



**Commonwealth Edison**

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December 26, 1980

Mr. Darrell G. Eisenhut, Director  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Dresden Station Units 2 and 3  
Quad Cities Station Units 1 and 2  
Additional Response Concerning  
Containment Vent and Purge Valves  
NRC Docket Nos. 50-237/249  
and 50-254/265

Reference (a): R. F. Janecek letter to D. G. Eisenhut  
dated August 22, 1980

Dear Mr. Eisenhut:

As indicated in Reference (a), Commonwealth Edison contracted with NUTECH to evaluate the adequacy of the 6-inch Pratt butterfly valve used for containment isolation in the vent and purge systems at Dresden Station Units 2 and 3 and Quad Cities Station Units 1 and 2. The evaluation of the valve was performed in a manner similar to that evaluation shown in the report for the Pratt 18-inch butterfly valve which was transmitted by Reference (a). The evaluation of the 6-inch valve consisted of an analysis in which a determination was made of the bending, torsion and shear loads on the valve shaft, key, pin and actuator arm at various valve disc angles under the maximum postulated flow conditions. The hydrodynamic torque values generated during the NUTECH/Fluidyne Flow Test of a Pratt 6-inch 2FIII Butterfly Valve (reported in Reference (a)) were used as input.

Bending and torsional moments and shear forces were calculated at the actuator arm attachment, upper and lower bearings and disc-to-shaft pin. The maximum shear stress due to combined bending, torsion and shear was then calculated and compared to an allowable shear stress equal to 1/2 yield strength. The highest shear stress analyzed was 72% of the allowable and occurred in the shaft at the valve disc-to-shaft pin at a valve disc angle of 18° from full open. These calculations are on file at NUTECH.

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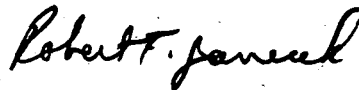
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The evaluation of the Pratt 6-inch butterfly valve demonstrates that the loads imposed and the stresses developed in the active load-carrying components during a valve closure under a postulated design basis Loss of Coolant Accident event are within acceptable limits. The stress margins are sufficient to ensure no significant deformation of the valve parts will occur when the valve is used as a containment isolation valve in Dresden Units 2 and 3 and Quad Cities Units 1 and 2.

Please address any questions concerning this matter to this office.

One (1) signed original and fifty-nine (59) copies of this transmittal are provided for your use.

Very truly yours,



Robert F. Janacek  
Nuclear Licensing Administrator  
Boiling Water Reactors

cc: RIII Inspector - Dresden  
RIII Inspector - Quad Cities

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