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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of)
)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-322 (OL)
)
(Shoreham Nuclear Power Station,)
Unit 1))

LILCO'S MOTION TO STRIKE SUFFOLK
COUNTY'S CYLINDER BLOCK TESTIMONY

Lilco, by counsel, moves to strike portions of the Testimony of Dale G. Bridenbaugh Regarding Suffolk County's Position Concerning Lilco's Additional Cylinder Block Testimony. Specifically, Lilco moves to strike answer no. 7. Further, if Suffolk County's motion to strike Lilco's cumulative damage testimony is granted, Lilco moves to strike portions of answer no. 4 and all of answer no. 5. In support of this Motion, Lilco states the following.

I. Question No. 7

Question and answer no. 7 state:

Q.7. In the light of Lilco's additional testimony, do you believe that measuring and strain gauge monitoring of the indications in the cam gallery regions of the EDGs is necessary?

A.7. Yes, for the reasons stated by Drs. Anderson and Bush in their earlier testimony on the subject.

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[emphasis added].

This answer is objectionable because:

- (1) The answer is unresponsive to the question and lacks a proper foundation because the question asks for an opinion in light of the analyses set forth in Lilco's additional testimony. LILCO's analyses are based on the high magnification photomicrographs, the x-ray crystallography and the final strain gauge test results, none of which were a basis involved in Dr. Anderson's and Dr. Bush's previous testimony.
- (2) Mr. Bridenbaugh's prior testimony makes clear that he is not qualified to give expert opinion testimony regarding the transferability of the strain gauge test results from the EDG 103 replacement block to the EDG 101 and 102 blocks. As Lilco's witnesses have testified, this is an important factor in determining that monitoring of the cam gallery cracks in the EDG 101 and 102 blocks is unnecessary.

Each of these objections is discussed in greater detail below.

A. Answer No. 7 is Unresponsive and Unfounded

Question no. 7 specifically asks whether monitoring is necessary "in the light of Lilco's additional testimony." Mr. Bridenbaugh's answer relies entirely on reasons given in earlier testimony by Drs. Anderson and Bush, neither of whom then had the benefit of Lilco's additional testimony. Since Dr. Anderson's and Dr. Bush's earlier testimony (on which Mr. Bridenbaugh's answer wholly relies), Lilco has taken additional high magnification photomicrographs, obtained the results of the x-ray crystallography, and, as a result of the Board's

Order reopening the hearings, filed testimony and exhibits on the final strain gauge measurements on the EDG 103 replacement block. Moreover, Drs. Rau and Wachob specifically explain in their recent testimony how these additional data confirm that monitoring of the cam gallery cracks in the EDG 101 and 102 blocks is unnecessary.

Obviously, the previous testimony of Drs. Anderson and Bush did not have the benefit of this new data. Whatever reasons or testimony they then gave could not possibly have been "in the light of Lilco's additional testimony." Mr. Bridenbaugh's reliance solely on that earlier testimony is therefore unresponsive to the question and to the issue at hand, viz., whether monitoring is necessary in light of Lilco's additional testimony.

Nor can SC plausibly claim that the new information is not significant, for it was the County that urged vigorously by motion and argument that much of the new data (high magnification photomicrographs and x-ray crystallography) should be obtained. Having sought these data, the County cannot now ignore them or their implications.

Similarly, there is no basis for concluding, as Mr. Bridenbaugh's answer might imply, that this new data would make no difference to the prior opinions of Drs. Anderson and Bush. On the contrary, there is substantial evidence in the record

that Dr. Anderson's opinion might now be different in light of Lilco's new evidence and testimony. For example, at Tr. 26525-27, Dr. Anderson expressed concern about whether a thick oxide was present on the weld shrinkage crack because of the absence of a high magnification photomicrograph of that crack. Presumably, the result of the high magnification photomicrographs, which confirmed Lilco's previous testimony that there was no thick oxide on the weld shrinkage crack, would resolve Dr. Anderson's concern. It might, therefore, change his opinion regarding the necessity for monitoring.

Similarly, Dr. Anderson's opinion at the prior hearing was that the oxide present on the casting shrinkage crack was due to either fretting corrosion or graphitic corrosion. (County Supp. Testimony at 5; Tr. 25579). Therefore, the results of the x-ray crystallography (and the Stipulation by the County), which confirmed Lilco's testimony that the oxide was primarily high temperature magnetite and that the cam gallery cracks "did not propagate during or as a result of EDG operation," might well alter Dr. Anderson's opinion regarding the necessity for monitoring.

Finally, Dr. Anderson had not reviewed the final strain gauge test results at the time of the previous hearings and did not have the benefit of Dr. Rau's testimony regarding the applicability of the strain gauge test results to fracture

mechanics analysis of the EDG 101 and 102 blocks. This, too, might well have altered Dr. Anderson's opinion, or at least altered the basis for his opinion regarding the need for monitoring.

Simply put, there is no basis whatever to assume, as Mr. Bridenbaugh does, that Drs. Bush and Anderson continue to believe that monitoring with wire strain gauges is necessary, or that monitoring is necessary for the same reasons they expressed in their prior testimony. It is clearly improper for Mr. Bridenbaugh to rely upon prior opinion testimony of other witnesses in response to a question asking for an answer in light of new information not available to the other witnesses when they testified.^{1/} Such testimony is unresponsive, lacks the proper foundation and should be stricken.

^{1/} Answer no. 7 is inadmissible even if Mr. Bridenbaugh represents that he has spoken to Dr. Anderson regarding LILCO's additional testimony and that Dr. Anderson's opinion regarding monitoring has not changed. Dr. Anderson's prior testimony is not admissible in this hearing as "former testimony" because the County has not complied with the dual requirements of Rule 804(b)(1) of the Federal Rules of Evidence; namely, the County has not demonstrated that Dr. Anderson is unavailable and that LILCO had a fair opportunity to cross-examine him at the prior hearing on the new evidence set forth in LILCO's additional testimony. Further, even in the absence of Rule 804, any out-of-court conversations between Mr. Bridenbaugh and Dr. Anderson are inadmissible hearsay since LILCO has had no opportunity to cross-examine Dr. Anderson regarding the effect of the high magnification photomicrographs, the x-ray crystallography and the final strain gauge measurements on his opinions.

B. Mr. Bridenbaugh is Not Qualified
to Sponsor Answer No. 7

Mr. Bridenbaugh is not qualified to form a professional opinion regarding the necessity for monitoring the cam gallery cracks. Lilco's prefiled testimony concludes at pages 21-22 that monitoring EDGs 101 and 102 is unnecessary because the results of the strain gauge measurements are transferable from the EDG 103 replacement block to the EDG 101 and 102 blocks. The strain gauge data are utilized directly in fracture mechanics analyses of the EDG 101 and 102 blocks and show that the cracks will not propagate.

To offer an opinion on whether monitoring is necessary in light of strain gauge testing, one must be an expert in fracture mechanics analyses and the use of strain gauge data to perform such analyses. Mr. Bridenbaugh has no such expertise. By his own admission, he has never performed a fracture mechanics analysis (Tr. 25633-34), is not qualified to do fracture mechanics analyses (Tr. 25633-34), and did not submit any testimony in the previous hearing regarding fracture mechanics analysis (Tr. 25635-36).

Further, Mr. Bridenbaugh testified during his deposition on December 18, 1984 that he had no specific knowledge of the transferability of the strain gauge testing on the cam gallery of the EDG 103 replacement block to the EDG 101 and 102 blocks because of the design differences in the blocks. Mr. Bridenbaugh testified as follows:

Mr. Earley: I take it you don't have any knowledge of whether the design differences between the 103 and 101 and 102 would affect the results, the transferability of results of the strain gauge testing in the cam gallery area.

Mr. Bridenbaugh: I don't have any specific knowledge on that.

Mr. Bridenbaugh, by his own admission, is not qualified to form an opinion on Dr. Rau's testimony that the strain gauge testing on the EDG 103 replacement block is transferable to the EDG 101 and 102 blocks. Without this information, Mr. Bridenbaugh cannot reach an opinion whether the strain gauge test results demonstrate that the stresses remain compressive. Given this, he should not be permitted to testify that he agrees with the previous opinions of Drs. Anderson and Bush.

To allow Mr. Bridenbaugh to express an opinion, which he is personally not qualified to form, based on the testimony of other witnesses, is the equivalent of allowing a layman to listen to an expert witness and then, though he is not an expert on the matter, to testify as an expert based solely on the information he has received from the expert witness. Indeed, Mr. Bridenbaugh's testimony is even more objectionable in this case since Drs. Anderson and Bush did not testify regarding the new data contained in Lilco's additional cylinder block testimony.

II. Question and Answer No. 4 and 5

In its motion to strike portions of Lilco's additional cylinder block testimony, the County seeks to strike references to FaAA's cumulative damage analysis at 3300 KW. At the same time, in its recent block testimony, SC criticizes Lilco for not performing crack rate propagation analysis. The County cannot have it both ways. It cannot strike Lilco's cumulative damage analysis at 3300 KW on the one hand and criticize Lilco for having done no analysis on the other. In fact, Lilco has done such an analysis.

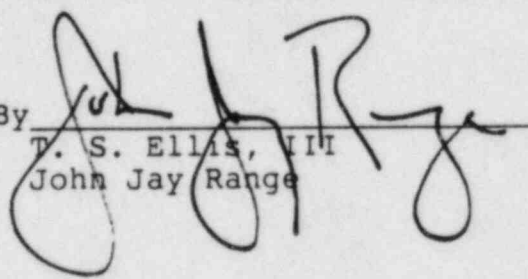
Lilco's cumulative damage analysis is in fact an appropriate analysis for accurately bounding the rate of crack propagation. It would be manifestly unfair to strike Lilco's testimony on this analysis, while admitting the County's testimony criticizing Lilco for failure to conduct such analysis. Consequently, in the event that Suffolk County's motion to strike is granted, fair play requires that the second and third paragraphs of County answer no. 4 be stricken.

Similarly, all of answer no. 5 should be stricken on the same grounds. Answer no. 5 is nothing but a rehashing of the County's position in the prior hearings regarding alleged inadequacies in FaAA's cumulative damage analysis at 3500 and 3900 KW. The County now alleges that since the analysis purportedly was inadequate at the higher load levels, it must

also be inadequate at 3300 KW. Obviously, it would be manifestly unfair to strike Lilco's testimony regarding the margin demonstrated by cumulative damage analysis at 3300 KW while permitting the County to attack FaAA's analysis.

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DATED: January 30, 1985

CERTIFICATE OF SERVICE

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Docket No. 50-322 (OL)

I hereby certify that copies of Lilco's Motion to Strike
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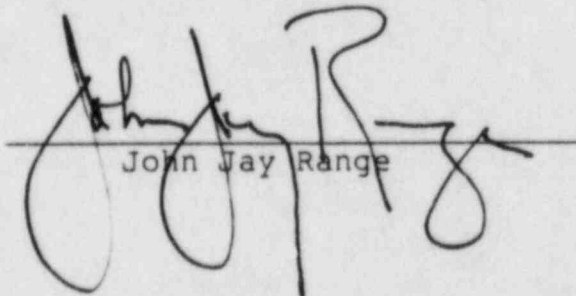
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