

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
LONG ISLAND LIGHTING COMPANY  
(Shoreham Nuclear Power Station,  
Unit 1)

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}  
}  
}  
Docket No. 50-322-1  
(OL)

AFFIDAVIT OF RALPH CARUSO

Q.1. Please state your name, position, and professional qualifications.

A.1. My name is Ralph Caruso. I am the Shoreham Project Manager in the Division of Licensing of the NRC. A copy of my professional qualifications has been filed previously in this proceeding.

Q.2. What is the purpose of this affidavit?

A.2. The purpose of this affidavit is to support the NRC staff motion for an extension of time to file testimony regarding the Shoreham TDI Emergency Diesel Generators (EDGS).

Q.3. What components of the EDGS are being reviewed by the NRC staff and its consultants for this phase of the Shoreham hearing?

A.3. The piston skirts, cylinder heads, crankshafts, and cylinder blocks.

Q.4. Has the Staff completed its evaluation of the adequacy of these components?

A.4. No.

Q.5. Why does the Staff need additional time to prepare testimony regarding these components?

A.5. The Staff and its consultants need additional time because the applicant's testimony presented significant additional technical information which must be considered. In addition, some of the information presented in the testimony is not consistent with previous submittals by the Applicant upon which the Staff and its consultants had relied. The confusion arising from these inconsistencies requires additional information and time to resolve before the Staff can draw any conclusions regarding the adequacy of these components.

Q.6. What additional information does the Staff need to complete its review of the cylinder blocks?

Q.6. With regard to the cylinder blocks, the Staff has not completed its evaluation of the Applicant's calculations regarding the propagation of cylinder block cracks in the cam gallery area. These were received on August 15, 1983, after the filing of the testimony. Because of the serious consequences attendant to a failure of a camshaft support, this review is needed before a final conclusion can be drawn concerning acceptability of the blocks. Additionally, the Applicant, in its testimony on cylinder block top deck cracking, gives an acceptance criteria for cracks between studs on adjacent cylinders without providing detailed justification for that criteria. The Staff must review this justification and any supporting calculations in order to determine the acceptability of the proposed criteria. Furthermore, in its prefiled testimony the

Applicant described a different inspection frequency criteria for the cylinder block tops than was presented in the DRQR and the FaAA report on cylinder blocks. This has caused confusion which must be resolved before the Staff can complete its review of the cylinder blocks.

Q.7. What additional information do the Staff's consultants need to complete their review of the crankshaft?

A.7. The Staff has requested additional information from the Applicant regarding non-destructive testing of the crankshaft fillets which were shot-peened. This information is needed to assess the possibility that the fillets may have been damaged when they were first shotpeened. The need for this information arose from a review of Suffolk County's and LILCO's testimony.

Q.8. What additional evaluations are the Staff consultants doing with regard to the crankshaft?

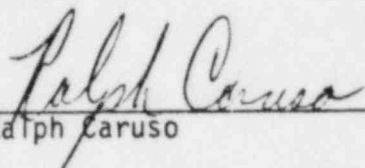
A.8. Prior to August 14, 1983, the Staff and its consultants had not assumed that the Applicant was going to attempt to justify operation of the TDI EDGS at loads above 3500KW. This assumption was based upon the Applicant's July 3, 1984 letter to the NRC staff (SNRC-1065), in which LILCO stated that it did not desire to test the engines at power levels above 3500KW and would be submitting an FSAR revision to this effect. In its testimony, however, LILCO stated that it intends to show that the engines are capable of meeting the specifications and supplying the loads currently described in the FSAR.

Upon discovering this, the Staff consultants have determined that they must perform further independent review of crankshaft loads up

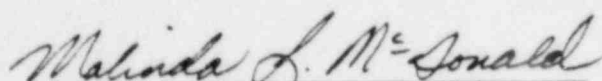
to 3900KW. Until this review is complete the Staff can make no conclusion regarding the adequacy of the crankshaft for service above 3500KW.

Q.9. When will the Staff be ready to file all of its testimony?

A.9. The Staff and its consultants feel that it cannot properly evaluate the other parties' testimony, consider the significant new information it has received and requested, complete its reviews, and complete its testimony on these four components, earlier than August <sup>31<sup>st</sup></sup> ~~26~~, 1984. It is possible that some Staff concerns may still be unresolved at that time; if so, they will be identified, and supplemental testimony will be filed.

  
Ralph Caruso

Subscribed and sworn to before me  
this 17<sup>th</sup> day of August 1984

  
Notary Public

My Commission expires: 7/1/86.

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OFFICE OF SECRETARY  
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DOCKETED  
USNRC

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF MOTION FOR EXTENSION OF TIME TO FILE TESTIMONY" and "AFFIDAVIT OF RALPH CARUSO" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk, through deposit in the Nuclear Regulatory Commission's internal mail system, this 17th day of August, 1984:

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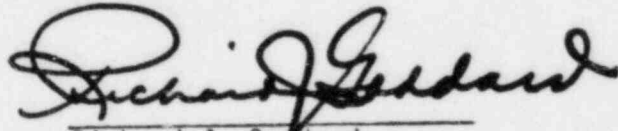
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