



Duquesne Light

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February 8, 1985

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Reactor Systems Branch Open Items/Questions

Gentlemen:

This letter forwards responses to draft SER open items and questions provided by the Reactor Systems Branch. Attached are responses for Questions 440.75 and 440.76 and a supplementary response for Open Item 161. Informal responses for these have been previously transmitted to you.

It is noted that Duquesne Light Company letter 2NRC-4-122 from Mr. E. J. Woolever to Mr. G. W. Knighton dated August 10, 1984, provided the original response to Open Item 161 and that it also provided a response to Open Item 162 which addresses the same subject as attached Question 440.75.

DUQUESNE LIGHT COMPANY

By *E. J. Woolever*
E. J. Woolever
Vice President

JJS/wjs
Attachment

cc: Mr. B. K. Singh, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)

SUBSCRIBED AND SWORN TO BEFORE ME THIS
8th DAY OF February, 1985.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

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COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 8th day of February, 1985, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. J. Woolever, who being duly sworn, deposed and said that (1) he is Vice President of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROEINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

QUESTION 440.75

In its July 23, 1984, draft response to Outstanding Issue #162, the Duquesne Light Company compared the details of natural circulation at Beaver Valley Unit 2 to those of North Anna Unit 2 where a natural circulation test was performed. However, the Reactor System Branch (RSB) has not received the results nor the analysis of the North Anna 2 test. Thus North Anna Unit 2's ability to satisfy the natural circulation criteria fo SRP Branch Technical Position, RSB 5-1, has not been confirmed. The RSB will have to receive and confirm that the results of the North Anna Unit 2 natural circulation test prove compliance with RSB 5-1 before this issue can be closed.

Response

Refer to April 22, 1982, letter from R. A. Clark, Chief, Operating Reactors Branch #3, Division of Licensing to R. H. Leasburg, Vice President of Nuclear Operation, Virginia Electric and Power Company (VEPCO). It acknowledges the VEPCO results which show that the boration capability under natural circulation is more than adequate to offset the cooldown reactivity effects.

QUESTION 440.76

The functional diagram for the pressure relief system on the pressurizer, which is Figure 7.2-1 Sheet 17 of the BVPS-2 FSAR, shows an "Auto" position of the PORV block valve control switch. Does this mean that when the switch is in this "Auto" position the pressurizer, PORV, block valve will automatically close on the loss of pressurizer pressure? If so: (1) What are the set points on this automatic closure system? (2) Is automatic closure accounted for in the emergency procedures which will be followed after a steam generator tube rupture? (3) What alarms will alert the operator if the switch is in the wrong position?

Response

The pressurizer pressure relief interlock signal as shown on Figure 7.2-1 Sheet 6 causes the pressurizer PORV block valves automatically to open on pressurizer high pressure and automatically to close on pressurizer low pressure when the MCB control switch is in the automatic position. Although automatic closure is not mandatory for the block valves because operator action can close them subsequent to a PORV failing to close, this automatic closure on low pressure is not detrimental to reactor safety considering PORV LOCA, steam generator tube rupture recovery, or ICC recovery procedures as discussed in WCAP-9804.¹ Automatic opening of these block valves is provided by an alternate means when the Cold Overpressure Mitigation System (COMS) is manually initiated. Also the block valves may be directly opened by administrative means by holding the block valve control switch in its "spring-return" open position, recognizing that the switch will return to the automatic position on release of the switch.

There is a "depresurrizer check step" in the ERG for Steam Generator Tube Rupture E3, as well as in other ERG's, that "flags" the need for proper alignment of the block valve and PORV.

An annunciation of the block valve opening signal is visible to the operator at the main control board.

¹ WCAP-9804, D. C. Wood, C. L. Gottshall, "Probabilistic Analysis and Operational Data in Response to NUREG-0737, Item II.K.3.2 for WNES Plants"

OPEN ITEM 161

Since both RHRS pumps are located inside of containment, there is a question of whether or not this environment could cause a common mode failure. Moreover, the Equipment Environmental Qualification Table (3.11-1) in the FSAR for the RHRS does not include the RHR pumps. For a reliable system these pumps are going to have to be qualified for the containment environment and included in Table 3.11-1.

Supplementary Response (Original Response 8/10/84, 2NRC-4-122)

The FSAR section referenced in the original response should be 5.4.7.2.6.

The safety grade systems which perform the function of removing residual heat from the reactor core for LOCA conditions are the ECSS, AFWS, and steam generator PORVs. The ECCS systems used would depend on the LOCA event, the size of the break. The systems that could be employed are High Head Safety Injection, Low Head Safety Injection, and the Accumulators. Depending on the severity of the accident, one, two, or all three systems could be employed.

FSAR Section 3.11 now references Table 1.7-3. Table 1.7-3 references the equipment qualification report as a separate submittal. This report was submitted by Letter 2NRC-4-087 dated June 22, 1984, and it contains Table 3.11-1. Environmentally qualified electrical equipment provided to meet GDC 34 is included in this table.