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AUG 4 1986

Docket No.: 50-352

Fol No.: NPF-39

Mr. W. R. Butler, Director
BWR Project Directorate #4
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Limerick Generating Station, Unit 1
Loose Parts Monitoring System (LPMS)

Reference: Letter, J. S. Kemper (PECo) to W. R. Butler (NRC),
dated June 4, 1986

File: GOVT 1-1 (NRC)

Dear Mr. Butler:

In the referenced letter we requested a delay in submitting the required alert levels for Limerick Unit 1 Loose Parts Monitoring System (LPMS). The requested extension was for seven weeks after the completion of the Unit 1 surveillance test outage.

Prior to the outage, Channels #5 and #6 both had a predominate single sine wave of 1380 Hz which was suspected to be an electrical contamination. Subsequent repair and testing of Channels #5 and #6 indicate that the signal is actual mechanical vibration due to a resonant frequency of the supporting spring hanger located approximately 4 feet from the Channel #5 accelerometer. Data was collected and analyzed after the unit was returned to service. Channels #5 and #6 both still have the 1380 Hz sine wave present, however, the required alert levels have been established.

In determining the on-line sensitivity of the automatic detection system to a metallic loose part of .5 ft-lb within 3 feet of a sensor, the following data were used:

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PDR ADOCK 05000352
P PDR

Aoo!
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	<u>Gain G's/v</u>	<u>Ratio</u>	<u>.5 ft-lb Impact</u>		<u>Background</u>	
			<u>Minimum G</u>	<u>P-P</u>	<u>G</u>	<u>P-P</u>
LPM-1	0.3	3:1	7.8		.45	
LPM-2	0.3	3:1	4.4		.43	
LPM-3	1.0	3:1	45.7		2.71	
LPM-4	1.0	3:1	16.9		2.57	
LPM-5	10.0	3:1	26.3		15.5	
LPM-6	3.0	3:1	53.8		2.15	
LPM-7	3.0	3:1	15.6		5.75	
LPM-8	1.0	3:1	42.8		3.27	

The ratio of 3:1 represents an alarm level of 30% above the background level. Therefore, with .5 ft-lb impact responses higher than 30% of the background level, each channel would automatically alert for the minimum impact. As shown above, the LPMS has the required sensitivity.

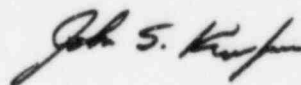
The impact data were obtained prior to start-up. The data acquisition and analysis technique was designed to specifically meet the requirements 1.b of Reg. Guide 1.133, Rev. 1, dated May 1981.

The background data were obtained at 100% power on April 14, 1986, June 16, 1986 and July 31, 1986.

The alert levels established for power operation meet the requirements of Reg. Guide 1.133, Rev. 1, dated May 1981.

Should you have any questions concerning this system, please do not hesitate to call.

Very truly yours,



JTOB/cmv/07188614

Copy to: R. E. Martin, USNRC
See Attached Service List

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