PP&L Pennsylvania Power & Light Company
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March 26, 1985

Dr. Thomas E. Murley
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION
SPECIAL REPORT - NON-VALID DIESEL FAILURE
ER 100450 FILE 841-23
PLAS - 059

Docket No. 50-387
License No. NPF-14

Dear Dr. Murley:

This special report documents the "B" Diesel Generator Non-Valid Failure as required by Regulatory Guide 1.108, Section C.3.b, and Technical Specification 4.8.1.1.3.

Regulatory Guide 1.108, Section C.3.b, requires reporting all diesel generator unit failures, valid or invalid. At 0905 and 1830 on February 25, 1985, the "B" Diesel Generator tripped. The connecting rod high temperature alarm annunciated at the time of each trip. After the trip at 0905, Mechanical Maintenance investigated the connecting rod high temperature condition and determined the connecting rod bearing high temperature detector vent valve tripped in the upward position, at position 5L. The detector, an eutectic fusible rod, is mounted on the connecting rod and actuates a vent valve under high temperature condition. Mechanical Maintenance inspected the detector and found the fusible rod intact (not extended), indicating this connecting rod bearing had not been hot enough to melt the eutectic alloy. Therefore, the vent valve was tripped by some other means. The connecting rod high temperature condition is bypassed in the emergency mode, therefore a spurious trip caused by the connecting rod high temperature system would not be designated as a valid failure. Due to previous trips of this particular vent valve, a Work Authorization had previously been initiated to replace this vent valve. The vent valve was replaced under this Work Authorization and the diesel was returned to service. At 1830 during a loaded run, the "B" Diesel

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Generator tripped again on connecting rod high temperature. Investigation by Mechanical Maintenance again showed this was a spurious trip since the fusible rod was intact, but the vent valve at position 5L was again tripped in the upward position. The trip valve was reset and the diesel was successfully restarted at 0545 on February 26, 1985.

On February 27, 1985, the "B" Diesel Generator was taken out of service for scheduled modification work. During this time additional investigation and testing was performed to determine the cause of the vent valve tripping. Harmonic vibrations were measured, but the magnitude of the vibration was not large enough to trip the vent valve. Oil flow patterns were observed on the number 4 and number 5 bearings with the diesel on turning gear and the pre-lube pump in operation. The oil flow volume and patterns appeared the same at each bearing. It was noted that the vent valve oil deflection shield on number 5 bearing was further from the vent valve switch when compared to number 4 bearing. The shield was bent to improve its orientation and was reinstalled. A replacement vent valve was installed at number 5 bearing and the diesel was successfully restarted at 2030 on March 1, 1985.

The Diesel Generator Start Log indicates there is one (1) diesel failure in the last one hundred (100) starts. The diesels are on a test interval of every thirty-one (31) days, per Regulatory Guide 1.108, Section c.2.d.

H Keiser

H. W. Keiser
Superintendent of Plant-Susquehanna

/jls

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