

DMB

UNION ELECTRIC COMPANY
1901 GRATIOT STREET
ST. LOUIS, MISSOURI

DONALD F. SCHNELL
VICE PRESIDENT

May 11, 1984

MAILING ADDRESS:
P. O. BOX 149
ST. LOUIS, MISSOURI 63166

Mr. James G. Keppler
Regional Administrator
USNRC Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

ULNRC- 817

Dear Mr. Keppler:

WITHDRAWAL OF 10CFR50.55(e) REPORT U-75
POTENTIAL ESSENTIAL SERVICE WATER PUMP DEGRADATION
CALLAWAY PLANT

- Ref: 1) ULNRC-781 dated March 30, 1984
2) ULNRC-654 dated August 17, 1983

On March 2, 1984 Union Electric informed the NRC Region III of a potential significant deficiency under 10CFR50.55(e) regarding the potential degradation of the "B" essential service water (ESW) pump (PEF01B). Subsequently, an interim report, ULNRC-781, was submitted indicating that we were continuing to evaluate the resultant data to verify that pump performance would satisfy design requirements. Based on additional shop inspection/testing, sump model testing and extensive preoperational testing, the pump performance has been determined by our Lead A/E, Bechtel Power Corporation to be adequate, including sufficient margin to continue to perform its design safety function. Therefore, it is our conclusion that this item is not reportable as a significant deficiency under 10CFR50.55(e).

As noted previously, this conclusion is based on an analysis of the results of shop inspection/testing, sump model testing and additional preoperational testing since our initial notification. The shop testing and disassembly/inspection in March 1984 revealed a reduction in the area of the second stage impeller and performance approximately 4 percent below the original shop performance curve developed in August 1979. The area reduction and reduced performance are considered attributable to the missing second stage impeller/shaft key significant deficiency reported to you via Reference 2 (U-58).

50-483
Sump/pump model testing was also performed by Engineering Hydraulics, Inc. (EHI). The results of the model test revealed no evidence of a substantial pre-rotation of flow entering the pump; however, a pair of well organized vortices were observed to emanate from the sump back wall and an intermittent vortex emanated from the sump floor. Although this condition was not judged to be of a magnitude that would be detrimental to the pump, a floor mounted flow splitter and vertical flow guiding vanes mounted on the sump back wall were incorporated in the Callaway design to improve performance. The splitter and guide

8405180226 840511
PDR ADOCK 05000483
S PDR

MAY 14 1984

IE 27

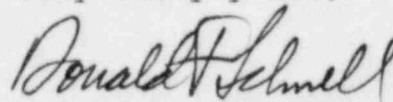
Mr. James G. Keppler
May 11, 1984
Page Two

vanes eliminated submerged vortex formation in the model sump.

Lastly, extensive preoperational testing was performed (subsequent to the sump modification) in April 1984. These field tests yielded results approximately 4 percent below the March 1984 shop test results. This variation is attributed to differences between the shop and the field configuration. In addition, recent preoperational testing has resulted in the successful flow balancing of the service water and essential service water systems; i.e., design flows were achieved with the ESW pumps.

In summary, Bechtel has concluded that the field test results of both ESW pumps meet all design requirements and include margin for long term wear. The repeatability of these field tests also demonstrates no evidence of additional pump performance degradation.

Very truly yours,


Donald F. Schnell

JJS/sla

cc: W. L. Forney, NRC Region III
Richard DeYoung, Director I&E
Missouri Public Service Commission
NRC Resident Inspectors Callaway Plant (2)
Joe Holonich, NRC SNUPPS Project Manager