlocks				
	A. P-6	N.A.	N.A.	M(9)	1, 2
	B. P-8	N.A.	N.A.	M(9)	1
	C. P-9	N.A.	N.A.	M(9)	1
	D. P-10	N.A.	N.A.	M(9)	1
	E. P-13	N.A.	R	M(9)	1
24.	Reactor Trip Bypass Breakers	N.A.	N.A.	M(5,10) and S/U(1)	1, 2*

TABLE 4.3-1 (Continued)

NOTATION

- * - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- (1) - If not performed in previous 7 days.
- (2) - Heat balance only, above 15% of RATED THERMAL POWER.
- (3) - Compare incore to excore axial imbalance above 15% of RATED THERMAL POWER. Recalibrate if absolute difference ≥ 3 percent.
- (4) - Manual BRF functional input check every 18 months.
- (5) - Each train tested every other month.
- (6) - ~~Neutron~~ detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Below P-10.
- (8) - Below P-6.
- (9) - Required only when below Interlock Trip Setpoint.
- (10) - The CHANNEL FUNCTIONAL TEST of the Reactor Trip Bypass Breakers shall verify OPERABLE the Shunt Trip Attachment via the local push buttons with the breaker in the test position prior to closing for Reactor Trip Breaker Testing.
- (11) - The CHANNEL FUNCTIONAL TEST of the Reactor Trip Breakers shall verify independant OPERABILITY of the Undervoltage and Shunt Trip Attachments.



PRELIMINARY