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WILLIAM D. HARRINGTON  
SENIOR VICE PRESIDENT  
NUCLEAR

May 28, 1985  
BEC0 85-099

Mr. Domenic B. Vassallo, Chief  
Operating Reactors Branch #2  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

License DPR-35  
Docket 50-293

Generic Letter 84-23: Reactor Vessel Water  
Level Instrumentation in BWR's

Dear Sir:

By Generic Letter 84-23 (GL 84-23) of October 26, 1984, the NRC requested that boiling water reactors submit plans and schedules associated with implementation of recommended improvements to assure water level instrumentation reliability. Boston Edison (BEC0) responded by letter of November 28, 1984, in which we discussed our past actions on the recommendations, and committed to provide a description of any planned modifications along with an implementation schedule. This submittal addresses that commitment.

Recommendation #1

BEC0 has examined a number of potential modifications to prevent reference leg flashing. We have chosen to re-route the reference leg. This modification will reduce the vertical drop of Pilgrim's reactor water level instrument lines inside the drywell to approximately one foot. The vertical drop of the reference and variable legs will be approximately equal. In addition the existing Yarway combination condensing chamber temperature equalizing reference column will be removed and replaced with a "cold" reference leg located outside of containment. These changes will require routing new instrument lines both inside and outside the drywell and the installation of new piping penetrations through the drywell and secondary containment floor.

We believe this modification will provide improvements in the accuracy and reliability of the reactor water level monitoring control system. It will also provide the inadequate core cooling instrumentation of NUREG 0737, Item II.F.2, and will ensure the initiation of related safety system trips under abnormal drywell conditions.

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These modifications will be incorporated into the PNPS Long Term Program (LTP), with completion expected prior to power ascension from Refueling Outage #7 (RFO #7).

Recommendation #2

As described in our response of November 28, 1984, we intend to replace the reactor water level mechanical instruments, as well as certain other mechanical instruments which provide inputs into the Emergency Core Cooling System (ECCS) and the Reactor Protection System (RPS).

In essence, we are replacing digital devices with transmitters and adding remote electronic switching devices. This will be incorporated into the LTP, and is expected to be completed at the conclusion of RFO #7.

Recommendation #3

As stated in our November 28, 1984 response, BECo has, in the past, assessed the need for changes to the protection system logic associated with mitigating the consequences of a break in a reference leg and a single failure in a protection system channel associated with an intact reference leg, commonly known as the "Michelson Concern".

We re-examined "Michelson" as part of the development of our responses to Recommendations #1 and #2 above. A review of the PNPS Reactor Protection System (RPS) and Emergency Core Cooling System (ECCS) logic was performed to identify if a Michelson type scenario could result in a significant problem at PNPS. The results of that analysis indicates that "Michelson" is not a credible scenario for PNPS.

We believe this response satisfactorily addresses GL 84-23. Should you wish further information after reviewing this, please contact us.

Very truly yours,

*W.D. Harrington*

PMK/kmc