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September 9, 1983

United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

ATTENTION: Dr. Thomas E. Murley
Administrator

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Status of Main Control Board
Significant Deficiency Report No. 83-05, Final Report

Gentlemen:

This Final Report is in reference to the Main Control Board installation details. The Nuclear Regulatory Commission was notified by Duquesne Light Company on June 15, 1983, of this potential significant deficiency. The evaluation of the integrity of the Main Control Board has been completed. The evaluation of the seismic adequacy of the as-built welding details of the BVPS-2 Main Control Board confirms that the subject welds would not fail under the design loading conditions. Since there is no potential impact on the safety of operation of BVPS-2, this deficiency is considered to be non-reportable in accordance with the requirements set forth in 10CFR50.55(e).

DUQUESNE LIGHT COMPANY

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

JS/wjs
Attachment

cc: Mr. R. DeYoung, Director
Office of Inspection and Enforcement (3) (w/attachment)
Mr. G. Walton, NRC Resident Inspector (w/attachment)
Ms. L. Lazo, NRC Project Manager (w/attachment)
NRC Document Control Desk (w/attachment)

SUBSCRIBED AND SWORN TO BEFORE ME THIS
9th DAY OF September, 1983.

Anita Elaine Reiter

Notary Public

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PDR ADOCK 05000412
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ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1988

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COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 9th day of September, 1983, 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 exe-
cute 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
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

BEAVER VALLEY POWER STATION - UNIT NO. 2
DUQUESNE LIGHT COMPANY

Report on Potential Significant Deficiency of the
Main Control Board Seismic Mounting Details

1.0 SUMMARY

The as-installed mounting/hold-down details for the main control boards (MCB's) are not consistent with the approved seismic qualification documentation. Since that time an Interim Report was issued by Duquesne Light Company on July 18, 1983.

2.0 IMMEDIATE ACTION TAKEN

Mr. S. D. Hall of Duquesne Light Company reported this potential 10CFR 50.55(e) to Mr. Lowell Tripp of the NRC, Region I office on June 16, 1983. An engineering evaluation of the as-built condition of the MCBs' hold-down details was initiated to identify whether the welds and welding details utilized are acceptable.

A combination of testing and analysis was employed for this evaluation. In-situ testing was performed using low-level impedance type test equipment to identify the MCB's structural dynamic characteristics. The testing results were correlated to a mathematical model of a representative section of the MCB. The mathematical model was refined to the degree necessary to reflect actual frequency and mode shapes identified during the in-situ testing. The MCB representative model was then analyzed for the purpose of identifying reaction loads at the hold-down welds. The welds were then analyzed to determine what stress levels would be present during a seismic event.

The results of this evaluation demonstrate that during the postulated seismic event, the subject welds will not be stressed beyond applicable design allowables.

3.0 DESCRIPTION OF THE DEFICIENCY

The MCB's, which are presently installed on site, were originally tested at Wyle Laboratories in September 1977. The mounting/hold-down details utilized to attach the MCB's to the seismic test table were standard stitch welds using 1/4-inch fillet welds. This hold-down method was transferred to the SWEC Electrical Drawing No. 12241 RE27N, Issue 1.

Due to improper fit-up with the structural embedments encountered during installation of the MCB's, a shimming detail was required. The shimming detail was added to the drawing (RE-27N-1B). However, the original number and locations of welds were altered for a lesser number due to the fit-up problems existing at the time. As a result, the present number of welds is less than the number of welds identified in the approved Wyle test report.

4.0 ANALYSIS OF SAFETY IMPLICATION

Because the hold-down weld stress is maintained within applicable allowables, and the in-situ test results show that the lesser number of welds did not significantly affect the overall frequency content of the MCB, structural integrity of the MCB is assured. Therefore, there is no impact on the safety of the plant.

5.0 CORRECTIVE ACTION TO REMEDY DEFICIENCIES

No corrective action is required as a result of the engineering evaluation on the present lay-out and configuration of the MCB.

6.0 ADDITIONAL REPORTS

This is the final report on this issue.