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March 3, 1986

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
Regulatory Guide 1.97 Implementation Report
"Supplemental Information for Accumulator Tank Level and
Pressure"

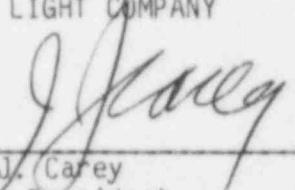
- REFERENCES:
1. DLC Activity Summary Report 2ASR-02064, dated August 20, 1985, "August 20, 1985, DLC/NRC Meeting Summary"
 2. DLC Letter 2NRC-5-095, dated June 25, 1985, "Regulatory Guide 1.97 Implementation"
 3. DLC Letter 2NRC-3-072, dated September 12, 1983, "Regulatory Guide 1.97, Implementation"
 4. NRC Letter dated April 13, 1985 (G. W. Knighton to J. J. Carey) "Beaver Valley Unit 2, Requests for Additional Information -- Conformance to Regulatory Guide 1.97"

Gentlemen:

The attachment to this letter provides supplemental information for two Regulatory Guide (RG) 1.97 variables: accumulator tank level and pressure. This information is provided to resolve the remaining comments from NRC Instrumentation and Control Systems Branch for these variables and the BVPS-2 RG 1.97 Implementation Report. Upon the review of this submittal, please direct any comments in this regard to Mr. Erv Eilmann, Lead Engineer, Regulatory Affairs Department.

DUQUESNE LIGHT COMPANY

By



J. J. Carey
Vice President

KEW/wjs
Attachment

cc: Mr. P. Tam, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)
Mr. J. Joyce, NRC ICSB (w/a)

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ATTACHMENT

BVPS-2 Regulatory Guide 1.97 Implementation Report Supplemental Information for Accumulator Tank Level and Pressure

DLC used the guidance of Regulatory Guide (RG) 1.97 to demonstrate that BVPS-2 complies with 10CFR50 General Design Criteria 13, 19, and 64. The Instrumentation and Control Systems Branch (ICSB) has indicated that the DLC submittals are acceptable to the NRC with the exception of two Type D variables: (1) accumulator level, and (2) accumulator pressure.

The BVPS-2 accumulator level and pressure instrumentation is described in FSAR Section 6.3. Two level and two pressure channels are provided for each accumulator. Each channel provides both indication and high/low alarms in the main control room. DLC has classified accumulator level and pressure as Type D, Category III variables. The rationale for this classification includes the following considerations:

1. Accumulator level and/or pressure indications are not used to prevent or mitigate the consequences of an accident.
2. Accumulator level and/or pressure channels do not initiate safety functions.
3. Accumulator level and/or pressure indications are not used during the BVPS-2 Emergency Procedures.
4. The BVPS-2 accumulator level and pressure instruments provide the reliable indications required to ensure compliance with Technical Specification 3/4.5.1. During normal operation, this specification requires monitoring these parameters once each 12 hours, and provides that the plant be shutdown if either parameter remains outside its specified range for one hour.
5. Other post-accident qualified instruments provide indication of accumulator injection, and these instruments are used in emergency procedures. Accumulators can be isolated if required by BVPS-2 emergency procedures. Accumulator level and pressure indication does not impact isolation capability.

FSAR Section 6.3.2.2 describes the passive injection function which occurs when RCS pressure drops below accumulator pressure. FSAR Table 15.6.1 shows that this passive function occurs either within one minute after the start of the LOCA event, or well after the safety injection pumps have started, depending on break size. In either event, the operator actions (i.e., T.S. 3/4.5.1 surveillance) which enables the accumulators to perform their intended function occur prior to the LOCA event and, therefore, prior to any postulated post-accident environment. The Technical Specification surveillance, using the highly reliable multiple channel instrumentation provided at BVPS-2 together with the statically passive accumulator design, provide a high level of confidence that the accumulators will perform their

intended safety function. The accumulator level and pressure indication are supplemented by highly reliable, safety grade active ECCS subsystems which employ the design considerations described in FSAR Section 6.3. The characteristics of these ECCS subsystems include redundancy, equipment qualification, single failure criteria, and independent power supplies.

The design of the BVPS-2 accumulator level/pressure indication is similar to that of the SNUPPS (Wolf Creek and Callaway) plants. Under contract to the NRC, EG&G Idaho, Inc., evaluated the Callaway design and determined that these variables need not be post-accident qualified. The NRC endorsed this determination in its April 1985 SER. No exemption to regulations was required in making this determination.

Based on the above information, DLC believes the present design for indication of accumulator level and pressure is adequate for use at BVPS-2 since it clearly meets the General Design Criteria upon which RG 1.97 is based.