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June 15, 1984

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Identification of Backfit Requirement Number 5

Gentlemen:

In Draft SER Section 7.3.3.15 (attached), the NRC identified the concern that certain motor-operated valves, such as those for cold-leg accumulator isolation, could have circuitry which could have a nondetectable failure. Duquesne Light Company responded to this concern in letter 2NRC-4-032 of March 28, 1984, by proposing a circuit modification. The NRC responded to this in a letter from Mr. G. W. Knighton to Mr. E. J. Woolever dated May 8, 1984, describing even more circuit modifications which would be necessary to satisfy the staff's understanding of IEEE-279. DLC has re-evaluated the design as described in letter 2NRC-4-076, dated June 8, 1984, to the NRC and concluded that the existing design complies with IEEE-279 in that the valves are administratively controlled and monitored to insure that no "protective action" is required.

Historically, the design of the valve control for this type of valve has included provisions to administratively remove the power to the valve operators in order that the valves were not inadvertently shut when accumulator avaiability was required. In addition to administrative control of power removal, the Beaver Valley Power Station Unit 2 design includes provision to continuously monitor the valve position. The staff position that the circuit should be designed against a nondetectable failure appears to constitute a new interpretation of IEEE-279. 10CFR 50.109, GNLR 84-08, and NRC Manual Chapter 0514 identify such a requirement as a backfit.

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DLC requests that the proposed requirement be submitted to NRC management for approval, in accordance with the Office of Nuclear Reactor Regulation (NRR) procedure for management of plant specific backfitting, prior to transmittal as a licensing requirement.

DUQUESNE LIGHT COMPANY

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

KAT/wjs
Attachment
cc: Mr. H. R. Denton (w/a)
Mr. G. W. Knighton, Chief (w/a)
Ms. M. Ley, Project Manager (w/a)
Mr. M. Licitra, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)

exercise control could lead to consequential damage of safety-related equipment or prevent initiation of protection systems. The staff favors independence between manual and automatic safety-related actions and believes that a safety-significant issue may be introduced if the operator is prevented from exercising manual control. This is an open item.

7.3.3.15 Power Lockout for Motor-Operated Valves

Certain motor-operated valves, such as those for cold-leg accumulator isolation, require power lockout (removal) to meet the single-failure criterion. The power lockout scheme used by the applicant uses an additional, manually controlled (via removable banana plugs) contactor. The staff has concluded that a short or relay failure in this circuitry could constitute a nondetectable failure and thus violate the single-failure criterion. The staff has expressed this concern to the applicant and considers this item open subject to its review of the applicant's pending response.

7.3.4 Conclusion

Later.

7.4 Systems Required for Safe Shutdown

7.4.1 Description

This section describes the equipment and associated controls and instrumentation of systems required for safe shutdown. It also describes controls and instrumentation outside the main control room that enable safe shutdown of the plant in case the main control room must be evacuated.

7.4.1.1 Safe Shutdown Systems

Securing and maintaining the plant in a safe shutdown condition can be done by appropriate alignment of selected systems that normally serve a variety of operational functions. The functions that the systems required for safe shutdown must provide are

(1) prevent the reactor from achieving criticality

(2) provide an adequate heat sink so that the design and safety limits of the reactor coolant system temperature and pressure are not exceeded

To perform the above functions, the systems required for safe shutdown must provide the following:

(1) boration

(2) adequate supply of auxiliary feedwater

(3) residual heat removal

In addition to the operation of systems required to provide these functions to achieve and maintain safe shutdown, the following conditions are applicable:

(1) The turbine is tripped (in addition to automatic trip this can be accomplished manually at the turbine as well as from the control room).

(2) The reactor is tripped (in addition to automatic trip this can also be accomplished manually at the reactor trip switchgear as well as from the control room).

(3) All automatic protection and control systems are functioning (see Sections 7.2 and 7.3).

The monitoring indicators for maintaining hot standby are as follows:

(1) water level for each steam generator

(2) pressure for each steam generator

(3) pressurizer water level

(4) pressurizer pressure