January 30, 1986

Docket No. 50-412

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Docket No. 50-412
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Mr. J. J. Carey, Vice President
Duquesne Light Company
Nuclear Group
Post Office Box 4
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Dear Mr. Carey:

Subject: Use of ASME Code Case N-32-3 for Certain Class 3 Piping Penetrations for Beaver Valley Power Station Unit No. 2

We have completed our review of your request for authorization to use ASME Code Case N-32-3 for application to certain Section III, Class 3 embedded piping penetrations at the Beaver Valley Power Station, Unit 2 as discussed in the DLC Letter 2NRC-5-066 dated May 6, 1985. The Code Case would be applied to a total of 22 embedded piping penetrations located in the Auxiliary Building, Valve Pits, and Intake Structure. The Code Case would not be applied to the Reactor Containment penetrations.

Code Case N-32-3 (1541-3) "Hydrostatic Testing of Embedded Class 2 and Class 3 Piping for Section III, Division 1 Construction" was approved for use by the ASME Council on May 15, 1978, and was subsequently endorsed by the NRC staff in Revision 14 of Regulatory Guide 1.84. N-32-3 was annulled on July 1, 1979, and was deleted from the list of acceptable Code Cases in Revision 17 of Regulatory Guide 1.84. N-32-4 superseded N-32-3 on March 16, 1981, and was in effect through its annulment date March 16, 1984. N-32-4 was endorsed by the NRC staff in Revision 19 of Regulatory Guide 1.84.

It is our understanding that installation of the piping penetrations was performed during the period Revision 3 of the Code Case was in effect. The proposed use of Code Case N-32-3 would permit performance of a hydrostatic maintenance of pressure test in lieu of a hydrostatic test in accordance with Paragraph ND-6110 of the Code. Paragraph ND-6110 states, in part, that all joints including welds shall be left uninsulated and exposed for examination during hydrostatic testing. Since the subject piping penetrations had been embedded in concrete prior to performance of a hydrostatic test, usual inspection of the welds could not be performed in accordance with Paragraph ND-6110. DLC has subsequently performed a hydrostatic maintenance of pressure test on the piping penetrations. The penetrations were pressurized to the hydrostatic test pressure and then isolated from the pressurizing source for a period of one hour. All the penetrations successfully demonstrated no pressure drop during the test.

DLC concluded that a visual inspection during hydrostatic testing would have no effect on the quality or safety of the penetrations for the following reasons:

1. No portion of the piping penetrations have pressure-retaining welds that are embedded in concrete. The only piping penetration welds that are within the concrete are attachment fillet welds on the outside of the pressure boundary of the penetrations and are not pressure retaining. The fillet weld sizes are less than the corresponding pipe wall thickness.

2. The hydrostatic test pressures for the penetrations are in accordance with Code requirements.

3. The wall thickness of the penetrations are at a minimum 2.5 times the calculated Code minimum wall thickness.

At our request, DLC has received concurrence from the authorized inspection agencies (Factory Mutual Engineering and the Hartford Steam Boiler Inspection and Insurance Company) for use of Code Case N-32-3 at the Beaver Valley Power Station Unit 2 for the embedded piping penetrations.

We have evaluated the DLC request and concur with the use of Code Case N-32-3 for application to the 22 embedded piping penetrations in lieu of a hydrostatic test in accordance with Paragraph ND-6110 of the Code. Based on our review, we find that it is impractical within the limitations of accessibility for DLC to meet the ASME Code requirements. Imposition of those requirements would, in our view, result in hardships or unusual difficulties without a compensating increase in the level of quality or safety. Under these circumstances, we find the use of Code Case N-32-3 to be acceptable at the Beaver Valley Power Station Unit No. 2 for 22 embedded piping penetrations.

This completes our actions on the subject issue. If you have any questions, please feel free to contact your project manager, Mr. P. Tam.

Sincerely,

Original signed by
L. S. Rubenstein

Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

cc: See next page

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