



## LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

Direct Dial Number

December 16, 1983

SNRC-993

Dr. Thomas E. Murley  
Regional Administrator  
Office of Inspection & Enforcement - Region 1  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Long Island Lighting Company  
Shoreham Nuclear Power Station - Unit 1  
Docket No. 50-322

Dear Mr. Murley:

On October 14, 1983, in accordance with 10CFR50.55(e), we reported verbally to Region I a potential deficiency concerning material in the Shoreham Diesel Generator connecting rod bearings. Subsequently, an interim report was presented on November 3, 1983, with the understanding that a final report would be forwarded upon completion. On November 25, 1983, we advised Region I that the final report, under preparation by Failure Analysis Associates (FaAA), was expected to be issued by December 16, 1983. This letter serves to transmit the final report to the NRC.

As a result of an extensive analysis, it has been determined that the major contributor to the cracking of the original connecting rod bearing was an unsupported bearing end due to a  $\frac{1}{4}$ " chamfer in the connecting rod bore. In that the component design associated with the larger replacement crankshaft has eliminated this unsupported end, as well as lowering the peak oil film pressure, there results a predicted bearing life of 38,000 hours at full load. We conclude that the replacement connecting rod bearings will be able to perform their intended function as discussed in detail in the attached FaAA report entitled, "Analysis of the Replacement Connecting Rod Bearings for Emergency Diesel Generators, Fatigue Life Prediction, Shoreham Nuclear Power Station".

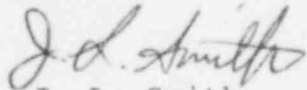
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If you have any questions relative to this matter, please do not hesitate to contact us.

Very truly yours,



J. L. Smith  
Manager, Special Projects  
Shoreham Nuclear Power Station

WMJ/law S4

Attachment

cc: Mr. Richard DeYoung, Director  
NRC Office of Inspection & Enforcement  
Division of Reactor Operating Inspection  
Washington, DC 20555

Mr. R. Caruso, NRC NRR  
Mr. C. Petrone, Site NRC  
All Parties Listed in Attachment 1

ATTACHMENT 1

Lawrence Brenner, Esq.  
Administrative Judge  
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U.S. Nuclear Regulatory  
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Dr. Peter A. Morris  
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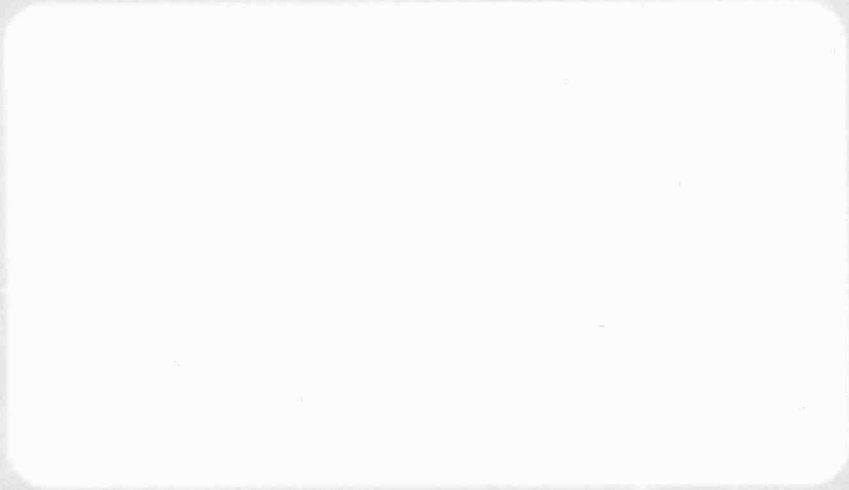
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# Failure Analysis Associates

ENGINEERING AND METALLURGICAL CONSULTANTS

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PHOENIX DETROIT BOSTON