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ENGINEERING AND RESEARCH

August 21, 1984

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Limerick Generating Station
Response to Procedures and Systems Review
Branch (PSRB) Questions

References: D. R. Helwig (PECo) telecon with E. Tomlinson (NRC)
on August 10, 1984

Dear Mr. Schwencer:

Our response to PSRB question 430.72 regarding diesel oil storage tank vent lines is hereby revised to include additional information discussed in the referenced telecon.

Very truly yours,

V S Boyer for JSK

J. S. Kemper

DRH/cmv/07258406

Attachment

Copy to: See Attached Service List

50-352/353

B00!
1/1

cc: Judge Lawrence Brenner (w/enclosure)
Judge Peter A. Morris (w/enclosure)
Judge Richard F. Cole (w/enclosure)
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Docket & Service Section (w/enclosure)
Mr. James Wiggins (w/enclosure)
Mr. Timothy R. S. Campbell (w/enclosure)

QUESTION 430.72 (Section 9.5.4)

Describe your design provisions made to protect the fuel oil storage tank fill and vent lines from damage by tornado missiles.

RESPONSE

A single above ground fill connection to the fuel oil storage tanks is provided to supply each tank through an underground common header, as shown in Figure 9.5-8, Sheet 1. Each tank is equipped with a separate above ground vent line. Both the fill connection and the vent lines extend only a minimal distance above the ground. In the unlikely event of damage by tornado missiles, the following design features are present in the system to allow continued operation of the diesel generators:

a. Alternate paths for filling and venting each tank are available (e.g., manhole of the tank)

b. The vent line for each tank is backed up by a separate vacuum relief valve, which is located within the tank valve pit. The presence of this valve allows continued operation of the fuel oil transfer pump in the event of blockage in the vent line. ~~The valve pit is also vented to the atmosphere.~~ Replace with new page b, attached INSERT

c. Cross connections are provided in the fuel oil supply and return lines to each diesel to allow any diesel to be supplied from any storage tank.

As an example, if the storage tank "A" fill or vent lines were damaged so as to make the tank unavailable, and diesel generator "B" was not available, the following manual operator actions would be taken (Figure 9.5-8): valves 1045B and 1101A would be closed and valves 1080A, 1080B, 1100A and 1100B would be opened. The "B" transfer pump would be started and would pump to the "A" day tank. When the "A" day tank is full, the full flow overflow line would return the diesel oil to the "B" storage tank. As noted in Section 9.5.4.2, the day tank holds sufficient fuel for 4 hours of continuous diesel generator operation at full load; sufficient fuel oil for approximately one hour of full load operation remains at the point where the low level alarm annunciates.

Therefore, credible tornado missile damage to the fill line or a vent line would not affect the safe shutdown of the plant.

DRAFT

Insert To Paragraph "b" of Question 430.72 Response

b. The vent line for each tank is backed up by a separate vacuum relief valve located within the tank valve pit. The valve pits are sealed; however, analyses have been performed which indicate that there is sufficient air mass within the 1880 ft³ valve pit to relieve tank vacuum for a period of time in excess of 18 hours before the tank level drops below a point where the minimum required pump NPSH is not available. In the event of crimping of the above ground tank vent lines, steps will be taken to repair the vents or open the valve pit manhole covers within this time period.