

Duquesne Light Company

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September 6, 1994

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
10 CFR 50.61(b); Pressurized Thermal Shock

The purpose of this submittal is to advise the Nuclear Regulatory Commission (NRC) of plans relating to the Unit No. 1 reactor vessel as they pertain to pressurized thermal shock. This is a follow-up to a conference call held August 16, 1994, to discuss Duquesne Light Company submittals made in accordance with 10 CFR 50.61, "Fracture Toughness Requirements For Protection Against Pressurized Thermal Shock Events" and Generic Letter 92-01, Revision 1, "Reactor Vessel Structural Integrity."

The NRC safety evaluation dated April 20, 1993, assessed the Unit No. 1 pressurized thermal shock (PTS) submittals required by 10 CFR 50.61. The NRC required the addition of increased margin to the mean value of the adjustment in reference temperature which resulted in the limiting material exceeding the PTS screening criteria before the end-of-life. As a result, there have been additional actions taken to reduce the neutron flux on the reactor vessel. The most aggressive short term option available for flux reduction was to utilize hafnium power suppression assemblies which will be installed during the next refueling outage. This will result in a flux reduction factor of approximately 1.37 and a 32 EFPY RT-PTS of 276°F. It is now estimated that the Unit 1 vessel will exceed the PTS screening criteria at approximately 25.5 EFPY. The current end-of-license is projected at approximately 28.6 EFPY.

The evaluation of the overall affects of utilization of hafnium power suppression assemblies on the vessel beltline region will be performed following installation of the flux suppressors. The results will be reported to the NRC pursuant to 10 CFR 50.61(b) since this represents a significant change in projected values of RT-PTS.

Further flux reductions require specific evaluations to determine the most effective options. Evaluations which are under active consideration include the following:

- Replacement of the thermal shields with neutron pads.
- Replacement of internals to add radial reflectors.
- Increase baffle plate thickness.
- Vessel annealing.

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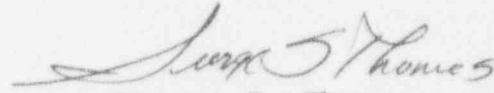
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BVPS Unit 1
10.CFR 50.61(b); Pressurized Thermal Shock
Page 2

The Duquesne Light Company is also involved in the ABB/CE Reactor Vessel Group's Records Evaluation Program for information which may help to eliminate uncertainty associated with material chemistry and properties.

Future submittals will be made in accordance with 10 CFF 50.61. If you have questions regarding this submittal, please contact Mr. Nelson R. Tonet, Manager, Nuclear Safety, at (412) 393-5210.

Sincerely,


George S. Thomas

cc: Mr. L. W. Rossbach, Sr. Resident Inspector
Mr. T. T. Martin, NRC Region I Administrator
Mr. G. E. Edison, Sr. Project Manager