Duquesne Light

Nuclear Construction Division
Robinson Plaza, Building 2, Suite 210
Pittsburgh, PA 15205

2NRC-4-141
(412) 787-5141
(412) 923-1960
Telecopy (412) 787-2629

September 11, 1984

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
Response to DSER Open Items

Gentlemen:

This letter forwards responses to the issues listed below. The following items are attached:

Attachment 1: Additional Information on Outstanding Issue 59 of the Beaver Valley Power Station Unit No. 2 Draft Safety Evaluation Report.

Attachment 2: Response to Outstanding Issue 116 of the Beaver Valley Power Station Unit No. 2 Draft Safety Evaluation Report.

Attachment 3: Response to Outstanding Issue 153 of the Beaver Valley Power Station Unit No. 2 Draft Safety Evaluation Report.

DUQUESNE LIGHT COMPANY

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

KAT/wjs
Attachments

cc: Ms. M. Ley, Project Manager (w/a)
Mr. E. A. Licitra, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)

SUBSCRIBED AND SWORN TO BEFORE ME THIS
10th DAY OF September, 1984.

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 10th day of September, 1984, 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
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

ATTACHMENT 1

Additional Information on Outstanding Issue 59 of the
Beaver Valley Power Station Unit No. 2
Draft Safety Evaluation Report

During the June 29, 1984, meeting with the NRC, the ICSB reviewer requested additional information on the service water system as indicated in the meeting summary:

> "DLC's 6/20/84 response should address testing during operation capability. Proper FSAR referencing also to be examined by DLC."

The following additional information is provided:

> The service water system isolation valves to the turbine plant component cooling water heat exchangers (2SWS*MOV107A through D) perform the safety function of isolating the safety related portion of the service water system from the non-safety portion in the event of a low pressure or a CIB signal. This may be required, for instance, in case of the loss of an emergency bus. Indication of header low pressure is provided by control room annunciator, analog computer output, and header pressure indication (see FSAR Figure 7.4-21). Valve position indication is provided in the main control room. The switching functions associated with each transmitter may be tested individually during operation by placing the system in test and inserting a simulated pressure signal. The valves will not be shut during operation because their closure would result in unacceptable secondary temperatures and a resultant trip of the turbine (see FSAR Section 7.1.2.4). The circuits are designed to IEEE Standard 279-1971.

Duquesne Light Company has reviewed the description of the function in the FSAR and determined that, per the reviewer's suggestion, additional description would be in order. Therefore, FSAR Section 7.6 will be updated in a future amendment to include a description of the control of these valves.

ATTACHMENT 2

Response to Outstanding Issue 116 of the
Beaver Valley Power Station Unit No. 2
Draft Safety Evaluation Report

Draft SER Section 2.3.2: Local Meteorology (excerpt)

Further justification of the adequacy of the ambient extreme temperatures considered by the applicant for the design of HVAC systems protecting safety-related auxiliary systems and components is required. This will be an open issue only if exceedence of extreme design temperatures for the HVAC system results in failure or malfunction of Category I auxiliary systems and compents which is being evaluated by the Auxiliary Systems Branch.

Response:

Each type of safety-related Class 1E electical equipment is qualified for the maximum normal temperature condition of its plant location(s). The equipment is thermally aged at higher temperatures to an end-of-life condition based on this maximum normal temperature. The normal average temperature of each location, as defined in the project procedure for environmental conditions for equipment qualification, is 10°F to 20°F lower than the maximum normal temperature. The qualified life of the equpment is determined using the Arrhenius equation, as endorsed by NUREG-0588, Rev. 1. The equation conservatively assumes that the maximum normal temperature is experienced 100 percent of the time. Therefore, the expected life of the equipment will be longer than the qualified life.

The increase in temperature above 32.2°C (90°F) is not instantaneous and the equpment temperature will lag the ambient temperature for the short periods that the normal temperatures are exceeded. Therefore, the equipment temperature will not likely even reach the maximum temperature level.

Historical data collected from 1945 to 1977 shows that 32.2°C (90°F) was exceeded for 409 hours (Nation Climatic Center data for Greater Pittsburgh Airport). Over the 40-year life of the plant, the design ambient temperature is expected to be exceeded less than 0.2 percent of the time. The effect of exceeding 90°F for 0.2 percent of the time is more than offset by the conservatism used in establishing the equipment qualified life.

Therefore, the fact that the ambient temperatures may exceed the 32.2°C (90°F) design basis of the plant will have insignificant effect on the life of the equipment and its capability to operate.

ATTACHMENT 3

Response to Outstanding Issue 153 of the
Beaver Valley Power Station Unit No. 2
Draft Safety Evaluation Report

Draft SER Section 4.2.3.3: Fuel Coolability Evaluation (excerpt)

It is unclear from the discussion of the grid analysis in Section 4.2.3.4 of the FSAR whether this analysis includes the combined LOCA and seismic loads using the square-root-of-sum-of-squares (SRSS) method (as per SRP Section 4.2, Appendix A) or if these loads are considered separately. Consequently, the use of combined LOCA and seismic loads using the SRSS method needs to be confirmed to satisfy SRP Section 4.2 guidelines.

Fuel assembly non-grid component stresses from combined LOCA and seismic loads have not been shown in the FSAR to remain below P(crit) as defined in SRP Section 4.2, Appendix A. These non-grid component forces must be provided by the applicant in order to enable us to complete our review.

Response:

The subject analysis is currently in progress. The analysis uses the methodology described in Amendment 1 to FSAR Section 4.2.3.4. The results will be provided in October 1984 and will be fully responsive to the acceptance criteria of SRP 4.2, Appendix A.