

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of: :

LONG ISLAND LIGHTING COMPANY : DOCKET NO. 50-322-OL

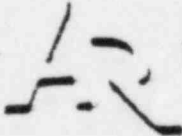
(Shoreham Nuclear Power Station) :

DATE: November 11, 1982 PAGES: 13,681 - 13,906

AT: Bethesda, Maryland

*Please return original (stapled) + 3 copies (stapled)  
to Anita McHamran 439 E/W and  
send 2 copies to Walter House P320C  
X27741*

*TRQ 1*

ALDERSON  REPORTING

400 Virginia Ave., S.W. Washington, D. C. 20024

Telephone: (202) 554-2345

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

- - - - -x

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

- - - - -x

Bethesda, Maryland  
Thursday, November 11, 1982

The hearing in the above-entitled matter  
reconvened, pursuant to recess, at 9:00 a.m.

BEFORE:

LAWRENCE BRENNER, Chairman  
Administrative Judge

JAMES CARPENTER, Member  
Administrative Judge

PETER A. MORRIS, Member  
Administrative Judge

## 1 APPEARANCES:

2 On behalf of Applicant:

3 ANTHONY F. EARLEY, Esq.

4 T. S. ELLIS III, Esq.

5 Hunton &amp; Williams

6 707 East Main Street

7 Richmond, Va. 23212

8 On behalf of the Regulatory Staff:

9 BERNARD BORDENICK, Esq.

10 Washington, D.C.

11 On behalf of Suffolk County:

12 LAWRENCE COE LANPHER, Esq.

13 Kirkpatrick, Lockhart, Hill,

14 Christopher &amp; Phillips

15 1900 M Street, N.W.

16 Washington, D.C. 20036

17 \* \* \*

18

19

20

21

22

23

24

25

1	<u>C O N T E N T S</u>			
2	<u>WITNESSES:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u> <u>RECROSS</u> <u>BOARD</u>
3	T. Tracy Arrington,			
4	Frederick B. Baldwin,			
	William M. Eifert,			
5	T. Frank Gerecke,			
	Joseph M. Kelly,			
6	Donald G. Long,			
7	William J. Museler and			
	Robert G. Burns (Resumed)			
3	By Mr. Ellis			13,686

9 (Afternoon Session...13,797)

10	T. Tracy Arrington,			
	Frederick B. Baldwin,			
11	William M. Eifert,			
12	T. Frank Gerecke,			
	Joseph M. Kelly,			
13	Donald G. Long,			
	William J. Museler and			
14	Robert G. Burns (Resumed)			
	By Mr. Ellis			13,799
15	By Judge Carpenter			13,827
	By Judge Morris			13,831
16	By Judge Carpenter			13,832
	By Judge Brenner			13,840
17	By Judge Carpenter			13,843
	By Judge Morris			13,845
18	By Judge Brenner			13,849
19	By Judge Morris			13,850
	By Mr. Lanpher			13,858

21	<u>E X H I B I T S</u>		
22	<u>NUMBER</u>	<u>IDENTIFIED</u> <u>RECEIVED</u>	<u>BOUND IN</u> <u>TRANSCRIPT</u>
23	LILCO 29	13,689	13,694
24	LILCO 30	13,707	13,707
25			

	<u>E X H I B I T S (Cont'd)</u>		
<u>NUMBER</u>	<u>IDENTIFIED</u>	<u>RECEIVED</u>	<u>BOUND IN TRANSCRIPT</u>
1			
2			
3	LILCO 31	13,734	13,734
4	LILCO 32	13,791	13,791
5	LILCO 33	13,798	
6	Suffolk County 73A	13,854	13,855
7	Suffolk County 73		13,855
8	Suffolk County 71		13,870
9			
10			
11			
12			
13	RECESSES:		
14	Morning -	13,733	
15	Noon -	13,796	
16	Afternoon -	13,853	
17			
18			
19			
20			
21			
22			
23			
24			
25			



1 end of today, that would be fine.

2           And as we stated before, in terms of the  
3 schedule, what we will do next week, we will wait for  
4 the parties to have fully coordinated among themselves  
5 and let us know presumably by tomorrow.

6           We have nothing else, and we can proceed with  
7 the redirect if no other party has anything.

8           MR. ELLIS: Judge Brenner, this morning we  
9 distributed to the Board and the parties our  
10 supplementary redirect plan, which is just a one-page  
11 document listing the topics we hope to cover. And for  
12 Mr. Lanpher's planning purposes I have told him we hope  
13 to cover it this morning.

14           Also, we gave to the Board a storage history  
15 card -- I beg your pardon -- a storage group of audit  
16 observations which we will mark at the appropriate time,  
17 together with some miscellaneous transcript corrections  
18 and transcript pages that may be used during the  
19 miscellaneous examination. I just wanted to be sure  
20 that the Board and the parties had all that.

21           JUDGE BRENNER: Hold on one moment.

22           (The Board conferred.)

23           JUDGE BRENNER: All right. We can proceed.

24           MR. ELLIS: Judge Brenner, we are starting now  
25 then with completing the extra programs.

1 Whereupon,

2 T. TRACY ARRINGTON,  
3 FREDERICK B. BALDWIN,  
4 WILLIAM M. EIFERT,  
5 T. FRANK GERECKE,  
6 JOSEPH M. KELLY,  
7 DONALD G. LONG,  
8 WILLIAM J. MUSELER and  
9 ROBERT G. BURNS

10 were recalled as witnesses by counsel for LILCO and,  
11 having been previously duly sworn, were examined further  
12 and testified as follows:

13 REDIRECT EXAMINATION -- Resumed

14 BY MR. ELLIS:

15 Q Mr. Museler, following up on the answers that  
16 you gave yesterday concerning the extra programs in the  
17 raceway area, do the man-hour that have been and are  
18 being expended in these programs indicate a problem in  
19 the implementation of Shoreham's design or design  
20 criteria in the raceway area?

21 A (WITNESS MUSELER) No, sir, they do not.  
22 Quite the contrary, these man-hours reflect our  
23 intention as stated in our testimony to go beyond the  
24 requirements that are currently accepted in the industry.

25 MR. ELLIS: Judge Brenner, I propose now to



1 leave the raceway area and ask a question on the stress  
2 reconciliation point. And I apologize we did not give  
3 this transcript page number. It is 12,476.

4 JUDGE BRENNER: You did.

5 MR. ELLIS: We did?

6 JUDGE BRENNER: Yes.

7 MR. ELLIS: On the 29th, excuse me, Mr.  
8 Lanpher, this is the 29th.

9 BY MR. ELLIS: (Resuming)

10 Q Mr. Museler, still on the subject of extra  
11 programs but not on the ones we have been discussing on  
12 transcript page 12,476, you agreed that the as-built  
13 piping program was utilized in getting an accurate  
14 picture of the as-built configuration for pipes. Was  
15 the as-built piping program necessary to obtain such  
16 information concerning the as-built configuration?

17 A (WITNESS MUSELER) No, sir, it was not. The  
18 as-built condition of piping systems is and always was  
19 represented by the latest revision of the appropriate  
20 drawings plus any design change documents such as the  
21 E&DCR. So the as-built condition was always available  
22 through the use of those documents. The extra nature of  
23 this program is in the nature of combining all of those  
24 documents for efficiency and for ease of use in the  
25 final stress reconciliation program and in the operation

1 of the plant for maintenance and modification purposes.

2 MR. ELLIS: Judge Brenner, we propose now to  
3 go on to the FSAR conformance SPCR area.

4 BY MR. ELLIS: (Resuming)

5 Q Mr. Museler, during your cross-examination by  
6 Mr. Lanpher on FSAR conformance matters, you were asked  
7 about the Shoreham plant configuration reports which was  
8 marked as Suffolk County Exhibit 71. For context, was  
9 the purpose of those SPCR Shoreham plant configuration  
10 reports to assess the as-built condition of the plant  
11 against FSAR descriptions?

12 A (WITNESS MUSELER) Yes, it was, sir.

13 Q And are you familiar with the reports that  
14 constitute the existing SPCR Suffolk County Exhibit 71?

15 A (WITNESS MUSELER) Yes, sir, I am.

16 Q Did that study involve walkdowns? I think you  
17 described a number of things it involved. Did it also  
18 involve walkdowns?

19 A (WITNESS MUSELER) Yes, sir, it involved field  
20 walkdowns of all the systems covered by the SPCR program.

21 Q And were the systems covered the  
22 safety-related systems?

23 A (WITNESS MUSELER) Yes, sir.

24 Q Any others?

25 A (WITNESS MUSELER) Portions of

1 non-safety-related systems which have safety-related  
2 components in them were also covered.

3 Q As a result of the SPCRs that are in Suffolk  
4 County Exhibit 71, were there conditions observed in the  
5 as-built plant that in some sense differed from the FSAR?

6 A (WITNESS MUSELER) Yes, sir.

7 Q All right.

8 MR. ELLIS: And, Judge Brenner, we had earlier  
9 handed out yesterday a list which I would like now for  
10 the witness to identify involving categories, SPCR  
11 categories. It is a single sheet which I would like to  
12 have marked as LILCO Exhibit 29, if we may.

13 JUDGE BRENNER: All right, that will be marked  
14 as LILCO Exhibit 29 for identification.

15 (The document referred to  
16 was marked LILCO Exhibit  
17 No. 29 for  
18 identification.)

19 BY MR. ELLIS: (Resuming)

20 Q Mr. Museler, do you have a single sheet in  
21 front of you entitled "Shoreham Plant Configuration  
22 Review," that lists 12 categories on it that has been  
23 marked LILCO Exhibit 29?

24 A (WITNESS MUSELER) Yes, sir.

25 Q What does this list of categories reflect?

1           A       (WITNESS MUSELER) We evaluated the findings  
2 in Suffolk County Exhibit 71 and placed them into  
3 categories in order to be able to determine the types of  
4 findings that we were dealing with. We also have had  
5 the opportunity to discuss these items with the  
6 engineering department to ascertain the significance and  
7 the detailed description of the differences.

8           Q       Mr. Museler, in your cross-examination answers  
9 to Mr. Bordenick, you indicated that there were three  
10 kinds of information in the FSAR commitments to  
11 significant detail, which you indicated should be  
12 communicated to the NRC on a reasonable basis, real-time  
13 basis, I think you said, and descriptive detail that you  
14 have described as information not essential to the  
15 safety analysis or the analysis of the plant.

16                   Given those three categories, have you had an  
17 opportunity to analyze the various observations that  
18 appear in the 12 categories from the Shoreham plant  
19 configuration reports, as reflected in LILCO Exhibit 29  
20 and Suffolk County Exhibit 71, to determine which of the  
21 three informational categories they fall into in the  
22 FSAR?

23           A       (WITNESS MUSELER) Yes, sir, we have. And all  
24 of the findings contained in the SPCR reports which are  
25 contained in Suffolk County Exhibit 71 fall into the

1 category of descriptive detail, the third category as we  
2 discussed during Mr. Bordenick's questions.

3 Q Before we turn to some examples of those, Mr.  
4 Museler, can you tell us whether there have been any  
5 changes to the hardware of the plant as a result of the  
6 studies, the SPCR studies?

7 A (WITNESS MUSELER) No, sir. There are no  
8 changes, nor will there be, in any of the hardware in  
9 the plant as a result of these findings. The only  
10 change in the plant that has been indicated as a result  
11 of these findings has been in category 1 of that list,  
12 which is typos where a few labels on panels within the  
13 plant had typos, and those are being corrected.

14 Q So that we are clear, Mr. Museler, do any SPCR  
15 observations or findings violate FSAR commitments, in  
16 your view?

17 A (WITNESS MUSELER) No, sir, they do not.

18 Q Do any of the SPCR observations affect or  
19 degrade the safety of the plant or the capabilities of  
20 the plant as described in the FSAR?

21 A (WITNESS MUSELER) No, sir, they do not.

22 Q Do any of the SPCR findings affect or  
23 potentially affect LILCO or NRC Staff safety or accident  
24 analyses of the plant?

25 A (WITNESS MUSELER) No, sir, they do not.

1 JUDGE BRENNER: How do you know whether or not  
2 they affect the Staff's analysis?

3 WITNESS MUSELER: Judge Brenner, obviously,  
4 that is my opinion and our engineering department's  
5 opinion after evaluating these. So perhaps I should say  
6 it does not affect our safety analysis, and that has  
7 been verified by our engineering department. The Staff,  
8 in my opinion, will agree with that assessment.  
9 However, I certainly can't speak for the Staff.

10 JUDGE BRENNER: Well, I didn't mean it as a  
11 trick point. I understand you can't speak exactly for  
12 them. But I was interested in ascertaining some of what  
13 you started to tell me. Did you take a look at the  
14 existing available information of what analyses the  
15 Staff performed to the extent that is available to you  
16 in their SERs or in your exchanges, backup analyses, and  
17 that type of thing?

18 WITNESS MUSELER: Judge Brenner, I believe  
19 that the Staff and ourselves performed the safety  
20 analyses essentially the same way. Sometimes the Staff  
21 will use alternate analyses by some outside consultant,  
22 but what we do know is the nature of the input data to  
23 those analyses. The input data to the analyses is in  
24 the case of an ECCS safety analysis, for instance, the  
25 input data involves things such as flows and capability

1 of the systems, pressures, timing, and the like.

2           We have not seen anything in these findings  
3 that would affect those input parameters. As a matter  
4 of fact, in one particular case with regard to  
5 set-points of various parameters, the set-points that  
6 are used for us in our pre-operational test program are  
7 finally developed through the pre-operational test.  
8 That data which is developed and which is in our design  
9 documents is the data that is then used in the technical  
10 specifications, and the Staff has that data through that  
11 means.

12           We do not use the FSAR for that purpose.  
13 Neither does the Staff. So I believe that, based upon  
14 the kinds of information that is used in the analyses,  
15 that information is unaffected by the findings that we  
16 have evaluated.

17           BY MR. ELLIS: (Resuming)

18           Q     Mr. Museler, turn your attention, please, to  
19 what has been marked LILCO Exhibit 29. And to put some  
20 flesh on the bones of what you stated in your testimony,  
21 would you begin with the category number 1, typos?  
22 Could you give a representative example of an SPCR  
23 observation or finding there to explain your basis for  
24 the conclusions you have testified to concerning the  
25 consequence or significance of the findings?

1                   JUDGE BRENNER: Excuse me. I didn't realize  
2 until this point exactly how you were going to use LILCO  
3 Exhibit 29. Instead of waiting, let us bind it it now  
4 if you are going to go through item by item or at least  
5 some item, questioning. So for convenience, we will  
6 bind in Exhibit 29 for identification at this point.

7                   (The material referred to, LILCO Exhibit  
8 Number 29, "Shoreham Plant Configuration Review,"  
9 follows:)

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



Shoreham Plant Configuration ReviewCategory

1. Typos
2. Nonfindings
3. Detailed Hardware Descriptions
4. Clarification of Wording
5. No Discrepancy
6. System Configuration  
Change I  
(No change in system logic)
7. System Configuration  
Change II  
(Change in system logic)
8. Analog Trip
9. Vents, Drains Test Connections  
and Samples
10. CAPS - Consistency
11. Criteria Clarification
12. Torque Switches

1 JUDGE BRENNER: Mr. Museler.

2 WITNESS MUSELER: With respect to the first  
3 category, typos, CDR Finding B.31 03-1 states that FSAR  
4 section 5.5.1-2A depicts isolation signal pressure  
5 switches B.31 PSO 23 A and B (NO18A and B) as being  
6 installed on the recirc section line loop A upstream of  
7 suction line block valve B.31 MOV31.A(MOF023A), in  
8 accordance with the design document, the flow diagram  
9 FM26B and the installation document isometric NS006, the  
10 subject pressure switches are in fact installed on loop  
11 B suction line upstream of the suction line block valve  
12 on that loop B.31 MOV31B.

13 So that the FSAR in the referenced section, as  
14 those pressure switches indicated as being located on  
15 loop A, in fact they are located on loop B. And the  
16 typo was to define it as loop A rather than loop B. We  
17 checked a little further into this and looked at back  
18 issues of the various drawings, and in fact older issues  
19 of that particular drawing from which the FSAR data is  
20 gathered did have it correct. The error was made during  
21 the revision of the drawing at one point, and we  
22 classify it as a typo because the draftsman put in an  
23 "A" instead of a "B."

24 MR. LANPHER: Judge Brenner, in the future --  
25 we were able to follow Mr. Museler on that -- but in the

1 future it would be helpful if he could identify in the  
2 exhibit where he is going to be, or if Mr. Ellis knows,  
3 so we can follow from the start.

4 JUDGE BRENNER: Okay.

5 MR. ELLIS: Yes, we will do that.

6 BY MR. ELLIS: (Resuming)

7 Q Mr. Museler, that was an example of when you  
8 have typos here on your LILCO Exhibit 29. Does that  
9 mean "typographical error"?

10 A (WITNESS MUSELER) Yes, sir.

11 Q Turning your attention to the second category,  
12 the one that is listed here as "Non-findings," would you  
13 tell us what you mean by that category and give us an  
14 example, a representative example of that one as well,  
15 please? And in doing so, to aid the Board and Mr.  
16 Lanpher, would you refer to the Suffolk County exhibit  
17 tab number if you have it? Or do you not have that?  
18 Just give the system number, and we will do it.

19 A (WITNESS MUSELER) Yes, sir.

20 Mr. Lanpher, those SPCR reports are by system,  
21 so there are seven of them. There are seven systems we  
22 will be referring to. I am sorry, I don't have your  
23 exhibit with me.

24 JUDGE BRENNER: That is okay. If you give the  
25 system number, we will get it.

1 MR. LANPHER: If you give the system and the  
2 subpart of the report that you're going to refer to so  
3 we can get it before you start.

4 WITNESS MUSELER: Yes, sir.

5 MR. LANPHER: Thanks.

6 WITNESS MUSELER: By "Non-findings," we mean  
7 that what the auditors -- or, excuse me -- what the  
8 engineers involved in this process identified was a  
9 factual reading of what they saw. However, the  
10 information that was needed by the NRC or whoever else  
11 was using the FSAR was in fact there. And this is the  
12 type of finding that I believe we discussed at some time  
13 in the past with regard to the fact that we have used  
14 various methods including letter updates to the FSAR to  
15 keep the NRC informed of changes to the FSAR.

16 The system that I will be using for this  
17 example is the C-11 system, and the CDR finding in that  
18 system is 11-2.

19 MR. ELLIS: Mr. Lanpher, that is Tab 2.

20 MR. LANPHER: I can follow it. That's fine.

21 WITNESS MUSELER: This finding leads to a  
22 number of changes that were made to the control rod  
23 drive system as result of various industry and NRC  
24 concerns, some following from the early Millstone stress  
25 corrosion cracking problem regarding bypass lines. One

1 of the lines in that, one of the lines in that area, was  
2 the control rod drive return line directly to the  
3 reactor pressure vessel. We removed that line as a  
4 measure to reduce the propensity for stress corrosion  
5 cracking, and we modified the CRD system, the control  
6 rod drive system, to accommodate that modification.

7           The NRC was fully apprised of that through  
8 various means. A specific exchange took place with  
9 regard to the removal of the line. The system  
10 modifications on Shoreham are the generic General  
11 Electric system modifications associated with this. The  
12 NRC has reviewed this and reviewed it in terms, I  
13 believe, of the detailed design documents. They have  
14 also asked a number of questions on the docket in the  
15 FSAR with regard to system capability.

16           So the reason I classify this as a  
17 "non-finding," it is true that the FSAR in the existing  
18 section does not contain the latest information;  
19 however, this is a matter of the NRC having been  
20 informed and having all the information, having  
21 performed its review to the detailed design documents,  
22 and asked subsequent questions, which we have answered,  
23 I believe, satisfactorily.

24           And therefore, it is not a case of information  
25 not being in the FSAR, and certainly not a case of

1 information not being in the hands of the NRC reviewers.

2 BY MR. ELLIS: (Resuming)

3 Q All right, Mr. Museler proceed to the  
4 category, please, detailed hardware descriptions, and  
5 characterize that and give us a representative example,  
6 please?

7 A (WITNESS MUSELER) In detailed hardware  
8 descriptions, we refer to the fact that the FSAR  
9 describes in figures and in text the functional  
10 capabilities in some cases of the systems and in some  
11 cases goes into some detail in the hardware with regard  
12 to almost a description, although it is not intended to  
13 be a description of what the physical hardware might  
14 look like. I believe if I go to the example, it will be  
15 more clear than to try to describe it in excruciating  
16 detail, just verbally.

17 The C-41 system, which is the standby liquid  
18 control system, is the system we have chosen to use for  
19 this example. And the CDR finding is 04-1-C.

20 MR. LANPHER: Judge Brenner, I don't know if  
21 Suffolk County's Exhibit 71 is incomplete. I look at  
22 the C-41/04. I have page 1 of 1, and I don't see a  
23 subpart C. So am I mistaken? Am I looking at the wrong  
24 thing?

25 JUDGE BRENNER: I haven't found the subsection

1 either. I have the same problem. I think we are  
2 looking at the wrong page.

3 WITNESS MUSELER: Just give me a moment, Mr.  
4 Lanpher. I understand what you are saying because I  
5 have the same thing. Just give me a moment.

6 (Witnesses conferred.)

7 WITNESS MUSELER: Excuse me, Mr. Lanpher. The  
8 proper CDR is 02-1C. And it involves a locked-open  
9 valve.

10 JUDGE BRENNER: I still can't find it. I  
11 guess it's my fault. I have sheets C-41/02, and it's  
12 marked "Sheet 1 of 3," and then when I turn to the  
13 second page, I have a paragraph 1 but there is only an A  
14 and a B.

15 WITNESS MUSELER: That page may be missing.

16 JUDGE BRENNER: Well, I have sheet 2 of 3, and  
17 then I have the diagram, which I assume is 3 of 3.

18 WITNESS MUSELER: Can I suggest that I can  
19 describe --

20 JUDGE BRENNER: Well, just tell me what page  
21 you are reading from?

22 WITNESS MUSELER: You see, we're working from  
23 our notes, sir.

24 JUDGE BRENNER: It is the 1C reference that I  
25 don't understand within a Finding C-41/02.

1           WITNESS MUSELER: On sheet 2 I am afraid we  
2 gave them letters in our notes. On sheet 2 of 3,  
3 Finding C41/02 under item 1, there are five items:  
4 accumulator and relief valve, check valve, normally open  
5 valve, drain line pressure transmitter, et cetera. The  
6 third one in our notes we called "C." I am sorry. A  
7 normally open valve.

8           Do you have that Mr. Lanpher?

9           MR. LANPHER: Yes.

10          WITNESS MUSELER: I am sorry for the confusion.

11          JUDGE BRENNER: We have it now. Thank you.

12          This is normally open valve F003A.

13          WITNESS MUSELER: That is correct, sir. The  
14 FSAR has that valve listed as normally open, and that is  
15 a normally open valve. However, as the various  
16 administrative controls for the plant are developed, we  
17 determine that certain valves -- and this only occurs  
18 when we get down to the final procedures -- certain of  
19 the valves will be locked open or locked closed, as the  
20 case may be.

21          So this particular valve on our detailed  
22 design documents has been labeled as a locked-open  
23 valve. A locked-open valve is certainly a normally open  
24 valve, but that is the discrepancy, so that is what I  
25 mean by detailed description.



1 BY MR. ELLIS: (Resuming)

2 Q Move now, Mr. Museler, to your fourth  
3 category, clarification of wording, and give us an  
4 explanation of what you mean by that category and a  
5 representative example, please, sir?

6 A (WITNESS MUSELER) Yes, sir. The  
7 clarification of wording is somewhat akin to detailed  
8 hardware descriptions. But the items that fall into  
9 this category don't have the connotation of some  
10 difference that the previous example would have  
11 indicated without an explanation. This is one where the  
12 wording, when viewed in a certain light, could have been  
13 confusing to someone who was reading it although it has  
14 no significance with regard to system operation.

15 I will be using system E.21 CDR Finding 07-2.  
16 And I have an "A." I am not sure whether that exists.  
17 You should be able to find that reference directly. I  
18 understand that does exist.

19 The CDR finding states that the control  
20 switches for the testable check valves AOFC06A and B,  
21 these are the control switches that would be located on  
22 one of the panels, on one of the panels in the control  
23 room that those switches are spring-return to close from  
24 clockwise only, as indicated on a certain General  
25 Electric drawing 791E419TF. The FSAR figure 7.3.1-9B

1 does not indicate that the subject switches have the  
2 spring return to close from the clockwise-only feature.

3           What that means is that the way the switch is  
4 oriented, the switch that could be interpreted as  
5 meaning that no matter which way you turn the switch, it  
6 would return to the closed position. That is not really  
7 the fact. The switch in question has three positions.  
8 The center position, the one to which it returns to, is  
9 the closed position. This is the closing of the bypass  
10 valve. The testing of that valve is from the clockwise  
11 direction; in other words, the test position is to the  
12 right to clockwise so that the switch will return to  
13 close from that position.

14           However, the left-hand position is an  
15 emergency close position, so that you would not want the  
16 valve, if you put that valve in an emergency attitude,  
17 you would not want the switch to return to close. It  
18 wouldn't make any difference if it did, because the  
19 emergency conditions happens to be closed, but that is a  
20 matter of practice that if there is an emergency  
21 position of a switch that is manually actuated, you  
22 don't have it return from the emergency position.

23           So that the discrepancy was that the switch  
24 was, and always was, one that where the test position  
25 was momentary -- that is, it would always return to

1 close -- and the FSAR was not absolutely clear that the  
2 switch would return to close from the clockwise position  
3 only; in other words, from the test position only.

4           So that was the clarification of wording. And  
5 what we're doing is the FSAR will reflect the fact that  
6 that switch closes from the clockwise position only.

7           Q     Turning now to your fifth category, Mr.  
8 Museler, the category entitled "No Discrepancy," would  
9 you tell us what is meant by that category and give us a  
10 representative example, please, sir?

11          A     (WITNESS MUSELER) Yes, sir. The examples  
12 that fall in this category are items that reflect the  
13 amount of detail that is in the FSAR versus the amount  
14 of detail that is located in our detailed design  
15 documents. I believe we said yesterday or the day  
16 before that obviously the FSAR is not intended to have  
17 all of the detailed design information in it.  
18 Otherwise, the E&DCR might not get into this room. And  
19 there are discussions with the NRC on how much detail,  
20 and that is an ongoing discussion.

21                But there are certain items that fall into the  
22 category where we do not believe there are any  
23 differences of opinion with the NRC in terms of whether  
24 that information has to be there or not. And in these  
25 cases, the information that is not in the FSAR but is on

1 the detailed design documents is of no consequence. And  
2 again, I think that will be clear by going to system E51  
3 CDR Findings 02-2 and 02-3.

4 (Witnesses conferred.)

5 A (WITNESS MUSELER) Mr. Kelly reminds me that I  
6 said the E&DCR wouldn't fit into this room. I meant to  
7 say the FSAR wouldn't fit into this room.

8 JUDGE BRENNER: You might be right in both  
9 cases.

10 (Laughter.)

11 WITNESS MUSELER: CDR Finding E51 02, item 2,  
12 states that steam trap E51 TRP.004(D003), has been  
13 provided with a drain line, as shown on the design  
14 document FM22A. The associated FSAR figures do not show  
15 that drain connection. Typically, we do not show vent  
16 and drain connections other than in certain cases on  
17 FSAR diagrams. The vent and drain connections are put  
18 on after the final piping configurations in the field  
19 are determined so that you can get the vent lines at the  
20 high points and the drain lines at the appropriate low  
21 points or positions between closed valves.

22 So this is a matter of we add drain lines  
23 because it's required to do so from an operational  
24 standpoint. We typically do not include that  
25 information in the FSAR, nor do we think it is

1 necessary. The NRC at times, for health physics  
2 reasons, is interested in where we have vent drain and  
3 flush connections, and in those discussions with them we  
4 use the detailed design documents which do have these  
5 items in there.

6 The next finding, CDR E.5102, item 3, is  
7 exactly the same, another steam trap. A drain  
8 connection has been added, and it is not shown in the  
9 FSAR in the associated FSAR figures.

10 BY MR. ELLIS: (Resuming)

11 Q Mr. Museler, turn your attention now to  
12 category 6, entitled "System Configuration Change I (No  
13 change in system logic)." Is this a category for which  
14 one of the drawings is appropriate?

15 A (WITNESS MUSELER) Yes, sir, it is. Two of  
16 the drawings apply to this category.

17 MR. ELLIS: Judge Brenner, we have previously  
18 distributed to the Board and parties a four-page  
19 document of some drawings or sketches. And we would  
20 like to have this marked as LILCO Exhibit 30 to be used  
21 in connection with categories 6 and 7, explanations on  
22 LILCO Exhibit 29.

23 JUDGE BRENNER: All right, it is so marked.  
24 And let's also bind it in for convenience. So it is  
25 LILCO Exhibit 30 for identification, and we will bind it

1 in at this point.

2

(The document referred to

3

was marked LILCO Exhibit

4

No. 30 for

5

identification.)

6

(The material referred to, LILCO Exhibit

7 Number 30, follows:)

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

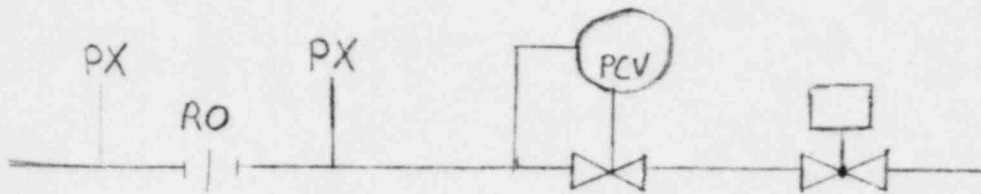
23

24

25

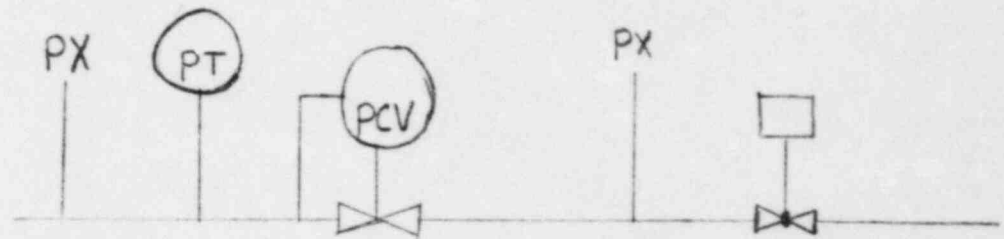
# E-51 RCIC SYSTEM

FSAR FIG.



COOLING WATER SUPPLY LINE

DETAILED DESIGN AND  
"AS BUILT" CONDITION

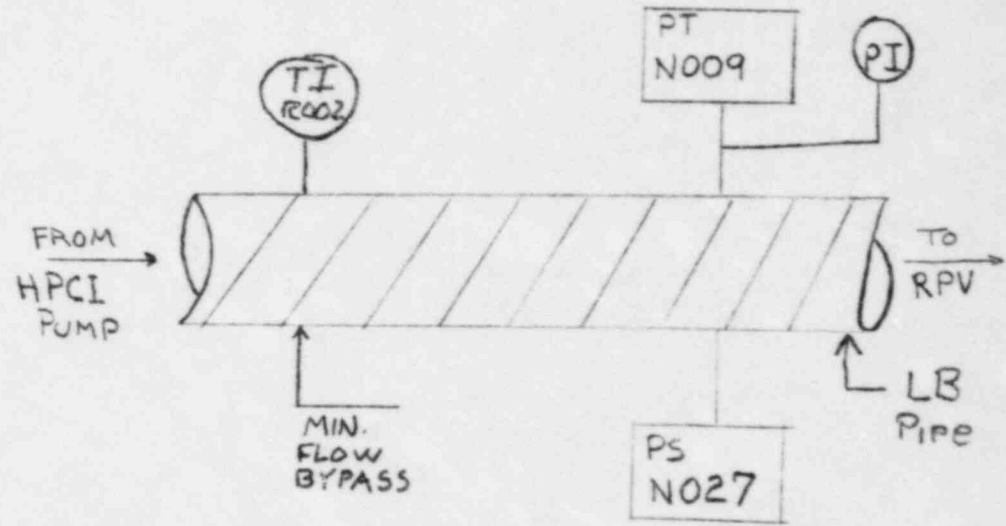
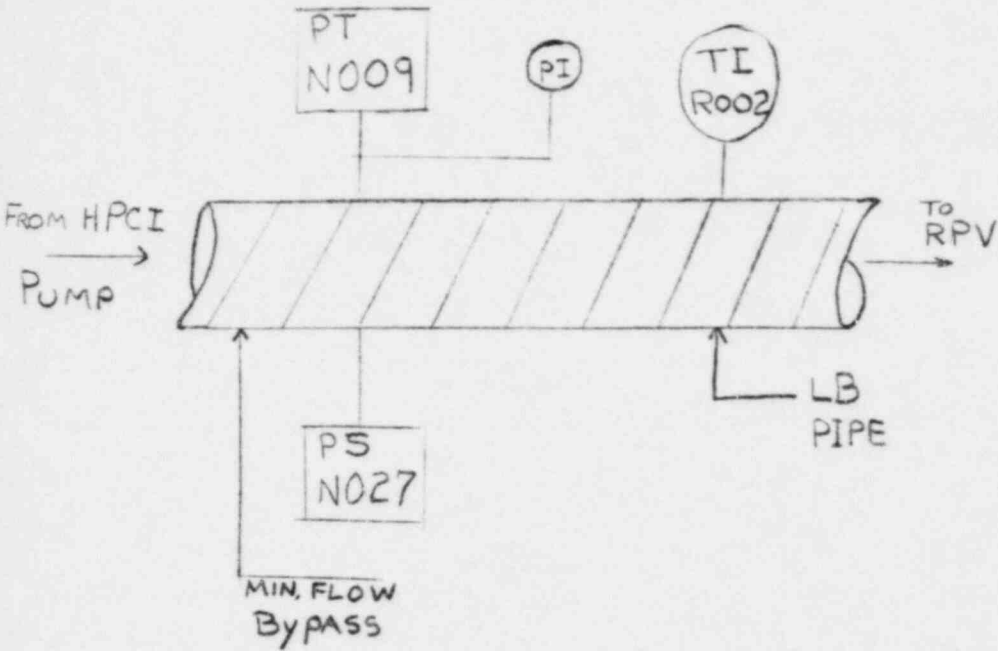


COOLING WATER SUPPLY LINE

# E-41 HPCI SYSTEM

FSAR FIG.

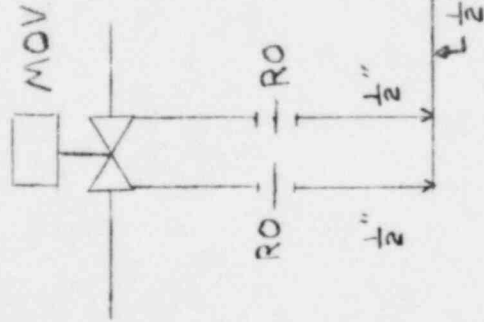
DETAILED DESIGN  
AND "AS BUILT" CONDITION



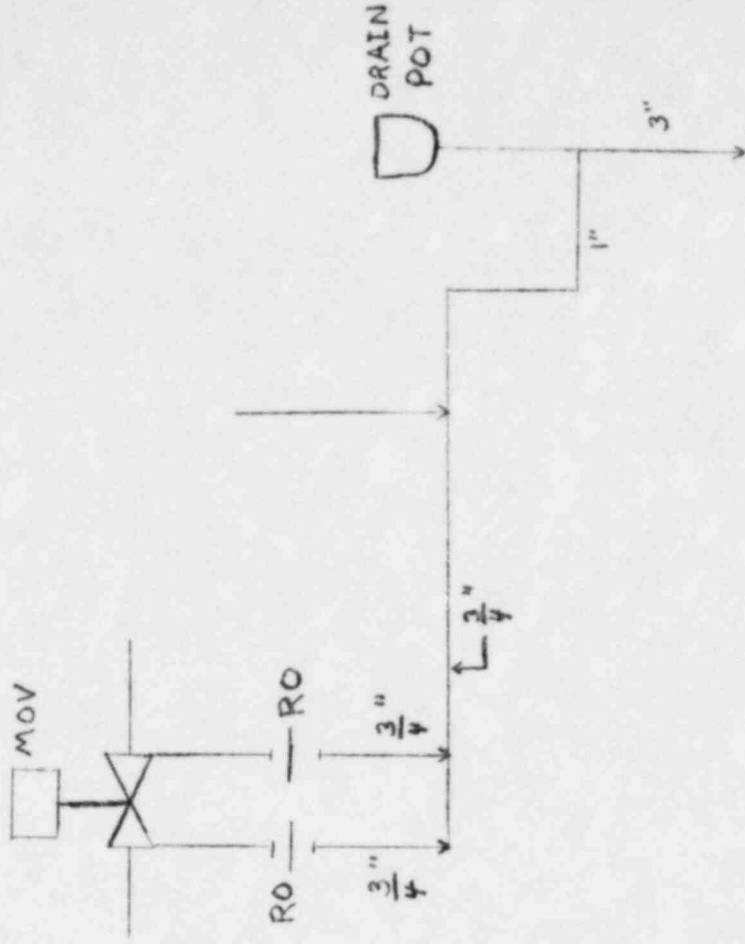


# E-51 RCIC SYSTEM

FSAR FIG.



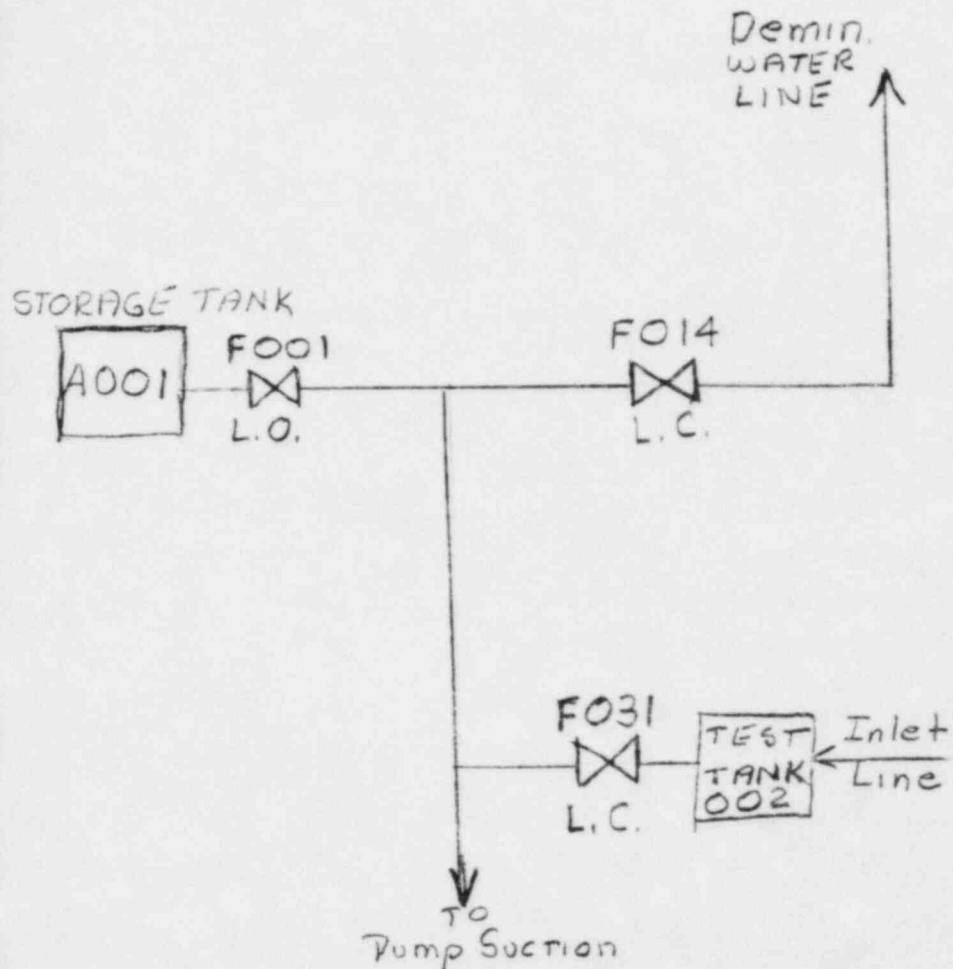
DETAILED DESIGN  
AND "AS BUILT" CONDITION



SPCR FINDING C41(01-2)

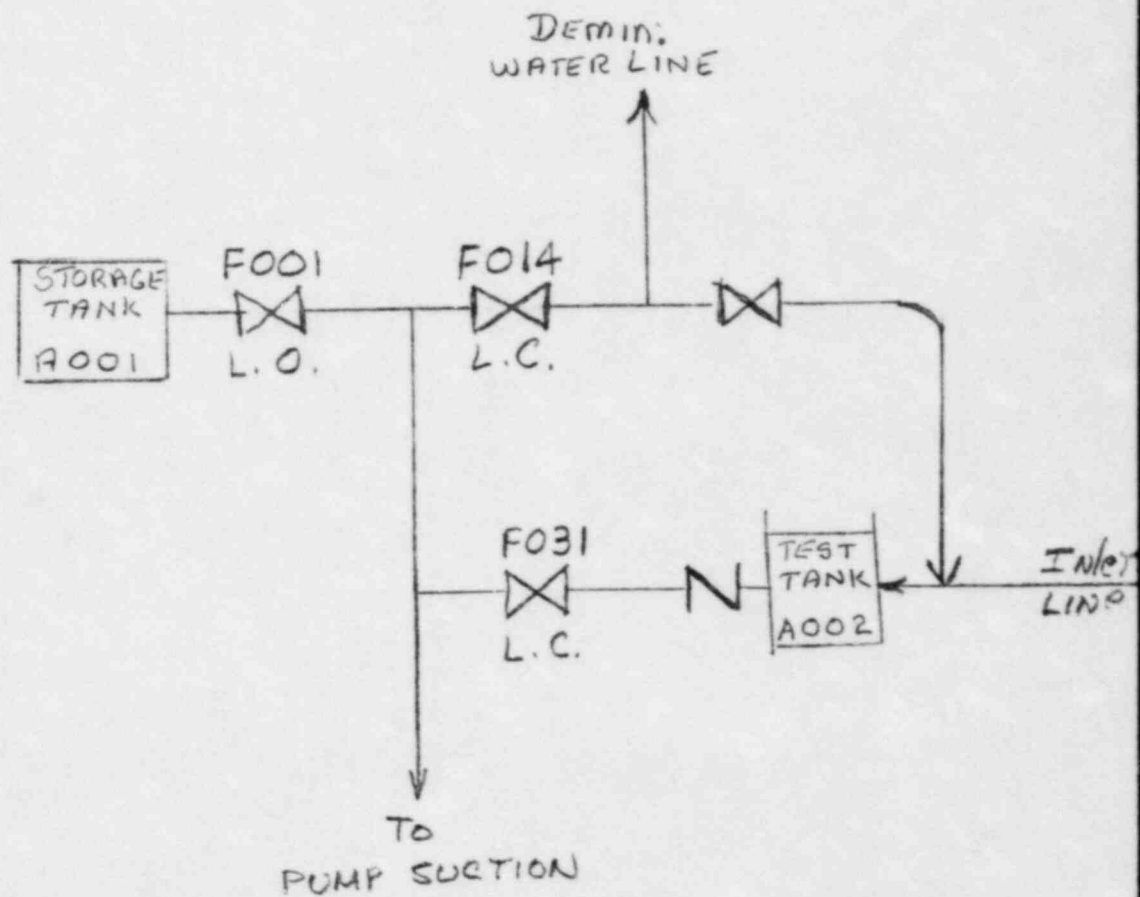
C41 Standby Liquid Control System

FSAR FIG



DETAILED DESIGN &

"AS BUILT" CONDITION



1 BY MR. ELLIS: (Resuming)

2 Q Mr. Museler, were the drawings on LILCO  
3 Exhibit 30 done by you or under your direction or  
4 supervision?

5 A (WITNESS MUSELER) Yes, sir. The initial  
6 sketches were drawn by me. Some of the Stone & Webster  
7 and LILCO people drew them up, and LILCO quality  
8 assurance audited them.

9 (Laughter.)

10 (Discussion off the record.)

11 JUDGE BRENNER: Let's go back.

12 BY MR. ELLIS: (Resuming)

13 Q Mr. Museler, would you now proceed to describe  
14 what is characterized, what is involved in category 6,  
15 referring to LILCO Exhibit 30 as you need to, giving an  
16 example?

17 A (WITNESS MUSELER) Yes, sir. Category 6  
18 involves rearrangements of hardware in the as-built  
19 plant which differ from the information contained in the  
20 FSAR but which when looked at show absolutely no change  
21 in how the system works, would require absolutely no  
22 change in valve or component manipulation to do whatever  
23 it is anyone wanted to do with the system, and would  
24 require absolutely no change in any of the procedures.  
25 But the as-built plant, the arrangement of the hardware,

1 is different in the as-built plant than shown on the  
2 FSAR figure.

3           The examples are in the E41 and E51 systems.  
4 Taking the E41 systems first, CDR Finding 06-3.

5           (Pause.)

6           I would refer you to the sketch which has that  
7 finding in the upper right-hand corner. It says, "SPCR  
8 Finding E41(06-3)." Then the main heading in the middle  
9 of the figure is "E41 HPCI system." The figure is  
10 arranged showing the FSAR figure as it appears on the  
11 left, and the as-built and the detailed design document  
12 condition of the plant on the right.

13           By looking at this figure you can see what  
14 you're looking at is an arrangement of instruments and a  
15 minimum flow bypass line as they are attached to an HPCI  
16 main line.

17

18

19

20

21

22

23

24

25

1           The difference here is that the locations of  
2 PT N009 above and PS N027 below with temperature  
3 indicator TI R002 have been transposed. In FSAR figure,  
4 it shows the temperature indicator to the right, and in  
5 the as-built plant it shows the temperature indicator to  
6 the left. These are not separated widely along the  
7 line, so there are no substantive differences in  
8 temperatures and pressures in the line, and the minimum  
9 flow bypass line comes in at approximately the same  
10 location in both cases.

11           So I believe you can see here that the  
12 indication of temperature and pressure and the pressure  
13 switch in this line are, from the standpoint of system  
14 operation, system logic, system procedures, the same in  
15 both cases.

16           BY MR. ELLIS: (Resuming)

17           Q     Mr. Museler, on that same page, E-41, HPCI  
18 System, the caption to the sketch to the right is  
19 "Detailed Design in As-Built Condition". Does that mean  
20 that that sketch, the sketch on the righthand side,  
21 reflects the as-built condition, also the design  
22 document condition?

23           A     (WITNESS MUSELER) Yes, sir. As I mentioned  
24 earlier, in all of these findings we were able to  
25 determine that the detailed design condition of the

1 plant and the as-built condition of the plant agreed.

2           The next example in this category, Category 6,  
3 is the E-51 system, CDR Finding 03-1, and the figure in  
4 the group of four is labeled the same way. On the upper  
5 righthand side, it is labeled E-51(03-1) and the main  
6 heading is labeled RCIC system.

7           This finding involves the arrangement of two  
8 drain lines from a motor-operated valve. Drain lines  
9 are put on motor-operated valves so that if one side or  
10 the other needs to be drained for maintenance that it  
11 can be drained. The arrangement in FSAR figure and in  
12 the detailed design condition, from a configuration  
13 standpoint, is much the same. I will explain the  
14 differences.

15           First, the FSAR figure indicated that the two  
16 lines coming down to join a single line and that single  
17 line up to the intersection point of the line coming in  
18 in the middle of that figure were one-half-inch pipe  
19 size. The detailed design in as-built condition has  
20 those lines at three-quarters of an inch rather than  
21 one-half inch as drain lines. This does not make any  
22 difference and we many times try to stay away from  
23 putting that kind of detail on FSAR figures. But it was  
24 on there, and the as-built condition was different.

25           The other difference between the FSAR figure

1 and the detailed design in as-built condition is readily  
2 apparent. The drain pot receives drains from various  
3 other portions of the RCIC system. The drain from the  
4 MOV drains in the FSAR figure were shown connecting  
5 directly to the drain pot and in fact it is in the field  
6 connected to the drain line from the drain pot. The  
7 one-inch line connects to the three-inch line, as shown  
8 on the right.

9           There are no interposing valves in that  
10 arrangement at that location and, therefore, the logic  
11 of the system, the way it is operated -- it is operated  
12 only during maintenance periods -- is absolutely the  
13 same. So the physical configuration is different, and  
14 in this case the line size is different. However, the  
15 effect on system operation, on maintenance procedures,  
16 is nil.

17           Q     Mr. Museler, moving ahead more briskly to  
18 Category 7, which is entitled "System Configuration  
19 Change II (Change in System Logic)", can you generally  
20 characterize that briefly and give an example, a  
21 representative example?

22           A     (WITNESS MUSELER) Yes, sir. This category is  
23 a category where the FSAR condition and the as-built  
24 condition of the plant differ and they differ in such a  
25 way that the logic of the system is affected. When I

1 say the "logic", I mean the configuration of valves and  
2 interposing devices where the system operation is  
3 concerned.

4           None of these affect system operation or  
5 system capability with regard to their safety functions  
6 or the safety analyses. But generally the maintenance  
7 procedures, in some case the operating procedures  
8 themselves -- the manipulative procedures would be  
9 different because of these changes.

10           The FSAR was intended to illustrate the basic  
11 system components at the level of the important or  
12 significant descriptive detail. These details fall into  
13 the descriptive detail category we discussed earlier.  
14 Again, it is, I believe, easier to go to the example and  
15 the systems.

16           The system that we are utilizing in this case  
17 is the EC-41 system, CDR Finding (01-2), and this figure  
18 is indicated in one of the schedules labeled with the  
19 same CDR Finding, C-41 (01-2), overall heading "C-41  
20 Standby Liquid Control System."

21           This finding involved the adding of a check  
22 valve and a maintenance line from the demineralized  
23 water system to be able to fill the test tank for the  
24 standby liquid control system directly from  
25 demineralized water in addition to the way it is



1 normally filled, and that is normally from condensate.

2           You can see that the portion of the system --  
3 the portion of the system that is the operative portion  
4 for system operation goes from the storage tank A-001  
5 through locked-open valve F-001, and then vertically  
6 downward to the arrow which says "to the pump suction".  
7 So these are the main standby liquid control tanks, and  
8 that is the suction line coming out through the  
9 locked-open valve and down to the pump suction.

10           If you look at the detailed design in as-built  
11 condition, on the right you will notice that that flow  
12 path and the valve and the locked-open condition of the  
13 valve are unaffected by this change. It is also readily  
14 apparent what those changes are.

15           You can see we have added from the  
16 demineralized water line a line down to the inlet line  
17 of the test tank so that we can fill the test tank from  
18 that source as well as from its normal source, and we  
19 have also added a check valve, a check valve outward  
20 from the test tank so that water cannot return, even  
21 though we have a locked-closed valve there so that water  
22 cannot return from the storage tank, because the testing  
23 is done utilizing normal water, demineralized or  
24 condensate and the storage tank contains borated water  
25 which we don't want to get into the test tank.

1           So that was the change and you can see where  
2 it is a change in what I have defined as system logic,  
3 but not a change that has any bearing on -- that has any  
4 bearing on the system operation or on the safety  
5 analyses, and it is in the nature of descriptive detail  
6 and design development. As we built the final plant,  
7 these types of features are incorporated and may or may  
8 not be shown on FSAR figures.

9           The second example in this category is in the  
10 E-51 system, the RCIC system, and the CDR Finding number  
11 is (05-3) and the associated figure has the same numbers  
12 on it.

13         Q     I believe that is the first page of LILCO  
14 Exhibit 30.

15         A     (WITNESS MUSELER) In this situation, the FSAR  
16 figure depicted a restriction orifice on the left with  
17 two pressure test points around it, followed by a  
18 pressure control valve, and then a motor-operated  
19 valve. In the detailed design development of this  
20 system, the restricting orifice was replaced by a  
21 reduced size body pressure control valve, which now  
22 serves the function that the restriction orifice would  
23 have served in FSAR configuration.

24           The pressure transmitter was also added to the  
25 system for instrumentation purposes and the pressure

1 test points were rearranged because the pressure test  
2 points were intended to measure the differential  
3 pressure across the restriction orifice. The pressure  
4 control valve now serves that function.

5           Therefore, the pressure test points bracket,  
6 the pressure control valve, again, this has no effect on  
7 system operation. It has no effect on any of the  
8 analyses that were done. The analyses that may or may  
9 not have involved this line only require knowing what  
10 the capability or the parameters of that restriction in  
11 that line are, and they are the same in both cases.

12           But obviously the plant operating procedures  
13 for the as-built plant reflect the as-built condition  
14 and do not reflect the restriction orifice which is not  
15 there. This again is in the nature of descriptive  
16 detail and we believe it properly belongs in that  
17 category.

18           Q     Mr. Museler, moving along at an even brisker  
19 pace, would you do the same for Category 8, analog  
20 trip? Describe what that consists of and give an  
21 example.

22           JUDGE BRENNER: Mr. Ellis, he is your witness,  
23 but if anyone is humanly capable of describing those  
24 drawings much faster, I would be surprised to hear it.

25           MR. ELLIS: Yes, sir, I agree.

1 WITNESS MUSELER: I am trying, Mr. Ellis.

2 MR. ELLIS: Yes, sir, you do whatever is  
3 necessary, Mr. Museler.

4 JUDGE BRENNER: I want to understand it while  
5 he is doing it and the pace he is going at is just about  
6 right. If he goes much faster, I would be jumping in  
7 and saying what about this and what about that, and I  
8 throw that in for advice.

9 WITNESS MUSELER: The next category is  
10 entitled "Analog Trip," and we have done this because  
11 the analog trip system involves a large number of  
12 components throughout several of the ECCS systems and  
13 was a major improvement included in this plant as well  
14 as other plants on the basis of operating experience.

15 The old analog trip system -- excuse me, the  
16 old system resulted during test periods in a number of  
17 spurious scrams and the new system has reduced that  
18 potential by about an order of magnitude. The basic  
19 difference is that the FSAR in the detail shown on all  
20 of the systems doesn't reflect the as-built analog trip  
21 information.

22 However, this is another case very similar to  
23 what we discussed before where the NRC reviewed the  
24 analog trip system and, as a matter of fact, in this  
25 case we asked them to review it before we committed to

1 put it in because we wanted to make sure that we would  
2 have regulatory approval in making this rather major  
3 change to the plant.

4           So there are on the docket the appropriate  
5 exchanges between the Staff and ourselves describing  
6 this system. The detailed design documents, General  
7 Electric generic documents, were reviewed by the Staff  
8 at the time -- this was a number of years ago -- and,  
9 therefore, there is no effect on the capability of the  
10 plant nor on the analyses, which have all utilized the  
11 fact that the analog trip system is incorporated in  
12 Shoreham.

13           I don't think it is necessary to go through  
14 that example in the interest of time, but it is a case  
15 where the NRC is fully appraised of the design condition  
16 of the plant.

17           MR. LANPHER: Could we get at least a  
18 citation?

19           JUDGE BRENNER: Yes, I was going to suggest  
20 that. Why don't you give us a reference that you think  
21 serves as the example you described?

22           WITNESS MUSELER: The example I was going to  
23 use is the E-41 system, CDR (07-1A).

24           The Category 9 is vent strains, test  
25 connections and samples, and I will go directly to the

1 examples, since that will, I believe, expedite matters.

2 In the C-41 system, CDR Finding (01-1-1) --

3 MR. LANPHER: You are going too fast for me  
4 now. I am sorry.

5 BY MR. ELLIS: (Resuming)

6 Q Mr. Museler, take your time and take whatever  
7 time is necessary.

8 MR. LANPHER: I was writing and I need a  
9 repeat of where we are supposed to go.

10 WITNESS MUSELER: It is the C-41 system, CDR  
11 Finding (01-1-1).

12 JUDGE BRENNER: Tell us what the finding is  
13 because the number may be a little different.

14 WITNESS MUSELER: The finding is proceeding  
15 downstream from storage tank along liquid control pump  
16 suction line. Piping and valves are connected as  
17 follows, sample connection containing one in-line  
18 valve.

19 JUDGE BRENNER: You changed your A-B-C  
20 references to 1-2-3 references.

21 WITNESS MUSELER: Correct. The appropriate  
22 FSAR figure does not show this particular line and the  
23 sample connection is in fact installed in the plant and  
24 the FSAR figure will be modified.

25 Again, during Mr. Bordenick's questioning, I

1 believe it is clear that we do need to discuss with the  
2 NRC exactly what amount of this kind of detail they  
3 would like us to update the FSAR to, but I don't  
4 anticipate any problem in reaching accord. If the NRC  
5 wants it all in there, it will be in there.

6           So that is an example of vents and drains and  
7 that covers a large number of findings -- in the  
8 neighborhood of 35 findings of this type, which you  
9 would expect since the number of vents, drains and  
10 sample lines we include as we developed the detailed  
11 design of the plant becomes quite large.

12           The tenth item refers to caps, and these are  
13 not the types of caps we were discussing in storage.  
14 These are permanent caps, screwed-on caps, on piping, on  
15 small-bore piping lines, and the requirements that we  
16 have in this area is to have a double seal on all vent  
17 and drain and sample lines within the plant.

18           We accomplish this by many times putting two  
19 valves in series, sometimes locking them, sometimes not,  
20 depending upon the significance, and at other times it  
21 will be accomplished by a single valve followed by a cap  
22 on the end of the pipe nipple coming out of that valve.

23           So the example is again in the C-41 system,  
24 CDR Finding (06-1), and this indicates that we have  
25 shown --

1 MR. LANPHER: Excuse me. There is no number  
2 in mine.

3 JUDGE BRENNER: That is the only one.

4 WITNESS MUSELER: It is the only item in  
5 there, Mr. Lanpher.

6 MR. LANPHER: Thank you.

7 WITNESS MUSELER: And the basic finding is  
8 that several vent, test and drain lines are shown as  
9 capped which are not capped. And what we will do is  
10 show them as not capped and, again, I mention that  
11 double-valved connections or double-sealed connections  
12 are required on all of those types of penetrations to  
13 the piping systems and we have chosen in this case to  
14 have double valves rather than a valve and a cap, and  
15 that is the differential which obviously has no effect  
16 on system operation.

17 The eleventh category is Criteria  
18 Clarification, and I would like to discuss that through  
19 the example which is in the B-31 system, CDR Finding  
20 (08, Item 1). This CDR Finding --

21 (Witnesses conferring.)

22 WITNESS MUSELER: There are two statements in  
23 the FSAR which could be construed to indicate  
24 conflicting criteria, and the statements are as  
25 follows. The first statement is that the reactor



1 coolant system is designed and fabricated to meet the  
2 requirements of ASME boiling pressure vessel code  
3 section 3.

4           However, in the detailed descriptions of the  
5 systems, it indicates that the recirculation system,  
6 which is the B-31 system, piping is of all-welded  
7 construction and is designed and constructed to meet the  
8 requirements of ANSI B 31.1, as opposed to ASME Section  
9 3. That could cause, to an uninformed reader, some  
10 confusion as to whether the B-31 system is ASME 3 or B  
11 31.1.

12           It is in fact B 31.1 with upgraded quality  
13 assurance and is installed to ASME 3 criteria. However,  
14 the system was General Electric-supplied before the ASME  
15 3 -- before ASME 3 was available, at least on this plant  
16 by purchase order, and it was supplied to ANSI B 31.1.  
17 The famous or infamous FSAR Table 3.2.1-1 does in fact  
18 indicate that it is designed to those codes as opposed  
19 to ASME Section 3.

20           So that I classify as a criterion difference.  
21 The NRC is certainly well aware of the situation with  
22 regard to the design criteria for the RPB itself and for  
23 the systems that were ordered early in the process --  
24 primarily the B-31 system here and the main steam line  
25 system.

1 I would just mention that the quality  
2 standards of that B 31.1 code, we believe, as enhanced,  
3 give us the same assurance as if they had been ASME 3  
4 from the start. At any rate, that is Criterion 11,  
5 which I characterized as Criteria Clarification.

6 And the final item refers to torque switches,  
7 which is another generic category somewhat akin to  
8 analog trip. But this is a description of a specific,  
9 detailed piece of hardware.

10 What we have here is, again, in the detailed  
11 design development of the plant and of these particular  
12 components a situation where as the plant was being  
13 designed and, in fact, as it was being built through the  
14 mid-to-late '70s, industry experience with MOVs  
15 indicated that various problems were being experienced  
16 with valves sticking in various positions, and valves  
17 are turned on and off by either a limit switch -- they  
18 are obviously turned on and off by a signal, but once  
19 actuated there are torque switches involved to ensure  
20 that in certain conditions if the valve starts to hang  
21 up the switch will open and stop the motor, which is  
22 desirable in normal operation, in some accident  
23 conditions not desirable.

24 They are generally stopped in the up direction  
25 by a switch, a position switch, and in the down position

1 by the torque switch to make sure it is driven home. At  
2 any rate, a number of various schemes for resolving some  
3 of these operational problems were considered, and  
4 Shoreham adopted a scheme which we believe is, in our  
5 opinion, a more optimum scheme, although the whole issue  
6 is not black and white.

7           And in our scheme, referring to E-21 system,  
8 Finding (07-1D), in our system we have opted in the  
9 opening direction, which we believe in many cases,  
10 especially in the case of the injection valves, to be  
11 the direction of concern during an accident, we have  
12 opted to bypass the torque switch for the entire length  
13 of travel.

14           So when the valve is -- when the valve is  
15 actuated open, it cannot be stopped by the torque  
16 switch. If it does become jammed, it will destroy  
17 itself before it stops trying to open. In the closed  
18 direction we have employed the torque switch. We have  
19 bypassed the torque switch only for the first five  
20 percent of travel.

21           The rationale there is when the valve starts to  
22 close, sometimes in the closing direction the seat isn't  
23 engaged, but sometimes there is, either for inertia or  
24 for various reasons, it takes a little extra oomph to  
25 get the valve started, so for the first five percent of

1 travel we bypass the torque switch in the closed  
2 direction. And then the torque switch is actuated so  
3 that when the valve closes it will close until a certain  
4 amount of torque has been applied so that it is seated  
5 relatively hard.

6           We believe that that is the optimum way to do  
7 it. The FSAR, in a detailed logic diagram in that CDR  
8 Finding, indicates a previous General Electric scheme  
9 which had different arrangements -- and I won't go into  
10 those unless somebody would like to -- basically  
11 utilizing the same components but using a different  
12 rationale in when the torque switches were engaged and  
13 not.

14           Now this is all internal to the valves and  
15 again has no bearing on the system logic in terms of how  
16 the system operates during an emergency situation or  
17 during a normal situation, except in terms of what will  
18 stop the valve and what won't stop the valve.

19           So we think that is a detailed description or  
20 falls into the category of descriptive detail. We are  
21 not saying that our scheme is necessarily better or  
22 worse than anyone else's. However, our operational  
23 people did consider this at some length and that is the  
24 way we have decided to do it.

25           I believe that the NRC -- certain of the NRC

1 personnel, I believe, have been interested in the past  
2 and we have explained to them exactly what our  
3 arrangement is. But it is not something that is  
4 relevant to safety analyses or to an accident analyses.

5           That covers the categories contained in our  
6 exhibit.

7           BY MR. ELLIS: (Resuming)

8           Q     Mr. Museler, on that last point -- the last  
9 example you gave -- involving the valve, I think you  
10 said "destroy itself." Did you mean there that it would  
11 continue to try to open at the risk of burning up the  
12 motor, but it doesn't have anything to do with the  
13 pressure boundary, does it?

14          A     (WITNESS MUSELER) Yes, sir. That's exactly  
15 what I meant. The valve would continue to try to open,  
16 no matter how much torque was applied by the motor, so  
17 that if it could not open the motor would destroy itself  
18 because the thermal overloads are also bypassed in the  
19 accident conditions to make sure that the motors put out  
20 their maximum capability in order to perform the safety  
21 function.

22           But that is not unique to Shoreham. That is  
23 an industry-wide design application.

24          Q     Mr. Museler, in your answers that you have  
25 given it suggests something and I want to ask you

1 directly about it.

2 Does the NRC use only the FSAR for their  
3 evaluation of the plant's performance and conformance to  
4 regulations and design adequacy, or does it use other  
5 documents as well?

6 MR. LANPHER: I object to the question. I  
7 think that is something we should ask the NRC.

8 JUDGE BRENNER: Well, he can answer it to the  
9 extent he can, and presumably we will hear why he thinks  
10 he can say what he is going to say. Then you could ask  
11 the NRC again. It is a two-party process and the  
12 utility is certainly heavily involved in the process,  
13 and through that involvement he might be able to tell  
14 us, recognizing that it is his view and the Staff might  
15 have a different view.

16 If they don't understand what the Staff is  
17 reviewing, then they have had a problem over the years  
18 too, so he should know something about it, but your  
19 point is maybe the Staff knows something about it as  
20 well, and that is well taken. So ask them also.

21 MR. LANPHER: Could I have the exact question  
22 read back, please, or restated?

23 JUDGE BRENNER: We will have it read back.

24 (The reporter read the record as requested.)

25 WITNESS MUSELER: Mr. Ellis, I believe that

1 the NRC uses a rather wide range of documents to perform  
2 their review. They do use the FSAR as a measure of our  
3 commitments and in terms of certain important  
4 descriptive information. They also use, to my  
5 knowledge, a number of our detailed design documents,  
6 particularly in the electrical area.

7 I know that during the initial FSAR review  
8 process we at several points in time were requested by  
9 the Staff to provide large numbers of our detailed  
10 electrical design documents, of our detailed flow  
11 diagrams, and the like, and we did provide that on the  
12 job site and on at least one occasion, that large number  
13 of drawings -- numbering in the hundreds -- was  
14 delivered to the Staff here in Bethesda.

15 The Staff also uses -- has requested and we  
16 have provided in the past as-built piping diagrams for  
17 evaluations and, at that point, I believe, a third party  
18 study or evaluation of one of our in-containment piping  
19 systems. I am sure they use a number of other  
20 documents, but my personal knowledge of them is  
21 lacking.

22 But I do know that they use our detailed  
23 design documents, they use our studies. They use, for  
24 instance, our design analysis report with regard to the  
25 Mark II loads that is provided to them, and it is on the

1 docket as a rather detailed technical document that they  
2 use in addition to the FSAR.

3 (Counsel for LILCO conferring.)

4 BY MR. ELLIS: (Resuming)

5 Q Mr. Museler or other members of the panel, are  
6 there regulatory requirements regarding the accuracy and  
7 content of the FSAR and, if so, which are they?

8 A (WITNESS EIFERT) Yes, Mr. Ellis. There are  
9 appropriate regulatory requirements that are -- that  
10 come into play with respect to the subject that we have  
11 been discussing -- that Mr. Museler has been  
12 discussing -- this morning, and I would like to briefly  
13 highlight those.

14 I would like to begin with 10 CFR 50.34. Part  
15 B of 50.34 contains a requirement for what must  
16 contained in the final safety analysis report. I would  
17 like to highlight a couple of portions of that. In the  
18 first paragraph of Part B it indicates that the final  
19 safety analysis report shall include information that  
20 describes the facility, presents the design basis and  
21 the limits on its operations, and presents a safety  
22 analysis of the structure, systems, and components and  
23 of the facility as a whole, and shall include the  
24 following.

25 Skipping B-1 and going to B-2, it indicates



1 that it shall include a description and analysis of the  
2 structures, systems and components of the facility, with  
3 emphasis upon performance requirements, the bases, with  
4 technical justifications therefor upon which such  
5 requirements have been established and the evaluations  
6 required to show that safety functions will be  
7 accomplished.

8           The description shall be sufficient to permit  
9 understanding of the system design and the relationship  
10 to safety evaluation. It is that last sentence which I  
11 wanted to emphasize in this regulation, and it is this  
12 portion that is directly applicable to the FSAR  
13 discussion that we have been having here this morning.

14           The detail that Mr. Museler has been  
15 describing is what we have indicated goes beyond the  
16 description necessary to permit understanding of the  
17 system design and the relationship to the safety  
18 evaluation which is included in the FSAR.

19           The second point that I would like to make  
20 just briefly is to refer back to 10 CFR 50.2, which is  
21 the section on definitions. There is a fairly concise  
22 definition of "design basis" contained in 50.2. I refer  
23 to that section primarily to make a distinction between  
24 what is design basis that is required to be in the FSAR,  
25 as I referenced it from 50.34, as distinct from the

1 detailed design which Mr. Museler has been discussing.

2           The third point which I would like to make --  
3 the third regulation that I would like to refer to -- is  
4 10 CFR 50, Appendix B, Criterion 3, and I will quote the  
5 first sentence of Criteria 3 that indicates that  
6 measures shall be established to assure that applicable  
7 regulatory requirements and the design basis, as defined  
8 in 50.2 and as specified in the licensing application  
9 for those structures, systems and components to which  
10 this appendix applies, are correctly translated into  
11 specifications, drawings, procedures and instructions.

12           I am making this reference to relate the  
13 discussion and the items which Mr. Museler described to  
14 Appendix B and if you relate these interpretations or  
15 the definition in 50.2 and the requirements that the  
16 FSAR contain sufficient detail to perform the safety  
17 evaluation, we are confident that we have done that and  
18 that, therefore, we have not in any way had a situation  
19 which would be construed as a violation of 10 CFR 50,  
20 Appendix B.

21           The last two regulations that I would like to  
22 just mention is one that I mentioned yesterday or, I  
23 believe it was, the day before yesterday in response to  
24 Mr. Bordenick's question -- 10 CFR 50.59, which is  
25 applicable to the holder of an operating license. I

1 mention them here only because they apply, in my  
2 judgment, conceptually to what we have been discussing  
3 as our understanding and implementation of our program  
4 with respect to the FSAR.

5           Section 50.59 discusses the requirements with  
6 respect to what the holder of an operating license can  
7 do with respect to changing the FSAR and it clearly  
8 defines two mechanism -- one mechanism by which the  
9 licensee is allowed to make changes and subsequently  
10 advise the NRC, the second being the type of change  
11 which the licensee is required to notify the NRC before  
12 making the change.

13           JUDGE BRENNER: You know, you are talking  
14 about one of the more famous sections of the regulations  
15 here and there have been years of dispute and  
16 interpretation on some aspects -- not all aspects -- of  
17 it. But go ahead and make your point. You may be  
18 talking about a non-controversial portion of it.

19           WITNESS EIFERT: I hope so.

20           JUDGE BRENNER: It is a well-known section.

21           WITNESS EIFERT: The second regulation with  
22 respect to the operating phase of a nuclear power plant  
23 that I wanted to mention was 50.71, and this is the  
24 section which describes the requirements that are now in  
25 effect with respect to the timing of keeping the FSAR

1 current after the plant goes operational.

2           And I am referencing 50.59 and 50.71 only in  
3 the context of the recognition that they give that there  
4 is clearly detailed that is in the FSAR that goes beyond  
5 that detail necessary to support the safety evaluation  
6 that is contained in FSAR. And I believe that is  
7 clearly in the context of what Mr. Museler has described  
8 as the items that we found where there have been some  
9 differences between the FSAR and the design documents.

10           (Counsel for LILCO conferring.)

11           MR. ELLIS: Judge Brenner, we would propose  
12 now to leave this area and proceed to the next area on  
13 the supplementary redirect plan, storage.

          JUDGE BRENNER: Okay. We might as well take a  
15 break at this point, I suppose, since we have had this  
16 helpful pulling together of the regulations sections.  
17 We should note that the design basis definition in 50.2  
18 is subsection (u), since in its wisdom the definitions  
19 in there are not totally in alphabetical order.

20           We will break until 10:45.

21           (A brief recess was taken.)

22

23

24

25

1 JUDGE BRENNER: Okay, we are ready to proceed.

2 MR. ELLIS: Judge Brenner, we are now turning  
3 to the storage area in the supplementary redirect plan,  
4 and we had earlier distributed to the Board and parties  
5 a document consisting of nine pages, listing audit  
6 observations related to storage, which we would like now  
7 to have marked LILCO Exhibit 31, if we may.

8 JUDGE BRENNER: All right.

9 (The document referred to  
10 was marked LILCO Exhibit  
11 No. 31 for identification.)

12 JUDGE BRENNER: Let's bind this in also.

13 [The document referred to, LILCO Exhibit No.  
14 31, follows:]

15

16

17

18

19

20

21

22

23

24

25

GROUP I

STORAGE HISTORY CARDS

A. Missing/Not Issued

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 13	D.4	3/10/76
FA 376	4.2	2/20/76
FA 376	4.8	2/20/76
FQC 21	D.11	3/28/77

B. Form Completion

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 13	D.7	2/21/75
FA 443	4.4	7/14/76
FQC 15	D.8	8/04/75
FQC 21	D.12	3/28/77
FA 1086	4.4	3/05/80

C. Inspections

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 601	4.4	6/16/77
FQC 24	B.4	10/14/77
FA 1213	4.2	12/03/80

D. Preventive Maintenance

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 238	4.3	3/07/75
FA 1016	4.2	10/02/79
FA 1213	4.1	12/03/80

E. Logging

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 1016	4.1	10/02/79
FA 1425	4.1	2/08/82

F. Internal Heaters

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
*FA 679	4.2	10/25/77
*FA 699	4.1	12/29/77
FA 1016	4.3	10/2/79

G. Poly Covers

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 443	4.4	7/14/76
FA 934	4.1	4/9/79
FA 980	4.1	7/17/79

---

\* Admitted into evidence for Suffolk County Groups I and IV  
but only discussed with Group I.

GROUP II

PROTECTION AGAINST WEATHER

A. Covers/Tarpaulins

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 371	4.1	2/23/76
FQC 23	D.5.1	8/15/77
FA 1275	4.2	4/16/81
FA 648	4.3	9/20/77
FA 425	4.1	6/17/76
FQC 36	1.3	11/17/80
FQC 23	D.5.1	8/15/77

B. Dunnage

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 340	4.3	11/28/75
FQC 23	D.7	8/15/77
FQC 23	D.5.2	8/15/77
FA 371	4.2	1/09/76
FA 371	4.4	1/09/76
FA 444	4.1	1/16/76
FA 802	4.2	8/7/78
FA 1183	4.1	10/23/80
FA 1183	4.3	10/23/80

C. End Caps

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 34	N.2.A	5/19/80
FA 238	4.9	3/07/75
FA 1183	4.2	10/23/80



D. Leaky Roof

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 376	4.4	3/11/76
FA 425	4.3	6/17/76
FA 470	4.2	9/23/76
FQC 23	D.6	8/15/77
FQC 24	K.7	12/08/77

E. Poor Drainage

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 40	1.3 Subpart 4	11/16/81
FQC 23	D.7	8/15/77
FA 226	4.4	2/17/75
	4.14	2/17/75
FQC 13	D.5	8/15/77

F. Storage Conditions

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 444	4.2	1/16/76
FA 371	4.3	1/09/76

G. Protective Coatings

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 444	4.4	1/16/76

GROUP III

COVERS AND CAPS FOR MATERIAL AND EQUIPMENT

A. End Caps

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 740	4.3	3/23/78
FQC 15	D.7	8/08/75
FA 601	4.1	6/16/77
	4.2	6/16/77
	4.3	6/16/77
FA 1180	4.3	10/09/80
FA 1234	4.1	1/16/81
* FA 470	4.9	9/23/76
FQC 35	Pg. 2 Sect. 3.2.1 & Obs. 2.3 (and as related to FQC 34 K.3)	8/25/80
FQC 23	D.5.3	8/15/77
* FA 656	4.2	10/17/77
* FA 721	4.1	2/15/78
	4.2	2/15/78
* FA 803	4.3	9/26/78
	4.4	9/26/78
* FA 934	4.2	4/09/79
	4.3	4/09/79
* FA 980	4.2	9/17/79
	4.3	9/17/79

---

\* Admitted into evidence but not discussed.

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
* FA 1026	4.1	10/19/79
	4.2	
* FQC 33	Pg 2 of 3 D.4	2/25/80
* FA 1086	4.2	3/05/80
* FQC 34	N.2	5/19/80
FQC 17	D.4	2/19/76
FQC 21	D.7	3/28/77

B. Covers

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 13	D.8	2/18/78
FQC 27	D.7	8/28/78
FA 1301	4.1	6/08/81
FA 1313	4.1	9/20/81
FQC 34	K.3	5/19/80
FQC 20	D.4	1/14/77
FA 1313	4.2	9/20/81

C. Damage

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 425	4.4	6/17/76
FA 470	4.3	9/23/76
FQC 24	D.5	11/14/77
FA 740	4.1	3/23/78

---

\* Admitted into evidence but not discussed.

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 740	4.2	3/23/78
FA 1086	4.1	3/05/80
FQC 20	D.4	1/14/77

D. Miscellaneous

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FQC 23	D.8	8/15/77

GROUP IV

ENVIRONMENTAL PROTECTION

A. Internal Heaters

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
FA 340	4.1	11/19/75
FQC 21	D.15	3/28/77
* FA 648	4.3	9/20/77
* FA 721	4.3	2/15/78
FA 226	4.1	2/17/75
FA 1301	4.2	6/08/81

B. Storage Levels

FA 376	4.3	2/20/76
FQC 21	B.9 D.14	3/28/77
FQC 21	D.16	3/28/77
FQC 21	D.17	3/28/77
FA 803	4.1	7/26/78

---

\* Admitted into evidence but not discussed.

GROUP V  
LITTER AND DEBRIS

<u>Audit No.</u>	<u>A/O</u>	<u>Date</u>
*FA 226	4.3	3/05/75
*FA 425	4.2	7/21/76
*FA 444	4.1	9/09/76
*FA 470	4.1	10/19/76
*FA 470	4.5	10/19/76
FQC 20	D.5	1/26/77
*FQC 21	D.13(A)	4/15/77
*FQC 23	K.5	9/05/77
FA 721	4.1	3/27/78
FA 740	4.1	4/13/78
FA 803	4.4	8/07/78
FA 1086	4.2	3/28/80
FQC 34	N.2C	6/11/80
*FA 1275	4.1	5/11/81
*FA 1325	4.1	8/05/81
*FQC 40	1.3.A.5	12/16/81

---

\* Admitted into evidence but not discussed.

1 BY MR. ELLIS: (Resuming)

2 Q Gentlemen, did you at my request view the  
3 transcript to identify and list the audit observations  
4 Mr. Lanpher asked you about pertaining to the Suffolk  
5 County group of storage and housekeeping?

6 A (WITNESS KELLY) Yes, sir.

7 Q And, Mr. Kelly, do you have the document in  
8 front of you that has been marked LILCO Exhibit 31?

9 A (WITNESS KELLY) Yes, I do.

10 Q Is that the list of audit observations that  
11 you determined from the transcript Mr. Lanpher asked  
12 about pertaining to storage and housekeeping?

13 A (WITNESS KELLY) Yes, it is.

14 Q Now, LILCO Exhibit 31 consists of five  
15 groups. What is the basis of those five groups?

16 A (WITNESS KELLY) That is the grouping that Mr.  
17 Lanpher chose during his cross-examination.

18 Q Does the list that is LILCO Exhibit 31 also  
19 include observations relating to storage that were not  
20 inquired into in the cross-examination but admitted into  
21 evidence?

22 A (WITNESS KELLY) Yes, that is correct. Those  
23 are noted.

24 Q What do you mean, they are noted? Would you  
25 point that out, please, sir?

1           A       (WITNESS KELLY) Well, the first time it shows  
2 up is on page 2. It was admitted into evidence, and  
3 note at the bottom the asterisk says "Admitted into  
4 evidence with Suffolk County Groups 1 and 4 but only  
5 discussed with Group 1. On page 5 the asterisk  
6 indicates, at the bottom, "Admitted into evidence but  
7 not dicussed," and similarly on page 6 and page 8 and  
8 page 9.

9                   [Counsel for LILCO conferring.]

10           MR. ELLIS: Judge Brenner, in part because of  
11 the pace of things, although we have handed these things  
12 out in advance, I don't know if Mr. Lanpher has had an  
13 opportunity to check these. And ordinarily in the best  
14 of circumstances we would have had them all checked and  
15 agreed upon, but I'm sure if there are any inaccuracies,  
16 he will let me know and let the Board know.

17           JUDGE BRENNER: Okay. I also don't want to  
18 get into a semantic dispute of what was inquired into,  
19 which was the phrase used in your question. We know  
20 what the record says about these items.

21           BY MR. ELLIS: (Resuming)

22           Q       Mr. Kelly, I note that the LILCO Exhibit 31  
23 contains subgroups within the groups that Mr. Lanpher  
24 used. Did you further subdivide his categories into  
25 subgroups?



1 A (WITNESS KELLY) Yes, we did.

2 Q On what basis did you further subdivide the  
3 categories?

4 A (WITNESS KELLY) By looking at the audit  
5 observations, even though in a lot of cases they are not  
6 related to one another, we tried to group them with some  
7 sort of similarity within his general grouping to give a  
8 better indication of or a better description of the  
9 storage history cards, what those Category 1 were within  
10 the groups. They aren't necessarily related to one  
11 another.

12 [Counsel for LILCO conferring.]

13 Q Well, the subgroup title, then, is a very  
14 general characterization of the observations within that  
15 subgroup?

16 A (WITNESS KELLY) Yes, very general.

17 Q All right, turn your attention, please, Mr.  
18 Kelly, to the first group and subgroup on LILCO Exhibit  
19 31 of storage history cards, which is entitled, just for  
20 the first group, "Equipment Storage History Cards." For  
21 each of the audit observations in all of the subgroups,  
22 under storage history cards was corrective action taken?

23 A (WITNESS KELLY) Yes, it was.

24 Q Can you generally characterize the kinds of  
25 corrective action taken in connection with the

1 observations under the storage history card group on  
2 LILCO Exhibit 31?

3 A (WITNESS KELLY) Yes. It ranges from such  
4 things as completing the storage history cards,  
5 performing investigations of any suspected damage,  
6 performing tests, and in one case it involved a  
7 situation where Construction reviewed every single  
8 storage history card.

9 Q Which particular instance was that, Mr. Kelly?

10 A (WITNESS KELLY) That was FQC 13, Finding D.7.

11 Q Mr. Kelly, this is to you or to Mr. Arrington  
12 or Mr. Musel? Any member of the panel. Did the  
13 audit observation -- well, let me ask this question, Mr.  
14 Arrington and Mr. Museler. Are you familiar with the  
15 audit observations that are in this category?

16 A (WITNESS MUSELER) Yes, we are, sir.

17 A (WITNESS ARRINGTON) Yes.

18 Q All right. Did the audit observations in the  
19 category of Storage History Cards, that is, all the  
20 subgroups on LILCO Exhibit 31 reflect or indicate, in  
21 your opinion, conditions that are significantly adverse  
22 to quality?

23 A (WITNESS KELLY) No, they do not.

24 Q And what is your basis for that answer, Mr.  
25 Kelly?

1           A       (WITNESS KELLY) These items -- specifically  
2 there was no damage or suspected damage. Also, there  
3 would have been further inspections to identify these  
4 findings further on down the line rather than just this  
5 audit process, and what we like to do is pick some  
6 specific examples from that grouping that further  
7 illustrate that. Specifically let's look at Field Audit  
8 238, Finding 4.3. That dealt with a pump not being  
9 meggered at the frequency specified by the  
10 specification.

11                   It turned out this was a case where it was  
12 being meggered at the frequency specified by the  
13 manufacturer's manual, and the storage history card was  
14 changed to reflect the manufacturer's requirements. The  
15 item was meggered, it was found to be satisfactory, and  
16 obviously this in no way is significant or could have in  
17 any way caused any damage to the item.

18                   Another one would be FQC Audit 15, Observation  
19 D.8. That finding dealt with a storage history card  
20 that indicated the right storage area but did not  
21 indicate the right bin within that storage area. That  
22 is insignificant. It was in the proper storage area or  
23 storage level. There was no indication that because it  
24 was in the different bin, that required inspections were  
25 not performed. If that was the case, it would have been

1 noted by the auditor. So in reality, there is  
2 absolutely no significance to that item whatsoever, and  
3 obviously no damage.

4 Another one to look at would be Field Audit  
5 443, Finding 4.4. That finding dealt with a storage  
6 history card that did not reflect the stored in place  
7 status of the HCUs. There was no indication in the  
8 audit that because of this, any of the required  
9 preventative maintenance or inspections were not  
10 performed. If that was the case and they had not been  
11 performed, it would have been indicated by the auditor.  
12 So here again is a case where absolutely no significance  
13 and all the required inspections and preventive  
14 maintenance had occurred.

15 Another one to look at would be Field Audit  
16 699, Finding 4.1. That dealt with a piece of equipment  
17 that was in Level C location instead of Level B. To  
18 remind you, Level C is indoor storage unheated, Level B  
19 is heated. In this case it dealt with refueling  
20 platform, main waste motor and the monohoist motor. As  
21 a result of this finding, the motors were meggered and  
22 the megger readings were acceptable, so there was  
23 obviously no damage.

24 Also I would like to point out, as part of the  
25 normal program, all motors when they are taken out of

1 storage are meggered, so even if this meggering had not  
2 occurred at this time, it would have been checked when  
3 it was taken out of storage. And like I say, that is a  
4 program required in every motor, and if there is any  
5 problem at that time, a nonconformance report would have  
6 been written and the item would not be used.

7           Also there is one other one I would like to  
8 discuss, Field Audit 1016, Finding 4.2. That indicated  
9 that storage history card actually erroneously stated  
10 that lubrication was required. This was the case where  
11 in fact the manufacturer did not require lubrication  
12 while in maintenance because the item was  
13 pre-lubricated, so therefore the storage history card  
14 was changed to reflect the manufacturer's requirements  
15 that it not necessarily be lubricated, and obviously  
16 there was no damage as a result of this, and I do not  
17 consider this finding significant either.

18           MR. ELLIS: Judge Brenner, I had intended to  
19 ask specific questions about the findings that Mr. Kelly  
20 has just referred to because they are referred to on  
21 Transcript pages 11,568 and 11,580 and 81 that were on  
22 the list of transcript pages I believe we gave -- and  
23 11,597 and 98, which we gave to the parties and to the  
24 Board. Those questions on those pages were directed to  
25 Mr. Museler and Mr. Kelly, so I won't refer to those

1 particular transcript pages. I will simply ask Mr.  
2 Kelly.

3 BY MR. ELLIS: (Resuming)

4 Q Mr. Kelly, have you given the reasons that you  
5 believe that the findings that are in that category with  
6 those representative examples are not significant  
7 conditions adverse to quality?

8 A (WITNESS KELLY) Yes.

9 [Counsel for LILCO conferring.]

10 MR. ELLIS: Judge Brenner, I propose to go to  
11 the second group now. There will be some summary  
12 questions at the end, but I will go to the second group  
13 now.

14 BY MR. ELLIS: (Resuming)

15 Q Mr. Kelly, the second group on LILCO Exhibit  
16 31 is entitled "Protection Against Weather." With  
17 respect to each of the audit observations contained in  
18 that second group, Protection Against Weather, and that  
19 is all of the subgroups, was corrective action taken?

20 A (WITNESS KELLY) Yes, it was.

21 Q Can you generally summarize the kinds of  
22 corrective action involved, giving examples as  
23 appropriate?

24 A (WITNESS KELLY) Yes. As far as the subgroups  
25 go, in cases where our corrective action would have been

1 to replace a piece of poly cover or a torn cover, place  
2 an item on iunnage, replace an end cap, fix a leaky  
3 roof, as far as drainage items would go, either adding  
4 additional gravel to the area or moving the item out of  
5 that area, storage conditions in that particular item  
6 dealt with some structural steel shapes that had some  
7 accumulation of water, the items were turned so the  
8 water could drain out and protective coating, some  
9 additional sandblasting and painting was performed on  
10 that. I think that covers that.

11 Q Mr. Kelly and Mr. Arrington or Mr. Museler or  
12 anybody on the panel, did the audit observations in the  
13 second group, Protection Against Weather on LILCO  
14 Exhibit 31 reflect, in your opinion, conditions or  
15 circumstances significantly adverse to quality?

16 A (WITNESS KELLY) They do not represent  
17 anything that is significantly adverse to quality.

18 Q Why not?

19 A (WITNESS KELLY) Again, there was a case of no  
20 damage occurred, no damage was suspected. Specifically  
21 I think I would address some of the findings that  
22 related to drainage, such as FQC 13, Item D.5, Field  
23 Audit 226, Item 4.14, FQC 40, Item 1.3, Field Audit 226,  
24 Item 4.3, and FQC 23, Item D.7.

25 MR. LANPHER: Judge Brenner, he is going to

1 have to go slower, I'm sorry.

2 WITNESS KELLY: That was FQC 13.

3 MR. LANPHER: I got the first two. At FQC 40  
4 I started losing you.

5 WITNESS KELLY: That is Item 1.3, Field Audit  
6 226. That is Item 4.4, FQC 23, Item D.7. These related  
7 to "drainage." We do not believe any of these are  
8 significant in each case. There was no damage to the  
9 item, equipment or materials noted, and it would have  
10 been noted by the auditor if that was the case. Also, I  
11 would like to point out we are talking about outdoor  
12 storage. You are going to get puddles when you have  
13 heavy rains. You are relying on soil percolation. So  
14 there are going to be occurrences that you cannot avoid  
15 having some puddles occasionally, but like I said, this  
16 is not detrimental to the equipment or materials at all  
17 as specified in these findings.

18 JUDGE BRENNER: You said there was no damage  
19 and you were speaking generally not just of the examples  
20 you gave but generally of the ones in this whole group.  
21 You meant no ultimate damage or no damage requiring any  
22 repair? And that is repair in the loose sense.

23 [Panel of witnesses conferring.]

24 WITNESS KELLY: In these cases there was no  
25 damage. We will be talking later on about some items



1 where some damage did occur, but in these cases there  
2 was no damage to the items.

3 JUDGE BRENNER: I want to make sure I  
4 understand your definition, so let me pick an example  
5 that I can understand better what you mean. Take a look  
6 at Field Audit 444, Item 4.4, which is a series of easy  
7 numbers for me to remember, and using that, explain what  
8 you mean by no damage and why that doesn't fall within  
9 such category. That is, Field Audit 444 is along with,  
10 I think, almost all the other field audits in Suffolk  
11 County Exhibit 66 for identification.

12 WITNESS KELLY: Okay. That dealt with  
13 structural steel. The consequence of that was the item  
14 was sand blasted and primed. I would like to point out  
15 that it is the policy for all structural steel items  
16 that come out of storage, regardless of their condition,  
17 that they are sand blasted and primed prior to  
18 installation into the building. So it is not  
19 significant in any way. That is normal policy.

20 JUDGE BRENNER: So your definition of no  
21 damage is that nothing different had to be done by way  
22 of repair or action other than what would have been done  
23 anyway.

24 WITNESS KELLY: That is correct.

25 JUDGE BRENNER: Because that item had

1 corrosion. I think the report said severe corrosion.

2 WITNESS KELLY: But like I said, the policy is  
3 any structural steel that comes out of storage is sand  
4 blasted and primed prior to going into the building, so  
5 basically it is business as usual.

6 JUDGE BRENNER: Now I understand better what  
7 you meant.

8 MR. ELLIS: Judge Brenner, it does say severe  
9 corrosion.

10 WITNESS MUSELER: Judge Brenner, I think in  
11 those types of situations if a piece of structural steel  
12 had reached the stage where corrosion was of such a  
13 nature that a normal program would not be able to  
14 correct it, that piece of structural steel would have  
15 been discarded. And in the normal course of building a  
16 plant, because of the length involved and the amount of  
17 time, some items were stored in outdoor storage,  
18 structural steel items, irrespective of this kind of a  
19 finding, just storing something properly on dunnage for  
20 many years. We have had to scrap some pieces of steel.  
21 But as part of this type of a finding, that was not the  
22 case, and that can be the case even in the normal course  
23 of business if we go as long as Shoreham has.

24 JUDGE BRENNER: I take it you are telling me  
25 that this is the type of heavy structural steel item

1 that is normally stored outdoors and that is why you  
2 have these normal programs to check corrosion and sand  
3 blast and prime or reject.

4 WITNESS MUSELER: Yes, sir, that is correct.

5 JUDGE BRENNER: Okay.

6 [Counsel for LILCO conferring.]

7 BY MR. ELLIS: (Resuming)

8 Q Do you have any other examples, Mr. Kelly, or  
9 had you completed your answer on giving examples of no  
10 condition significantly adverse to quality in that group.

11 A (WITNESS KELLY) That was all I intended to  
12 discuss.

13 MR. ELLIS: Judge Brenner, I propose now to  
14 move to the covers and caps, Group 3 area.

15 BY MR. ELLIS: (Resuming)

16 Q Mr. Kelly, with respect to all of the audit  
17 observations in this third group in LILCO Exhibit 31,  
18 that is, including all of the subgroups, was corrective  
19 action taken?

20 A (WITNESS KELLY) Yes, sir, in every case.

21 Q Can you characterize generally the kinds of  
22 corrective action involved, giving examples if  
23 appropriate?

24 A (WITNESS KELLY) Okay. Specifically, the end  
25 caps, the corrective action would have been to replace

1 end caps. When this subgroup is covers, that would be  
2 obviously to replace the cover, whether it be missing or  
3 be torn, and the third category is damage, and either  
4 the items would have been discarded or repaired as part  
5 of our normal program. And the fourth item is  
6 "Miscellaneous," which in our opinion doesn't fit in in  
7 any way.

8 Q Well, taking the first two categories -- the  
9 third one is entitled "Damage" -- just taking the first  
10 two categories, did the audit observations in the first  
11 two subgroups of the third group entitled "Covers and  
12 Caps" in LILCO Exhibit 31 constitute a condition  
13 significantly adverse to quality?

14 A (WITNESS KELLY) No, sir.

15 Q Would you tell us why not and give examples,  
16 if you would, please, sir?

17 A (WITNESS KELLY) We are talking about cases  
18 here where damage was not sustained. I think we can  
19 best describe or characterize these by discussing Field  
20 Audit 601, which are Findings 4.1, 4.2, 4.3. Finding  
21 4.1 dealt with two valves that didn't have end caps. All  
22 of the items dealt with valves that did not have end  
23 caps. A total of five valves were discussed.

24 I would like to point out what happens with  
25 valves when they are taken out of the warehouse and the

1 significance of the cap not being there. First, if it is  
2 a valve that is going to be welded in, there is a  
3 required quality inspection that the ends of the pipe,  
4 the weld preps be inspected. That is a quality  
5 requirement for every single one. It is also a quality  
6 requirement that a cleanliness inspection of the valve  
7 be performed at that time. So anything that might have  
8 occurred as far as that cap not being there would have  
9 been discovered and rectified if that was the case.

10 Q Mr. Kelly, let me interrupt you a minute.  
11 What you have just described, would that be done whether  
12 or not the caps were on?

13 A (WITNESS KELLY) That is correct.

14 Q Go ahead, please.

15 A (WITNESS KELLY) In the case of a valve that  
16 was a flange connection, similarly there is a quality  
17 requirement inspection that must be performed to inspect  
18 the face of the flange that is done in every case.  
19 Similarly, it would also be required to verify the  
20 cleanliness of the valve. In addition, I think we could  
21 further categorize as far as pipes would go. Similarly  
22 if it was a pipe spool to be welded in, it is a quality  
23 requirement that the end prep be inspected by a quality  
24 personnel before it is welded up. It would be flange  
25 connection.

1           Similarly, there is a requirement to inspect  
2 the flange surface. Also in addition to that, during a  
3 startup we have our flushing activities that would  
4 ensure proper cleanliness of any material that might  
5 have gotten into the system somehow. So there is no  
6 ultimate significance to these.

7           MR. ELLIS: Judge Brenner, those were  
8 discussed at Transcript 11,041, for the convenience of  
9 the Board.

10           BY MR. ELLIS: (Resuming)

11           Q     Mr. Museler, do you have Transcript 11,753  
12 before you?

13           A     (WITNESS MUSELER) Yes, sir.

14           Q     You indicated to Mr. Lanpher there that the  
15 estimated population of end caps on the site was over  
16 50,000, and you sought an opportunity to discuss the  
17 significance of the audit observation there. Can you  
18 now explain your views concerning the significance, if  
19 any, of the audit observations involved?

20           A     (WITNESS MUSELER) Yes, sir. The purpose of  
21 the end caps is to provide for cleanliness and, to the  
22 extent possible, for welded-in components to protect the  
23 end preps. The mere absence of an end cap in and of  
24 itself has no significance and causes no additional  
25 rework. If an end cap is missing on a component that is

1 welded in, the end prep is inspected, as Mr. Kelly  
2 described. It is also cleaned, wire brushed or ground,  
3 depending upon the end prep, no matter whether the end  
4 cap was on or not and no matter whether some oxidation  
5 of that end prep had occurred. The reason for that is  
6 that even with the cap in place, some oxidation occurs  
7 and it has to be cleaned off in any case.

8           So, as Mr. Kelly described for the structural  
9 steel, the normal program for handling the components  
10 does the same thing whether or not the end caps are  
11 there or not. In addition to that, for the piping  
12 systems we have since the inception of the major piping  
13 work on Shoreham included in every weld inspection  
14 package a requirement that the pipes, in addition to the  
15 end prep procedure, which is standard with that, that  
16 the pipes be examined before they are brought together  
17 for fit up. So that any contracted employees are to  
18 check to make sure there is nothing in that pipe that  
19 might have gotten in there one way or another if an end  
20 cap happened to be missing. And the other features I  
21 believe Mr. Kelly properly described.

22           Secondly, caps on things such as instrument  
23 lines and instruments are there to provide cleanliness.  
24 The cleanliness checks are made whether or not the caps  
25 are there, and the caps are periodically removed in

1 order to work on the equipment to attach the instrument  
2 lines or to attach the instruments themselves to various  
3 portions of the systems. So that a number of these  
4 observations cover missing caps on instruments and  
5 instrument lines.

6           On in-process work the requirement is that the  
7 caps be replaced when we are not working on those  
8 systems, so to that extent we did not meet the  
9 procedural requirements. However, in terms of what that  
10 meant to the quality of the systems, it didn't degrade  
11 the quality of the systems at all, and I just wanted to  
12 clarify that because we have a large number of end caps  
13 on any device that is not attached, and I wanted to  
14 discuss the significance of that and also to note that  
15 despite the audit findings which show that there are not  
16 inconsequential number of missing end caps, comparing  
17 that to the total number of end caps that are employed  
18 on the job, I think what we are seeing here is just the  
19 normal construction activities and how they affect this  
20 type of temporary protective covering.

21           Q     Mr. Kelly, the last subgroup in Group 3 of  
22 LILCO Exhibit 31 is entitled "Damage." Were these  
23 instances in which the equipment involved sustained  
24 actual damage?

25           A     (WITNESS KELLY) Yes, that is the case.



1 However, it is not because of missing caps or end  
2 covers; it was due to other causes.

3 Q How do you know that?

4 A (WITNESS KELLY) By the nature of the damage.  
5 They couldn't be prevented by having the covers or end  
6 caps.

7 Q Give me an example if you would, please, Mr.  
8 Kelly.

9 A (WITNESS KELLY) Sure. FQC 24, Item D.5 talks  
10 about a limit switch that was damaged on a valve.  
11 Considering the way that was described, all of the poly  
12 in the world would not have prevented that from  
13 occurring.

14 A (WITNESS MUSELER) I would like to add to that  
15 that we do, outside of the requirements, do cover items  
16 with polyethylene for overall cleanliness purposes and  
17 not as part of the items that we are auditing, but we do  
18 go to some length to protect equipment from the type of  
19 damage that this particular valve switch sustained. I  
20 believe we may have mentioned previously that our  
21 instrument panels in the reactor building have plywood  
22 houses built around them in order to protect them.  
23 Individual instruments throughout the plant have  
24 temporary plywood and plexiglass protective housings  
25 built around them.

1           In the control room area, specifically the  
2 relay room area, we have built rather substantial  
3 protective houses around various panels that are in high  
4 traffic areas in order to prevent them from this type of  
5 damage. The type of damage we are seeing in the audit  
6 findings which identify the damage is damage from  
7 accidents that occurred during the construction  
8 process. We don't know what those specific items are,  
9 but they are the type of thing that occurs when people  
10 are either moving manually or with a crane a large piece  
11 of pipe or large component and it swings and hits  
12 another component. That is how these items were  
13 damaged, because the type of damage that was sustained  
14 here was not something in the nature of a small object  
15 falling, or certainly not from dirt.

16           The damage in these cases, we believe, is  
17 caused by things that happen during the construction  
18 process, and as much as we would like to prevent that  
19 from happening, I don't think it is reasonable to expect  
20 that we won't have some of that kind of damage  
21 throughout the construction of this plant.

22           JUDGE CARPENTER: Mr. Museler, if I may ask,  
23 why don't such occasions of damage get reported promptly  
24 when the damage occurs rather than sitting there waiting  
25 for an auditor to find them?

1                   WITNESS MUSELER: Sir, some do, when it is  
2 noticed. Certainly when it is noticed by one of our  
3 supervisory personnel, it is reported, and that occurs  
4 quite frequently. I suspect that if a craftsman is  
5 involved and he accidentally damages something, he is much  
6 less likely to identify it to us, but when it is  
7 noticed, in the main and including a number of instances  
8 by craftsman, the damage is reported. It doesn't wait  
9 for these audits to be identified. In these cases it  
10 apparently did because it wasn't noticed, but typically  
11 we find out about damage due to accidents from our field  
12 personnel.

13                   WITNESS ABRINGTON: Judge Carpenter, we also  
14 note damage during our routine inspections on these  
15 items, either the fit-up inspection or the in-process  
16 inspection hold points. They are noted by both  
17 Construction and the Field Quality Control Departments.  
18 So we don't just rely on the auditing process to  
19 identify these things. These were picked up by the  
20 auditors. But I feel that it is safe to say that they  
21 would have been picked up by the construction or the  
22 inspection program as well. The damage may have  
23 happened just before the auditor got there. I am not  
24 saying in these cases that is the case, but we do note  
25 damage when we do detect it during the inspection

1 process as well as the construction inspections.

2 JUDGE CARPENTER: Is it part of the program  
3 that it is the auditor's responsibility to look into  
4 reasons that these damage conditions exist at the time  
5 of the audit in the sense of who failed to report it,  
6 not the damaged equipment, but the failure to report?

7 WITNESS ARRINGTON: I don't think that anyone  
8 on the site in these particular cases had failed to  
9 report it. I don't think that they had detected it at  
10 that point other than a particular case where craftsmen  
11 may damage it and it is up to that individual to report  
12 it to his supervisor, make it known to the other  
13 responsible individuals in that particular area.

14 We do have occasions where craft personnel  
15 will come to our inspectors and indicate that there is  
16 some physical damage to a component, but what I am  
17 trying to get across is that we look for these things  
18 every time we go to these components to make sure that  
19 there is no damage. Some of these can be very obvious,  
20 and some of the items are very small. Some of the  
21 switches are very small in nature. But we specifically  
22 look for physical damage as well as cleanliness and  
23 other attributes at these various inspection points.

24 I don't think it is a matter that somebody  
25 failed to identify it other than the fact that someone

1 hid it and that person failed to identify it, but I  
2 don't think that the craftspersons are always going to  
3 come to you and tell you that they damaged it. The  
4 obvious question is "How did you do that?" or "Why were  
5 you in that area?" or something of that nature. But we  
6 look for it. We have programs designed to detect that.  
7 We don't rely upon the auditing process to do that.

8           But when you are talking about the magnitude  
9 of the equipment that we have on the site, you could go  
10 out, I think, on any particular day if you look enough  
11 you are going to find that someone has scratched a panel  
12 or there has been a dent or a gauge has been hit with a  
13 piece of pipe or something, but we look for it through  
14 the routine inspections, we look for it when we turn the  
15 system over.

16           It is also looked for the startup organization  
17 when they take possession of these components. We walk  
18 the systems down many, many times after they have been  
19 construction complete, and we do find damage after we  
20 have performed inspections. But that is the purpose of  
21 doing the final system inspection, is to make sure that  
22 you note all of the components that are required in the  
23 system and the condition of those components as well.

24           JUDGE CARPENTER: I am not sure I heard an  
25 answer to my question, but let's go on.

1 BY MR. ELLIS: (Resuming)

2 Q Mr. Arrington, I'm not sure, let me see if I  
3 can pursue what Judge Carpenter wanted. Do you hold any  
4 kind of investigation to identify persons who fail to  
5 report? Is that the question, Judge Carpenter?

6 JUDGE CARPENTER: Mr. Arrington, I was trying  
7 to get some feel for the feedback, not just the auditing  
8 process, but the consequences of the auditing process in  
9 the terms of reducing the frequency of having unreported  
10 damage. I am trying to get a feel for the program, not  
11 the specific items.

12 [Panel of witnesses conferring.]

13 WITNESS MUSELER: Judge Carpenter, we don't  
14 programmatically investigate every instance where there  
15 is damage. However, we do and have on a number of  
16 occasions when damage has occurred conducted what might  
17 be called an investigation of that particular incident  
18 to try to determine what happened and who is involved in  
19 it. That takes the form of checking time cards and  
20 manpower distribution in the area where the incident  
21 occurred if we can tie it down to reasonably close to a  
22 time frame, a day or perhaps sometimes a week, depending  
23 upon the area, and we have looked into that to try to  
24 find out what happened and who was responsible, which  
25 was our other aim.

1 I can't recall specific instances over the  
2 years. I do know that we did on a few instances  
3 determine what happened and who was responsible, and in  
4 a few cases I believe we took disciplinary action  
5 against some contractor personnel. This was not a large  
6 number of cases. As you can imagine, trying to find out  
7 who bumped into something with a 2 by 4 in the plant at  
8 some point in time is a difficult process, but we have  
9 done that on occasion and we continue to do it where it  
10 appears to be productive. We don't do it as a matter of  
11 program for every single damage incident.

12 JUDGE CARPENTER: I think you are telling me  
13 that the mechanism exists and it isn't exercised very  
14 frequently.

15 WITNESS MUSELER: That is correct, sir.

16 JUDGE CARPENTER: Thank you.

17 BY MR. ELLIS: (Resuming)

18 Q Does the practicality of trying to find who  
19 may have damaged something and didn't admit it enter  
20 into whether one tries to engage in such an  
21 investigation, given the magnitude of what you have on  
22 the job and the people on the job?

23 A (WITNESS MUSELER) Yes, Mr. Ellis, it  
24 certainly does. I mean there are some large areas of  
25 the plant which are high traffic areas where it is

1 virtually impossible to determine who might have been in  
2 that area at any point in time, and in those cases as a  
3 practical matter there is nothing to be gained from  
4 trying this approach there. In isolated rooms or in  
5 work areas where it can be isolated by shifts, we do  
6 have the possibility on occasion when it appears prudent  
7 and we do attempt to try to find out what occurred.

8 Q Mr. Kelly, with respect to the subcategory in  
9 LILCO Exhibit 31 entitled "Damage," do you or Mr.  
10 Arrington or Mr. Museler consider in your opinion that  
11 those are conditions significantly adverse to quality?

12 A (WITNESS MUSELER) We don't consider that the  
13 findings in the audit observations with regard to the  
14 covering were significant to quality. We certainly  
15 believe that the damage was adverse to the quality of  
16 the equipment that was damaged. We would just like to  
17 point out that that is not indicative of the storage  
18 program. The storage program would not have prevented  
19 the kind of damage that we have noted in these cases, so  
20 that certainly we are concerned about the damage, and I  
21 believe that is what we were just discussing.

22 But in the context of the storage program, I  
23 don't believe that the storage program aspects of these  
24 audit observations did have any detrimental effect on  
25 the quality of the plant. Certainly the fact that the



1 equipment was damaged is of concern, but that is not  
2 because there wasn't a poly cover over a given piece of  
3 equipment.

- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

1 Q Given the multiple inspections that you  
2 testified to and you, Mr. Arrington, as well, do you  
3 consider that the conditions are significantly adverse  
4 to the quality of the plant as built -- what is  
5 installed in the plant?

6 A (WITNESS KELLY) No, we don't, because  
7 subsequent inspections would have identified this  
8 damage, including normal inspections performed by  
9 quality personnel and the ongoing testing and functional  
10 testing performed by the startup organization. And it  
11 just could not have slipped through the cracks, let me  
12 put it that way.

13 MR. ELLIS: Judge Brenner, we propose now to  
14 go to the fourth group, the group entitled  
15 "Environmental Protection".

16 JUDGE BRENNER: I have some questions.  
17 Gentlemen, your testimony on the subcategory of damage  
18 implies that the audit findings are that there is a poly  
19 cover missing and, therefore, the damage noted in each  
20 particular instance is there or, in some cases, the  
21 missing items noted is there, and with the exception of  
22 Field Audit 1086, Observation 4.1, where there is some  
23 mention of poly, although the connection isn't drawn, I  
24 just don't see it.

25 So I don't understand why you are setting this

1 up as if we are just talking about poly covering and  
2 then pointing out there is no connection. I guess what  
3 I am really asking is, first, if you agree with me on  
4 that and, secondly, why this category appears within the  
5 group of covers and caps for material and equipment.

6 WITNESS KELLY: I would like to address that.  
7 As I said, the grouping was Mr. Lanpher's grouping.  
8 That was his going, not ours. Our characterization of  
9 what was in the groups and subgroups within that group  
10 was ours.

11 I don't know why it is there either. You are  
12 right, as far as I think we have pointed out on the case  
13 where the FQC Audit 24, the limits to which being  
14 damaged, as I said, all the poly in the world would not  
15 have prevented that.

16 JUDGE BRENNER: All right.

17 And Field Audit 425 and 470, you will recall,  
18 are the ones where the cardboard piled up. 740 is the  
19 debris on the conduits -- Field Audit 740. Field Audit  
20 1086 is the only one where poly is mentioned, but the  
21 air filter and the gauge is missing. I won't go into an  
22 extensive discussion with you as to whether the poly  
23 might have protected that or not, but you get my point.

24 WITNESS MUSELER: Yes, Judge Brenner. We  
25 didn't mean to imply that all of these findings were

1 matters where polyethylene covers were involved, nor was  
2 that the only consideration of the storage program.

3           What we did mean to imply is that the aspects  
4 covered by the storage program don't include all  
5 possible items or all possible events that could happen  
6 to the equipment. Those events are part of the  
7 construction process. So all we are trying to point out  
8 is that the storage program, as it is implemented in the  
9 requirements of the storage program, that the audit  
10 observations relative to those requirements did not have  
11 an effect on the quality of the equipment.

12           Certainly the overall process of building the  
13 plant and not damaging the equipment did not preclude  
14 damage to this equipment along the way, and that is the  
15 context we are trying to discuss those items in.

16           JUDGE BRENNER: I understand that perspective  
17 better now. Coming at it from the other direction,  
18 though, I would like to come at it from the other  
19 direction with one example in that group. Field Audit  
20 740, Observation 4.2 involves corrosion on electrical  
21 terminations and I guess the panel, the electrical  
22 panel, involved.

23           Why do you say that that has nothing to do  
24 with inadequate coverage for that equipment?

25           (Witnesses conferring.)

1 JUDGE BRENNER: Again, that is one of the  
2 field audits within Suffolk County Exhibit 66.

3 (Witnesses conferring.)

4 WITNESS MUSELER: Judge Brenner, that item was  
5 stored in place in the building and we don't know the  
6 source of the corrosion. That box, that panel box,  
7 would not have been covered. I mean, it is not required  
8 in the storage program for that item because it is in  
9 its final location and apparently was hooked up because  
10 they noted corrosion on the terminations within it also,  
11 so that box wouldn't have been covered.

12 The source of the corrosion I can only  
13 speculate on, and it might have been, since we perform  
14 hydrostatic tests in almost all areas of the plant, it  
15 may have gotten some water spilled onto it that got into  
16 it. But it, I believe, falls in the category I was  
17 describing as it is something that happened during the  
18 construction process. We would not have had a poly  
19 cover on that item.

20 The storage history program, as I understand  
21 it, an electrical junction box attached to a piece of  
22 equipment standing by itself would not be covered when  
23 it is stored in place and when it is hooked up. I  
24 believe it falls into the latter category I discussed,  
25 although it certainly did exhibit corrosion on the

1 inside during the stored-in-place phase.

2 JUDGE BRENNER: In part of your answer you  
3 said broadly that equipment stored in place was not  
4 covered. That was not my understanding.

5 WITNESS MUSELER: No, sir. I am sorry if I  
6 gave you the wrong impression. This particular type of  
7 component, a junction box type of component, electrical  
8 junction box type of component, would not be covered.  
9 An electrical panel would normally be covered during the  
10 stored-in-place phase.

11 JUDGE BRENNER: Okay. Thank you.

12 BY MR. ELLIS: (Resuming)

13 Q Mr. Kelly, turning your attention to the  
14 fourth group in LILCO Exhibit 31, entitled  
15 "Environmental Protection," with respect to all of the  
16 audit observations in that group and all of the  
17 subgroups, was corrective action taken in each  
18 instance?

19 JUDGE BRENNER: You are skipping  
20 "miscellaneous" on purpose, I take it.

21 MR. ELLIS: Yes, sir. I think it was  
22 discussed in the transcript.

23 JUDGE BRENNER: Okay, fine.

24 WITNESS KELLY: Yes, corrective action was  
25 taken in each case.

1 BY MR. ELLIS: (Resuming)

2 Q Can you characterize generally the kinds of  
3 corrective action taken, giving examples if  
4 appropriate?

5 A (WITNESS KELLY) Yes. That group is divided  
6 into subgroups -- internal heaters and storage levels.  
7 In the case of internal heaters, typically it would be  
8 the reenergization of the storage of the heater. The  
9 internal heater storage level would be putting it in in  
10 the item in the proper storage level.

11 We found that in these cases no damage to the  
12 equipment was sustained. We did not consider these  
13 items significantly adverse to quality. We discussed  
14 specifically internal heaters, Item 1301. That was the  
15 case where one of my auditors had a question in his mind  
16 regarding excessive heat being applied to the item, and  
17 that was reported so we could have an evaluation  
18 performed, and that was found to be satisfactory.

19 In fact, in the area of heaters, internal  
20 heaters, I would like to -- that was looked at by the  
21 NRC during their normal inspection program, and I would  
22 like to quote out of NRC Inspection 7916. It is Item,  
23 in that report, 4F, page six, regarding heaters. I  
24 quote: "The inspector noted that the Licensee appeared  
25 to have a very effective program for maintaining

1 temporary heat on electric motors and generators, which  
2 included daily surveillance checks of each component."

3           So this was an item that was looked at by the  
4 NRC and we have, over the years, placed a lot of  
5 emphasis on trying to keep the program as effective as  
6 humanly possible.

7           A       (WITNESS MUSELER) I think it does need to be  
8 said that what we are looking at here is audit findings  
9 during the periodic auditing of the process by Mr.  
10 Kelly's organization. But, as he just quoted from the  
11 NRC IGE report, the program for these types of items,  
12 specifically for heaters on equipment, is a program that  
13 is maintained by the construction department and,  
14 depending upon the stage of the job and the conditions  
15 we are in, that is always performed on an ongoing basis  
16 so that the heaters don't just get checked.

17           I guess the point I am trying to make is that  
18 the heaters don't just get checked when Mr. Kelly's  
19 organization audits these. They all get checked on a  
20 regular basis and at one time we were doing that on a  
21 daily basis, at one time in the construction process.  
22 So that heaters occasionally will malfunction and  
23 occasionally will get unplugged, but they are all looked  
24 at on a periodic basis as part of the contractor's  
25 responsibility to keep those devices energized.



1 Q Mr. Kelly and Mr. Museler, do the audit  
2 observations in this category -- Group 4, Environmental  
3 Protection on LILCO Exhibit 31 -- reflect, in your view,  
4 conditions significantly adverse to quality?

5 A (WITNESS KELLY) No, they do not.

6 Q Can you tell us why, and I think you have  
7 given a number of reasons in the testimony up until now,  
8 but go ahead and summarize, if you will, please, your  
9 reasons for your opinion?

10 A (WITNESS KELLY) The basic reason is that in  
11 all cases no damage was sustained by the equipment and,  
12 like I said before, Mr. Museler pointed out this  
13 equipment is not -- the inspection program for this  
14 equipment is not my audit program. There is an  
15 extensive inspection and surveillance program that is  
16 performed, and this indicates that in these particular  
17 cases, this particular instance, the heater was not  
18 turned on and no one categorized that that was the  
19 condition for any great length of time.

20 And, as I said, in all cases there was no  
21 damage.

22 A (WITNESS MUSELER) The other aspect I would  
23 like to add is that these -- when any of these  
24 conditions appear to have a potential impact on quality,  
25 the condition is referred to -- the condition is

1 referred to the engineering department for resolution.  
2 That happened in a number of cases that we have  
3 discussed previously during cross examination and I  
4 believe one example here today, when heat was not  
5 applied to a particular motor.

6           It was determined that the motor would be  
7 inspected, meggered, at that time to ensure that it was  
8 okay at that point in time, and then placed in proper  
9 storage and maintained in that condition.

10           There are a number of instances in these audit  
11 findings which exhibit that occurrence. That is,  
12 additional evaluations were made, not just the heaters  
13 turned back on. In some cases, it was determined that  
14 all that was needed was to put the heaters back on and  
15 those were not referred to the engineering department.

16           Further, Mr. Kelly has explained that all  
17 motors, which are a large subject of heaters, are  
18 meggered before they are released to the field for  
19 installation. Electrical panels undergo what is called  
20 a PIV inspection or preinstallation verification before  
21 they are released to the field. So they would be looked  
22 at prior to installation.

23           I think those things, taken collectively, in  
24 our judgment indicate that these findings have not had  
25 an adverse effect on the quality of the plant. We don't

1 mean to indicate that something could not happen if heat  
2 wasn't kept on a motor for an extended period of time.  
3 That might have an adverse effect on the quality of that  
4 particular motor, but even in that case were that kind  
5 of case discovered it would be referred to engineering  
6 for resolution and resolution of that type of situation  
7 would typically be an inspection of that motor and a  
8 remeggering and inspection of the bearings to be sure  
9 that there was no damage to it.

10 Q Mr. Museler, even if the heater were left off  
11 and it was undetected on that motor, wouldn't that same  
12 inspection that you just described be conducted at the  
13 PIV or the release time from storage?

14 A (WITNESS MUSELER) Yes, it would. As I  
15 mentioned, they are all meggered before they are  
16 released and, as a matter of fact, they are meggered  
17 again at the time of final construction completion  
18 before they are terminated, before the cables are  
19 terminated to those motors. And, depending upon the  
20 component and depending upon the system, but in many  
21 cases, that particular event has to be witnessed by the  
22 startup organization for them to accept that particular  
23 motorized piece of equipment.

24 Q Mr. Kelly and Mr. Museler and Mr. Arrington,  
25 do you attach any significance to the number of audit

1 observations in any group or subgroup that we have  
2 discussed in LILCO Exhibit 31 or in any, whether we have  
3 discussed it or not? Let me repeat my question so it is  
4 clear for the record.

5 Do you attach any significance to the number  
6 of observations contained in any group or subgroup of  
7 LILCO Exhibit 31?

8 JUDGE BRENNER: Including any you may not have  
9 gotten to yet?

10 MR. ELLIS: Yes, sir, and do not intend to.

11 WITNESS MUSELER: No, sir, we do not attach  
12 any significance relative to the quality of the plant to  
13 the number of findings for two reasons.

14 First, we don't believe that the number of  
15 findings is excessive, given the large number of  
16 components in this plant and the length of time over  
17 which the construction process has proceeded. Secondly,  
18 the substance of these findings don't indicate that we  
19 have had an adverse effect on the actual hardware  
20 involved, with the exception of those items that were  
21 damaged.

22 We believe that those items that did sustain  
23 damage sustained damage as part of the construction  
24 process in building the plant, and we do concern  
25 ourselves with trying to minimize that damage. But in

1 terms of the number of findings that we have been  
2 discussing here, we don't think the number is excessive,  
3 given the size of this plant and the programs in place.

4           We think our programs are effective and have  
5 ensured that the integrity of the plant is maintained  
6 despite these findings. We think the substance of the  
7 findings bears that out and we think that those  
8 instances we have discussed that have hardware  
9 implications are not due to the failure of the storage  
10 program on the site but due to what I would characterize  
11 as expected construction occurrences when you are  
12 building a power plant of this size.

13           BY MR. ELLIS: (Resuming)

14           Q     Mr. Kelly, on transcript page 10,840 you were  
15 asked through a series of questions to describe the  
16 surveillance program by LILCO in QA, and on 10,844, as  
17 part of one of your answers, you stated that extremely  
18 positive results had been obtained in that program.

19                     Could you give us your basis, please, for  
20 describing the results of that program in that fashion?

21           A     (WITNESS KELLY) Yes. In addition to the  
22 surveillances that we discussed regarding the storage of  
23 electrical, mechanical and instrumentation, the  
24 surveillance program also covers electrical cable  
25 installation, electrical terminations, weld material

1 control, welding performance, pressure testing, weld  
2 procedure and welder qualification.

3 In these surveillance in total, including the  
4 storage, approximately 9,500 attributes have been looked  
5 at, with only 160 unsatisfactory conditions identified.  
6 We discussed in the storage approximately 2,500  
7 attributes were looked at during this program in the  
8 storage are of that 9,500.

9 In that, 108 unsats were found and we  
10 discussed those. That means that only 52 unsats were  
11 identified in verifying the other 7,000 attributes. The  
12 significance of that is that in 6,948 times out of  
13 approximately 7,000 we found the condition to be  
14 satisfactory and I think that is a pretty good record.

15 Again, we say numbers. The positive thing  
16 that can be said about the numbers is that they will be  
17 verified. That large number was verified as  
18 satisfactory. As far as the small number, the 52  
19 unsats, you have to look at the significance of those.  
20 In these cases we do not feel the significance was  
21 great, but it does bear out the fact that an extremely  
22 large number of attributes were verified as satisfactory  
23 under this program.

24 Q Mr. Kelly or Mr. Museler or Mr. Arrington, do  
25 the audit observations that are listed in all categories

1 in LILCO Exhibit 31 constitute or indicate, in your  
2 opinion, any violations of any criteria of Appendix B?

3 A (WITNESS KELLY) No, they do not.

4 Q Why not?

5 A (WITNESS KELLY) I would like to look at a  
6 couple of the criteria. Specifically, Criteria 13,  
7 which is handling, storage and shipping, states  
8 "measures shall be established to control the handling,  
9 storage, shipping, cleaning and preservation of  
10 materials and equipment in accordance with work and  
11 inspection instructions to prevent damage or  
12 deterioration."

13 We have those measures in place and  
14 established as the criteria requires. We have an  
15 extensive inspection, surveillance and audit program to  
16 ensure that is implemented, and we feel that we totally  
17 comply with that criteria.

18 As far as Criteria 16, corrective action, it  
19 says "measures shall be established to assure that  
20 conditions adverse to quality, such as failures,  
21 malfunctions, deficiencies, deviations, defective  
22 material in equipment and non-conformance are promptly  
23 identified and corrected."

24 We have those measures established and that  
25 program is functional and working. It says, in

1 addition, that significant conditions adverse to  
2 quality, that measure shall assure that the cause of the  
3 condition is determined, corrective action taken to  
4 preclude repetition. The key word there is "significant  
5 conditions."

6           Weather conditions have been significant.  
7 That investigation has been performed. So we feel we  
8 meet totally that criteria.

9           In addition, Criterion 18 on audits states a  
10 comprehensive system of planned periodic audits shall be  
11 carried out to verify compliance with all aspects of the  
12 quality program to determine the effectiveness of the  
13 program. We believe we have an extremely comprehensive  
14 system of audits, I think, which has been demonstrated  
15 during these hearings.

16           In fact, I would venture to guess that I would  
17 try to defy anybody to try to find a utility that  
18 probably does any more auditing than we do. We have a  
19 very extensive audit program. I think you will find it  
20 very rare that you would see hundreds of audits by a  
21 utility just in the area of storage alone. We have put  
22 a lot of emphasis in our audit program in this area and  
23 in all areas, and we feel we meet this criteria  
24 totally.

25           MR. ELLIS: Judge Brenner, I would propose



1 now, if I can give you a status report of where I am, I  
2 indicated to the Board and to Mr. Lanpher that I would  
3 do my utmost to finish by lunch. I still think I can,  
4 if we have some stamina. I am at point 4.

5 JUDGE BRENNER: Well, sure. I could finish by  
6 lunch if we have lunch next Thursday.

7 (Laughter.)

8 JUDGE BRENNER: We are going to break pretty  
9 close to 12:15. That doesn't mean you have to stop, but  
10 you tell us how much you have left.

11 MR. ELLIS: Yes. Let me tell you where I am  
12 and what my estimate is so the Board can decide how it  
13 wishes to proceed. On the supplementary redirect plan  
14 that we submitted to the Board and the parties, we are  
15 now completed with number three and about to go to part  
16 four, which is quite short. It is miscellaneous  
17 matters.

18 And then the final matter, part five, we  
19 estimate is approximately thirty minutes.

20 JUDGE BRENNER: I'm sorry. How long did you  
21 say miscellaneous would be?

22 MR. ELLIS: Miscellaneous, in my judgment, is  
23 ten minutes.

24 JUDGE BRENNER: Why don't we do miscellaneous  
25 and then, assuming that that finishes close to 12:15,

1 break at that point and then come back and you can  
2 finish up.

3 MR. ELLIS: Yes, sir.

4 JUDGE BRENNER: The Board has probably not  
5 more than a half hour in terms of everyone's time for  
6 questions. We have tried to ask our questions along  
7 this lengthy topic because we didn't want to have the  
8 same burden that the parties have, sometimes, of having  
9 to save them all up.

10 Mr. Lanpher, do you have an idea of whether  
11 you might finish today?

12 MR. ELLIS: It would be helpful, because I  
13 will need to get Mr. Youngling back down from New York.

14 MR. LANPHER: I will give you a good idea  
15 after the lunch break. It would be of assistance to  
16 have a bit of additional time either at lunch or just  
17 prior to starting recross to be able to gather things  
18 together, maybe if we are almost done before lunch, a  
19 bit of time there to just try to organize it so that I  
20 may be able to finish today. I am not sure.

21 JUDGE BRENNER: I don't want to break for more  
22 than an hour and a half for lunch. You may have noticed  
23 that in my judgment that is additional time. We have  
24 lengthened the lunch break because it has been -- this  
25 has happened to us and it has been our observation it

1 has happened to the parties. We have always been rushed  
2 because we have all had things to do besides eat during  
3 lunch.

4 So I consider the hour and a half to include  
5 additional time, and I don't want to break for more than  
6 that. Let's see what the situation is when your time  
7 comes up after that. Maybe we can give you a little  
8 time then.

9 Give me one moment, please.

10 (Board conferring.)

11 JUDGE BRENNER: All right. Judge Carpenter  
12 wants you to know that he has questions about Suffolk  
13 County Exhibit 63, which are those quarterly reports, so  
14 if Mr. Gerecke or whoever else is involved wants to put  
15 them next to them over lunch so as to absorb their  
16 contents, he can do that.

17 BY MR. ELLIS: (Resuming)

18 Q Mr. Museler, throughout cross examination but,  
19 I think, particularly early on in Mr. Lanpher's cross  
20 examination, there were a number of questions and  
21 answers regarding safety or non-safety-related  
22 activities inspected by QA organizations at Shoreham.

23 Could you or Mr. Arrington or Mr. Museler give  
24 some examples of non-safety-related activities inspected  
25 by QA or other organizations at Shoreham?

1           A       (WITNESS MUSELER) Yes, sir. These are  
2 examples of non-safety-related equipment or material or  
3 structures which are inspected by various quality  
4 organizations. I would point out that those that are  
5 not inspected by the quality organizations are inspected  
6 by the construction management organization so that  
7 essentially all of the components at Shoreham undergo  
8 inspections.

9                       These are, specifically, items not  
10 safety-related which are inspected by one or the other  
11 of the quality organizations. The main condensor and  
12 the condensor tubes of the titanium condensor were  
13 subjected to inspections by LILCO's engineering quality  
14 assurance organization and Stone and Webster's  
15 procurement quality assurance department at the request  
16 of the Shoreham project -- the LILCO Shoreham project.

17                      X-rays for non-safety-related pipe, where  
18 required. They are generally required on all pipe with  
19 wall thicknesses over three-quarters of an inch in  
20 accordance with the applicable codes. Those x-rays are  
21 taken and examined by field quality control  
22 organization.

23                      Concrete on the job site, whether it is  
24 safety-related or non-safety-related, it is treated the  
25 same, and Mr. Arrington's organization conducts those

1 inspections and subsequent break tests of concrete  
2 cylinders.

3           Equipment storage, as we have been discussing,  
4 is an activity that is conducted. Equipment storage  
5 inspections and auditing is conducted by LILCO's field  
6 quality assurance division under Mr. Kelly and Mr.  
7 Arrington's field quality control organization.

8           The program itself is run by the construction  
9 forces, but the overview inspections and audits are done  
10 by those organizations. We have a number of cases in  
11 the plant where we have large bore and small bore valves  
12 from the same manufacturers. While there are different  
13 specifications for those valves in some cases, LILCO's  
14 engineering quality assurance department has audited  
15 those vendor facilities and inspected not only  
16 safety-related but non-safety-related valves.

17           The same holds true for control panels and  
18 switch gear, non-safety-related, where LILCO's  
19 engineering quality assurance division conducts audits  
20 of those items. GE circuit breakers falls into the same  
21 category.

22           Finally, early in the project, 1974 time  
23 frame, the LILCO project requested that the LILCO  
24 engineering quality assurance department review a number  
25 of non-safety-related specifications in order to comment

1 on the inspection and quality assurance type  
2 requirements contained in those specifications.  
3 Obviously, from an engineering standpoint, all  
4 specifications contain quality requirements. They  
5 contain certain inspection requirements, certain  
6 documentation requirements, whether or not they are  
7 safety-related.

8           We requested our quality assurance department  
9 to review these and to provide comments and suggestions  
10 in terms of increasing or providing comments to increase  
11 the quality and the reliability of this equipment. They  
12 did so, and those comments were taken into  
13 consideration. In a significant number of cases they  
14 were incorporated into the specifications so that we did  
15 have quality assurance department input into that group  
16 of non-safety-related specifications.

17           There are about twenty of those. I won't read  
18 them all. I will just give you a few examples to give  
19 you a flavor for the type of equipment involved -- the  
20 condensate demineralizer, which is a major system in the  
21 plant; several of the transformers, including the  
22 station service transformers; the motor specs, both the  
23 4,000-volt and the 460-volt motors; feed pump; turbines;  
24 instrument; air compressors; the main turbine generator;  
25 the rad waste solidification system; and specifications

1 involving level controllers and transmitters; control  
2 instrumentation.

3           There are others, but I think that would give  
4 you an idea of the types of items we asked quality  
5 assurance to provide a review of, and that, I believe,  
6 summarizes the types of areas we have requested the  
7 quality control organizations to assist us in the  
8 non-safety areas.

9           MR. LANPHER: Judge Brenner, I believe the  
10 witness was reading from a list in this instance. I  
11 would like to request a copy of that list or whatever  
12 document he was reading from.

13           JUDGE BRENNER: But I don't know if he read  
14 everything from it. We had this discussion about notes  
15 before.

16           MR. LANPHER: I know, and I have refrained  
17 from --

18           JUDGE BRENNER: Why is this different from the  
19 discussion we had yesterday?

20           MR. LANPHER: I think this is different  
21 because it appears to me -- and it is just an  
22 observation; I can't ask him the question, but I would  
23 like to get it now, if I can -- it appeared to me that  
24 he was reading from a list this time. I may be  
25 incorrect.

1 JUDGE BRENNER: Well, I am assuming for the  
2 sake of discussion that he has a list, notes he put  
3 together. Why do you need it?

4 MR. LANPHER: Why do I need it? Because I am  
5 not sure that I got a complete breakdown of all of these  
6 items that he was going through, and that answer related  
7 to inspections by whom, et cetera, of non-safety-related  
8 systems, and I would like to have a complete list. I  
9 won't have the benefit of the transcript when I have to  
10 ask my questions on this, probably.

11 JUDGE BRENNER: Do you have a list of just  
12 what you read -- that is, the items that you used as  
13 examples?

14 WITNESS MUSELER: The -- if we are speaking  
15 about the specifications, which I believe was the  
16 subject of Mr. Lanpher's question --

17 JUDGE BRENNER: Let's make sure.

18 MR. LANPHER: No. I would start with the main  
19 condensor -- the non-safety-related activities that were  
20 inspected by quality assurance or by some other quality  
21 organization. I believe the first one that you talked  
22 about, Mr. Museler, in terms of examples was the main  
23 condensor.

24 JUDGE BRENNER: Let me suggest this, because  
25 the way you are proceeding now you are going to get him



1 to repeat the answer on the record, which is certainly  
2 one way of making sure you have it but not the necessary  
3 way, given the fact that we are ten minutes from lunch.  
4 I agree that in order for you to prepare your  
5 examination you want to make sure you have all of the  
6 items that he went through.

7 Over the lunch break, either through LILCO or  
8 through the courtesy of the reporter, collectively, make  
9 sure that you get that list, and it is that simple and  
10 that will give you the information you need, correct?

11 MR. LANPHER: It is my hour and a half, I  
12 guess, over lunch. If there is a list, I would rather  
13 not take that time.

14 JUDGE BRENNER: We will give you the  
15 information over lunch and it is not going to take more  
16 than five minutes.

17 MR. LANPHER: I made my request. I don't  
18 agree with your ruling, but I will abide by it,  
19 obviously.

20 JUDGE BRENNER: Well, you will get the very  
21 same information and we don't have to take five minutes  
22 now. In fact, LILCO can just list it out for you and it  
23 will take you all of five seconds to receive it.

24 BY MR. ELLIS: (Resuming)

25 Q Mr. Arrington, in Mr. Museler's answer he

1 referred to inspections of FQC in the FQC program with  
2 respect to non-safety-related. Did you have anything to  
3 add to that in terms of the scope of the FQC program?

4 A (WITNESS ARRINGTON) With respect to the  
5 overall Stone and Webster QA program? Is that your  
6 question, sir?

7 Q Yes, sir.

8 A (WITNESS ARRINGTON) Well, Stone and Webster  
9 field quality control is LILCO's inspection agent at the  
10 Shoreham project. We are responsible for all of the  
11 first-line inspection for all of the safety-related  
12 items at the plant site. This would cover the  
13 electrical discipline, the instrumentation discipline,  
14 the structural -- which would be concrete and soils --  
15 the mechanical discipline.

16 We also have three labs on site -- an NDT lab,  
17 non-destructive testing lab, where we perform  
18 radiography. We also perform liquid penetrant tests,  
19 magnetic particle testing for the Shoreham project. We  
20 have an on-site calibration lab where we calibrate all  
21 of the test equipment on site during the construction  
22 phase. All of our standards are traceable to the  
23 National Bureau of Standards.

24 We also have an on-site concrete and soils  
25 laboratory that has been certified, or surveyed, I

1 should say, and approved by the Concrete and Cement  
2 Reference Laboratory, which is a division of the  
3 National Bureau of Standards.

4           To date, field quality control has performed  
5 in excess of three-quarters of a million inspections in  
6 this program. That would cover primarily safety-related  
7 items. There are some non-safety-related items and  
8 activities that we do perform first-line inspections as  
9 well as in-process and surveillance inspections.

10           We also perform surveillances of contractors  
11 on site that are working to their own quality assurance  
12 programs. This would include the piping contractor that  
13 has its own ASME certificate. Stone and Webster and  
14 Stone and Webster field quality control assumes overall  
15 responsibility for those systems under the ASME code.

16           Q     Mr. Long, on transcript page 10,193 and 194  
17 Judge Brenner asked you some questions concerning  
18 whether there were any important changes to the BWR QA  
19 manual that would be material to the issues. Are there  
20 any such changes?

21           A     (WITNESS LONG) No, there are not. There are  
22 some changes that primarily reflect organizational  
23 changes and reassignments of functional  
24 responsibilities, but there are no major changes or any  
25 that are material with regard to the items that have

1 been discussed here.

2 Q On transcript page 10, . . . , Mr. Long, Judge  
3 Morris asked you if it was true that the degree to which  
4 you applied the criteria of 10 CFR Appendix B to both  
5 safety and non-safety is dependent upon the overall  
6 function served by the item. Would you explain your  
7 response that appears at that place in the transcript?

8 A (WITNESS LONG) Yes. I believe I originally  
9 misunderstood Judge Morris' question, as my subsequent  
10 testimony indicates. The answer is definitely yes. The  
11 degree of application of quality assurance program  
12 elements is not absolute. It is variable and dependent  
13 upon many factors.

14 Q And that is true for safety as well as  
15 non-safety-related?

16 A (WITNESS LONG) Yes, sir. Now I am talking  
17 about the variability of the application depends on many  
18 factors, such as design or manufacturing or construction  
19 simplicity or complexity, the ease or difficulty with  
20 which characteristics can be verified by inspection or  
21 test, and also, of course, the very important factor of  
22 the overall function to be performed by the item. These  
23 are just examples.

24 Now with regard to 10 CFR 50 Appendix B, it is  
25 applies as a requirement to the activities affecting the

1 safety-related functional aspects of items that are  
2 classified as safety-related to an extent consistent  
3 with the safety-related function and to the extent that  
4 Appendix B also provides the basic elements of any good  
5 quality assurance program it can be and is in an  
6 integrated manner applies to non-safety-related items.

7 I might add that that application is not in  
8 response to any regulatory requirement with regard to  
9 non-safety-related items. It is a matter of good  
10 business and good quality assurance practice and, in any  
11 event, quality assurance is applied to both  
12 safety-related and non-safety-related items in a graded  
13 and variable manner.

14 Now the degree of application, be it in terms  
15 of the particular elements applied or the extent of  
16 application of those elements, is definitely dependent  
17 upon the overall function to be performed by that item.

18 Q Does that complete your answer?

19 A (WITNESS LONG) Yes, sir.

20 Q Mr. Baldwin, let me refer you to transcript  
21 12,456 where you were discussing a figure of 3.8  
22 percent, which you indicated was arrived at by dividing  
23 the number of unsatisfactory attributable checks by the  
24 total number of attributable checks. Is that right?  
25 Did I get that right?

1 A (WITNESS BALDWIN) Yes, sir.

2 Q Then, on line 21, you indicate a 50, 60 or  
3 100. Were you referring to attributable checks?

4 A (WITNESS BALDWIN) Yes, sir.

5 Q So is it correct that the fact that there may  
6 be numerous attributable checks in a single audit  
7 finding does not change your 3.8 percent figure?

8 A (WITNESS BALDWIN) That is correct.

9 (Counsel for LILCO conferring.)

10 Q Mr. Baldwin -- Judge Brenner, earlier we  
11 distributed to the Board and parties a list of  
12 miscellaneous transcript corrections which we did not  
13 intend to take the time of the Board during hearing to  
14 go through but did want to supply them for the record  
15 and for Mr. Lanpher's use.

16 JUDGE BRENNER: I didn't forget them. I was  
17 going to ask you at the end, if you hadn't mentioned  
18 them, but do you want to finish your questions on the  
19 miscellaneous category first?

20 MR. ELLIS: I have only one question, since  
21 this was for Mr. Baldwin, since he was the one who, I  
22 think, reviewed this. I was going to use it with him.

23 JUDGE BRENNER: Okay.

24 BY MR. ELLIS: (Resuming)

25 Q Mr. Baldwin -- may we have this marked, Judge

1 Brenner, as LILCO Exhibit 32?

2 JUDGE BRENNER: Yes, in evidence.

3 (The document referred to  
4 was marked LILCO Exhibit  
5 Number 32 for  
6 identification.)

7 BY MR. ELLIS: (Resuming)

8 Q Mr. Baldwin, referring you to what has been  
9 marked as LILCO Exhibit 32, which is a single page  
10 entitled "Miscellaneous Transcript Corrections," are  
11 these transcript corrections which you have reviewed the  
12 transcript to verify the correctness of?

13 A (WITNESS BALDWIN) Yes, it is.

14 JUDGE BRENNER: All right. That is admitted  
15 into evidence and, in addition, let's bind it in at this  
16 point.

17 (The document previously  
18 marked LILCO Exhibit Number  
19 32 for identification was  
20 received in evidence.)

21 (LILCO Exhibit Number 32 follows:)

22  
23  
24  
25

Miscellaneous Transcript Corrections

Tr. 10,105, line 9, change "rely" to "provide"

Tr. 10,110, line 3, add "of 80" after "staff"

Tr. 10,111, line 18, change "SQC" to "FQC"

Tr. 10,168, line 1-2, change "non-nuclear safety-related" to "nuclear non-safety related"

Tr. 11,610, line 23, change "time" to "site"

Tr. 11,881, line 7, the quarterly report admitted into evidence should be "12-3-81" instead of "12-31-81"



1           JUDGE BRENNER: For convenience, why don't you  
2 ask your one question and then I will come back on the  
3 general subject of transcript corrections just before we  
4 break?

5           BY MR. ELLIS: (Resuming)

6           Q     The final question, Judge Brenner, refers to  
7 transcript page 12,452 to 453. Mr. Burns, would you  
8 direct your attention to that portion of the  
9 transcript? There the panel was asked, I believe, by  
10 Mr. Lanpher whether any of the members belonged to the  
11 American Statistical Association, the Institute of  
12 Mathematical Statistics or the Biometric Society, and I  
13 believe you indicated you were not, nor was any member  
14 of the panel a member of those organizations.

15           But would you please describe your experience  
16 in the area of the application of statistical methods to  
17 the quality assurance in the nuclear power industry?

18           A     (WITNESS BURNS) As we previously indicated,  
19 no member of the panel is a member of those specific  
20 societies or groups. However, I would like to comment  
21 that the preeminent society in the United States and  
22 the, most probably, the world in applied statistics in  
23 quality assurance area is the American Society for  
24 Quality Control.

25           Q     Are you a member of that?

1           A       (WITNESS BURNS) Yes, I am. I am a Fellow of  
2 the Society, having been elected a Fellow in 1981.

3           Q       I take it you were a member of this society  
4 prior to that.

5           A       (WITNESS BURNS) Yes, I was.

6           Q       What is the significance of being a Fellow of  
7 the American Society for Quality Control? What  
8 percentage, roughly?

9           A       (WITNESS BURNS) Approximately one to three  
10 percent of the membership at any one time would be in  
11 the Fellow category and would achieve that grade or be  
12 elected to that grade by being cited for some  
13 contribution, and the citation in my case was the  
14 contribution in the nuclear QA/QC area.

15          Q       Would you also describe, please, any  
16 professional societies you belong to that deal with  
17 statistical methods and applications in the nuclear  
18 industry?

19          A       (WITNESS BURNS) Yes. I am currently active  
20 with the Energy Division of the American Society for  
21 Quality Control, which specifically addresses those  
22 QA/QC activities associated with energy applications,  
23 including certainly the nuclear application. In that  
24 capacity I serve as a member of the Standards  
25 Subcommittee for various QC and, in addition, serve as a

1 member of ASME, which is the American Society of  
2 Mechanical Engineers as member of the main nuclear  
3 committee, which is responsible for the N-45 series of  
4 standards.

5 It is, additionally, responsible for the  
6 publication of the NQA-1 and NQA-2 standards. And on  
7 that particular committee I also serve as the  
8 representative of ASQC.

9 Q Any others?

10 A (WITNESS BURNS) Just one other. I am also a  
11 member of and vice-chairman of the Construction Steering  
12 Committee, which is a Quality Control Society activity  
13 investigating quality control and quality assurance  
14 applications specifically in the non-nuclear area.

15 MR. ELLIS: Judge Brenner, we would propose  
16 now to go to the fifth item and final item in our  
17 supplementary redirect plan.

18 JUDGE BRENNER: Every time you say it that  
19 way, you give me the opportunity to be a wise guy and  
20 say I propose to go to lunch.

21 But before we do that, on the transcript  
22 corrections, I understand we have discussed why you are  
23 making them along the way in this fashion. That is fine  
24 and, in fact, helpful. In addition to this, when you  
25 file your overall transcript corrections, include the

1 ones you have already had in exhibits. You don't have  
2 to have any separate category. The idea is so we can  
3 have one sequential listing.

4           You can have a general sentence that some of  
5 these may have already been in evidence, but there is no  
6 reason to cull out those separately.

7           I would like the parties to find a way to  
8 coordinate their transcript corrections so that they all  
9 agree or isolate the hopefully unusual instance where  
10 the parties disagree on a transcript correction so we  
11 can get one sequential list from all the parties.

12 Again, I am not interested in how many mistakes you can  
13 find in the transcript, only the ones that -- and I will  
14 say that there are quite few, given the process, in my  
15 experience, in other hearings -- and I have commended  
16 all of the reporters from time to time for that.

17           But aside from that, there are errors that do  
18 crop up. Keep it just to the ones that you need to  
19 improve understanding so that the list -- the idea is to  
20 keep the list to a minimum and not to a maximum, and we  
21 would like to be able to get it no later, I would  
22 think -- subject to the parties telling us why that is  
23 not feasible. Of course, it is not the highest priority  
24 in the world, but we would like to get it no later than  
25 the time LILCO files its initial substantive findings,

1 that is, the approximate 30-day findings.

2           We discussed at one time the advance  
3 procedural background findings and I would like to come  
4 up with a procedure for that too, so that when we get a  
5 response from the other parties or coordination on the  
6 procedural ones, but putting that aside for now, at the  
7 30-day finding time so we can get the transcript  
8 corrections having been coordinated with all of the  
9 parties, and that way we will have them right at the  
10 time we start looking at findings.

11           And if you find others after that that are  
12 important, we are not going to prevent any party from  
13 bringing them to our attention. But let's see if we can  
14 get as complete a list as possible at that time. And if  
15 you want to do it in the form of -- well, just have the  
16 list. We can issue a cover order and it would be our  
17 intent to basically approve them with whatever minor  
18 additions we might have on our own, being satisfied that  
19 the parties have agreement on them.

20           All right, let's break for an hour and a half,  
21 until 1:55.

22           (Whereupon, at 12:25 o'clock p.m., the hearing  
23 recessed, to reconvene at 1:55 o'clock p.m., the same  
24 day.)

25

1 AFTERNOON SESSION

2 [1:55 p.m.]

3 JUDGE BRENNER: We are ready to continue with  
4 the redirect. If there are no preliminary matters,  
5 let's go.

6 MR. ELLIS: The only preliminary matter I  
7 suppose we had left over from before lunch, Judge  
8 Brenner, was whether I should bring down Mr. Youngling  
9 to start OQA in the morning.

10 JUDGE BRENNER: I don't think you are going to  
11 know. Let's find out two hours from now. I think we  
12 can save some conversation because that is going to be  
13 the end result of whatever conversation we have now  
14 anyway.

15 MR. ELLIS: Judge Brenner, I propose now to  
16 move to the final topic in our supplemental redirect  
17 plan, entitled "CAT." And Judge Brenner, the CAT  
18 report, I believe, is Attachment 4 to Mr. Hubbard's  
19 testimony. A response is Suffolk County Exhibit 70, and  
20 the Staff response has not yet been marked and we would  
21 like to do that now, if we may.

22 JUDGE BRENNER: I suppose I should note for  
23 the record that yesterday, and perhaps even the day  
24 before, we received two copies of the Torrey Pines  
25 report for the Board, so I didn't want my lack of

1 mentioning that to lead you to believe that we didn't  
2 receive it. So thank you.

3 All right. Why don't you identify the Staff  
4 response a little better, and it will be LILCO Exhibit  
5 33 for identification.

6 (The document referred to  
7 was marked LILCO Exhibit  
8 No. 33 for identification.)

9 MR. ELLIS: Yes, sir. What has been marked  
10 LILCO 33 is a letter dated November 4, 1982 to Long  
11 Island Lighting Company, Attention Mr. M.S. Pollack, and  
12 it is by Thomas T. Martin, Director, Division of  
13 Engineering and Technical Programs of the Nuclear  
14 Regulatory Commission.

15 Whereupon,

16 T. TRACY ARRINGTON,  
17 FREDERICK B. BALDWIN,  
18 WILLIAM M. EIFERT,  
19 T. FRANK GERECKE,  
20 JOSEPH M. KELLY,  
21 DONALD G. LONG,  
22 WILLIAM J. MUSELER and  
23 ROBERT G. BURNS,

24 the witnesses on the stand at the time of recess,  
25 resumed the stand and testified further as follows:

1 REDIRECT EXAMINATION -- Resumed

2 BY MR. ELLIS:

3 Q Mr. Museler, are you familiar with the CAT  
4 inspection report which is Attachment 4 to Mr. Hubbard's  
5 prefiled testimony, and the LILCO response, which I  
6 believe is Suffolk County Exhibit 70, and the response  
7 by the NRC, which has just been marked LILCO Exhibit 33?

8 A (WITNESS MUSELER) Yes, sir.

9 Q Did the CAT inspection report identify or  
10 conclude any violations?

11 MR. LANPHER: Judge Brenner, I object to the  
12 question. I want to object up front and then I won't  
13 repeat this objection, and it depends upon your ruling.  
14 My examination of the CAT inspection of the LILCO panel  
15 went to what has been called Appendix B as in "Boy,"  
16 that inspection relating to the FSAR matters, so I think  
17 this is beyond the scope of the cross-examination. I  
18 don't believe Mr. Bordenick inquired into this either.

19 JUDGE BRENNER: Let me put aside your narrow  
20 objection for the moment. Mr. Hubbard spends quite a  
21 bit of his time, his pages, I should say, quite a bit of  
22 his testimony talking about this, and as long as the  
23 witnesses are here now, I sure want to hear from LILCO  
24 about the CAT inspection, and if we can avoid having to  
25 bring them back after -- they would have the opportunity



1 for rebuttal, is what I am saying, and I don't have any  
2 problem in getting it right now. That is one of the  
3 purposes of prefiled testimony. We know essentially  
4 what the County has to say about the CAT inspection  
5 report, recognizing that to date that has been prior to  
6 the Staff's latest missive on the subject

7 MR. LANPHER: Judge Brenner, I think  
8 personally that is a very reasonable ruling from you. I  
9 merely wanted to highlight this because I think there  
10 may be aspects of the LILCO testimony and/or the Staff  
11 testimony that Mr. Hubbard would want to comment on also.

12 JUDGE BRENNER: Yes, I think that is right.

13 MR. LANPHER: Fine. I think I understand the  
14 groundrules.

15 JUDGE BRENNER: It is flexible. This doesn't  
16 preclude the fact that a party may insist on rebuttal,  
17 but they don't have a right to rebuttal and it would be  
18 in our discretion, and if it is something that could  
19 have been easily handled when they were up there the  
20 first time, I sure appreciate a party trying, that is,  
21 so we can handle it that way.

22 Getting back to your particular objection, I  
23 haven't heard enough to know whether I would rule that  
24 there was a sufficient connection to the cross or not,  
25 but I don't think I have to.

1 MR. LANPHER: Well, I didn't want to interrupt  
2 Mr. Ellis. I don't know exactly where he is going. But  
3 I wanted to get the groundrules up front myself, so  
4 thank you.

5 BY MR. ELLIS: (Resuming)

6 Q Do you remember my question, Mr. Museler?

7 A (WITNESS MUSELER) No, sir. Could you please  
8 repeat it?

9 Q Based upon your familiarity with the CAT  
10 inspection report, can you tell us whether it reported  
11 or stated any violations or apparent violations?

12 A (WITNESS MUSELER) Yes, sir. The CAT  
13 inspection report contained four alleged violations.  
14 The cover letter for the NRC report characterizes it as  
15 that there appeared to be four violations.

16 Q All right. Can you give the Board, please,  
17 your assessment of those violations or alleged  
18 violations?

19 A (WITNESS MUSELER) Yes, sir. I will summarize  
20 them in terms of the applicability of the word  
21 "violation" and then briefly describe each one. In one  
22 case we believed that the I&E inspector was not aware of  
23 exactly how the design criteria was to be applied. We  
24 believe that there is no violation nor any deviation  
25 from design requirements, and that matter has been

1 referred by the I&E Division to the NRR Division, who  
2 performed the review of the application in this area for  
3 final resolution. So we don't believe that one was a  
4 violation at all.

5 Q Mr. Museler, are you going to address the  
6 actual substance of each one, are you not?

7 A (WITNESS MUSELER) Yes, I guess I will do that  
8 as I go along.

9 Q I think that would be helpful.

10 MR. LANPHER: And could you tell us which one  
11 you are talking about.

12 WITNESS MUSELER: That is Item No. 2, and this  
13 I&E report addresses a design requirement for manual  
14 initiation of systems at the system level in addition to  
15 the automatic actuation of the systems. The applicable  
16 regulations, we believe, have been complied with in that  
17 the system operation in the manual mode does actuate all  
18 equipment in that system that is actuated in the  
19 automatic mode. The NRC inspector's concern was that,  
20 independent of any accident condition, he interpreted  
21 the regulation to mean that the system and all of its  
22 ancillary subsystems should be actuated through a manual  
23 actuation of that system alone, and we believe that is  
24 not the case.

25 The regulation talks to accident conditions,

1 and the reason for the requirement, in our view, is that  
2 in the event that that particular system under an  
3 accident condition does not actuate, that those  
4 components which are actuated by the accident signal be  
5 actuated manually at the system level. All of the other  
6 ancillary systems will start or go to their required  
7 mode on the basis of accident signals sent to other  
8 safety systems, and therefore, for the condition that is  
9 applicable for this regulation, we believe that we do  
10 meet all of the design requirements called for. And in  
11 fact, we also believe that all of the other BWRs are  
12 essentially designed the same way, so we don't believe  
13 there is a violation of this criteria at all.

14 BY MR. ELLIS: (Resuming)

15 Q Which number are we referring to here in the  
16 CAT? Is this Item 1?

17 A (WITNESS MUSELER) This is Item 2 in the  
18 Notice of Violations, which is Appendix A.

19 Q And which system were you referring to in your  
20 response?

21 A (WITNESS MUSELER) The RBC LCW system and the  
22 associated LPCI valves which are involved in the  
23 accident signal to the low pressure coolant injection  
24 system, the LPCI system.

25 Q Do you wish to add anything further to your

1 assessment with respect to Item 2 of the CAT report?

2 A (WITNESS MUSELER) Only that I believe that  
3 this represents only a misunderstanding on the part of  
4 the I&E inspector, whose primary function is inspecting  
5 the physical attributes of the plant, although they do  
6 inspect the system-related items also, as opposed to the  
7 NRR Branch, which performs the design review of the  
8 system. This is essentially a design question of the  
9 plant, something not normally called in I&E inspections,  
10 although the trend is now for I&E to become more  
11 involved in the design aspects of the plant.

12 I see this strictly as a misunderstanding of  
13 the particular design requirements, and I believe that  
14 the NRR Division, who has already reviewed this as part  
15 of their review of the FSAR, will confirm that. They  
16 have not as yet in their response. They indicate that  
17 that is under study by the Licensing Branch.

18 Q When you say "in their response," you are  
19 referring to I&E, are you not?

20 A (WITNESS MUSELER) Yes, sir.

21 Q Okay. Proceed to the next item.

22 JUDGE BRENNER: I guess if NRR thinks it is as  
23 straightforward as you think it is, we should hear from  
24 them sooner rather than later. Right, Mr. Museler?

25 WITNESS MUSELER: I would have thought we

1 would have heard from them sooner.

2           The second item that I will discuss, and I'm  
3 sorry that I didn't start with Item 1 -- that would have  
4 made life easier -- but it is Appendix A. Item 1  
5 concerns information not included in the FSAR for a  
6 specific set of check valves meeting, and I will just  
7 cite the proper -- meeting Appendix A Criterion 56.  
8 These two check valves were shown in the FSAR correctly  
9 in the appropriate figure for the HPCI steam line  
10 drain. However, they do represent deviations from GDC  
11 56, as do a number of valves in Shoreham and in most  
12 BWRs.

13           The valves were correctly shown in the FSAR  
14 figure; however, in the text section where we provide a  
15 justification for any deviations from this particular  
16 design criteria, we did not include these particular  
17 valves, and the I&E inspector pointed that out, and in  
18 fact we will have to have an NRR accept our  
19 justification for these valves. The justification for  
20 these valves is exactly the same as other similar  
21 valves. It is two-fold: firstly, that since these lines  
22 go to the suppression pool, we don't put one of the  
23 valves, we don't put it an inboard isolation valve in  
24 the suppression pool area. So they are both on the  
25 exterior of the containment.

1           And we have a large number of items of  
2 situations like that, so we believe that that is  
3 acceptable.

4           The other item is the use of two check valves  
5 because this is a small bore line and the design, the  
6 General Design Criteria requires a motor-operated  
7 valve. Again, in the case of Shoreham and in the case  
8 of the other BWRs for these types of lines and the  
9 function that these lines perform, from a safety  
10 standpoint it is more prudent to utilize two check  
11 valves and eliminate the need for an active component,  
12 if you will, for this function to be able to have the  
13 steam line vent back to the suppression pool.

14           Both of those justifications are used in other  
15 very similar applications in Shoreham and have been  
16 acceptable to the Staff. We accept this to be  
17 acceptable, too. So the deviation was we did show it  
18 correctly in the FSAR figure but we did not specifically  
19 point out for these two specific check valves that we  
20 required an exemption to the General Design Criteria.

21           The third item is a physical finding on the  
22 part of the staff that a pipe hanger was found to be  
23 1-1/2 degrees angular displacement more than the  
24 acceptable tolerance on one particular pipe hanger on  
25 the RHR system. The cause of that was that the

1 carpenteres had attached a part of a scaffold to that  
2 particular pipe hanger, which is prohibited by our site  
3 requirements, and it pushed the hanger to, I believe,  
4 5-1/2 degrees, which was outside of our design  
5 tolerance. It was within the vendor's design tolerance  
6 but it was outside of our own design tolerance and  
7 therefore constituted a deviation, in the opinion of the  
8 NRC.

9           That was corrected while the NRC was still  
10 onsite, and we have continuously throughout the history  
11 of the job issued written directives and had specific  
12 meetings with those personnel involved in putting up  
13 scaffolding and temporary facilities to impress upon  
14 them the fact that you are not allowed to attach these  
15 kinds of things to piping systems and pipe supports  
16 without specific approval. And there are a number of  
17 instances of the directives and at this time at the time  
18 of this notice we discussed that with the NRC,  
19 reverified with the carpenter foreman on the site that  
20 they had been given those instructions and they had  
21 passed them on to their own craftsmen, and this was the  
22 only instance we found at this time. There have been a  
23 few in the past. It didn't degrade the equipment at  
24 all, and when the scaffold was removed, the pipe hanger  
25 returned to its proper position.



1           The fourth item --

2           JUDGE BRENNER: I'm sorry; let me see if I  
3 understand that. When you say the violation was  
4 corrected, just removing the scaffolding corrected it?  
5 You didn't have to actually repair the support?

6           WITNESS MUSELER: No, no repair was necessary,  
7 sir. This was a hanger. Many of our hangers have heavy  
8 structural members. This particular one was a hanger  
9 that had flexibility in it, so that you could, in fact,  
10 physically move that pipe a little bit even by hand.

11          JUDGE BRENNER: Okay. And you keep telling  
12 them to stay off your hangers and supports and they keep  
13 hanging their stuff on there, and the probability is  
14 they are not going to totally stop even now? Do you  
15 agree with me so far?

16          WITNESS MUSELER: Generally, yes, sir.

17          JUDGE BRENNER: What are you going to do as a  
18 final check after they get all of their scaffolding out  
19 of the plant?

20          WITNESS MUSELER: The final walkdown of the  
21 systems -- and I am hesitating because of the timing of  
22 this. We are removing the scaffolding by area within  
23 the plant and performing structural release inspections  
24 at that time. We do not at the present time plan to  
25 re-walk every single hangar. I believe that the types of

1 hangers that could be moved through the attachment of  
2 scaffolding to them are on the flexible portions of the  
3 piping systems and would return to normal because they  
4 move in any case. So I don't see this as a problem.

5 I also know that this is not a widespread  
6 situation. I certainly can't say that it won't happen  
7 again, however. We have over the years been pretty  
8 rigorous about trying to enforce this, and we have even  
9 taken disciplinary action in one or two cases, so I  
10 don't see it as a major problem and I believe that there  
11 really won't be any impact on the piping systems as a  
12 result.

13 WITNESS ARRINGTON: Judge Brenner, I would  
14 like to add that during our final inspection, those  
15 piping systems, including the pipe supports, we would be  
16 looking for that type of condition in the lighter  
17 support members.

18 JUDGE BRENNER: But as I understand part of  
19 the problem, after you do your job, they sometimes have  
20 to come back for certain work, and in instances that is  
21 in the time period when the supports are possibly bent  
22 again. Am I right?

23 WITNESS ARRINGTON: It does happen, I think,  
24 where they do go back and put scaffolding into areas to  
25 do additional painting, or maybe on the structural steel

1 we may be back in torquing bolts or things of that  
2 nature, and we are building scaffolding to get to these  
3 components. But I can't recall it happening in other  
4 than maybe a couple of occurrences where when we went  
5 out to perform our inspection, there were scaffolding in  
6 the area. But it is a condition that we look for during  
7 our final installation acceptance inspection for pipe  
8 supports.

9 JUDGE BRENNER: Maybe I thought I read  
10 something and I'm not following it correctly. I thought  
11 I read in the Staff's CAT inspection report that in this  
12 one instance, at least -- that is Item 3 of Appendix A  
13 -- the occurrence did occur after your final inspection.

14 WITNESS MUSELER: That is correct, Judge  
15 Brenner. I believe you used the term "bent," however,  
16 and nothing was bent. It was a matter of a pin assembly  
17 that I could push very easily by hand into that position.

18 JUDGE BRENNER: Yes, I understood your  
19 description and used a bad word in light of your  
20 description.

21 WITNESS MUSELER: So that item was a valid  
22 observation on the part of the NRC inspector. We  
23 corrected it during the inspection and we believe that  
24 our program to prevent that type of situation is  
25 generally very effective, although there may well be

1 another instance where that could occur.

2 The final item --

3 JUDGE MORRIS: Excuse me, Mr. Museler. I  
4 believe you said that 4 degrees was something that LILCO  
5 imposed but not the supplier.

6 WITNESS MUSELER: Yes, sir. The vendor, this  
7 particular hanger vendor of this particular support had  
8 a tolerance of 6 degrees. Our Stone and Webster  
9 standard in this particular area is 4 degrees, and the  
10 particular hanger was out of alignment by 5-1/2 degrees,  
11 so it was 1-1/2 degrees outside of the Stone and Webster  
12 standard. If you think of that in terms of what happens  
13 to the forces for that kind of a displacement, a degree  
14 and a half over the allowable, the change in the forces  
15 is really an extremely small number.

16 We did not do any calculations on that, but I  
17 believe it is safe to say that the impact on the  
18 adequacy of that pipe support, even if it stayed at the  
19 5-1/2 degrees, would have been minimal.

20 JUDGE MORRIS: Would you say that it wouldn't  
21 have affected its ability to perform its function?

22 WITNESS MUSELER: Certainly not, sir.

23 JUDGE MORRIS: Thank you.

24 WITNESS MUSELER: The final item in Appendix  
25 A, Item 4, is a housekeeping item, and during the NRC

1 inspection the inspector noticed several conditions,  
2 primarily with respect to fire protection  
3 considerations, and personnel doing work without a fire  
4 extinguisher being present, and in handling some  
5 flammable liquids, namely, oil in a manner that was not  
6 acceptable. They were utilizing rubber or plastic  
7 tubing for a transfer of some fuel oil in two areas of  
8 the plant, and those conditions were also corrected at  
9 that time to the satisfaction of the NRC.

10           However, they also had concerns in terms of  
11 general housekeeping, and as a result of those concerns,  
12 we added ten additional personnel to the reactor  
13 building whose function was to improve the housekeeping  
14 and cleanliness in that area.

15           So those are the four areas of Appendix A. As  
16 I noted, Item 1, which is the matter of the check  
17 valves, Item 1, we believe, was a situation where some  
18 information was missing in the FSAR, although the valves  
19 were described in the appropriate figure. Item 2 was a  
20 matter of an interpretation of a design criteria which  
21 we believe we have met and which NRR is currently  
22 evaluating.

23           Item 3 was a specific instance of a hanger  
24 being out of alignment by a small amount due to a  
25 scaffolding being attached to it. It is a valid finding

1 and it was corrected during the audit.

2           Item 4 was a matter of housekeeping, as I  
3 described, and that was corrected during the audit and  
4 also followed up on with additional preventative action  
5 in terms of an additional ten personnel being assigned  
6 to clean up in the reactor building.

7           BY MR. ELLIS: (Resuming)

8           Q     Well, Mr. Museler, based upon your review of  
9 these four alleged violations, in your opinion are any  
10 of these significant in terms of the integrity of the  
11 plant and safe operation of the plant?

12          A     (WITNESS MUSELER) No, sir, I don't believe  
13 that any of them degrade the safety or the integrity of  
14 the plant.

15          Q     When you say that you don't think they are  
16 significant in those terms, do you know whether or not  
17 you have any indication from the I&E Branch of NRC as to  
18 whether they concur in this view?

19          A     (WITNESS MUSELER) Yes, sir, I believe they do  
20 to the extent that they have assigned severity levels to  
21 these findings, and there are five severity levels,  
22 number one being the highest, and these are assigned  
23 severity levels. I believe our notes are incorrect. I  
24 believe these have been assigned severity levels 4 and 5.

25                   [Panel of witnesses conferring.]

1           A       (WITNESS MUSELER)  Items 3 and 4 are assigned  
2 severity level 5, and Items 1 and 2 are assigned  
3 severity level 4.

4                   [Counsel for LILCO conferring.]

5           Q       Items 1 and 2, I think you agreed, were not  
6 valid observations; is that correct?

7           A       (WITNESS MUSELER)  Item 1, the observation was  
8 valid.  We believe that the information was partially in  
9 the FSAR.  Some information was lacking, so I don't  
10 think that is an invalid observation.  I think that the  
11 significance of it, given the fact that the FSAR did  
12 show the valves correctly and the fact that this  
13 situation occurs in other areas of the plant, that it is  
14 acceptable to the NRC, indicates to me that that is not  
15 a condition of concern.

16                   The second one, we disagree that we do not  
17 comply with the appropriate regulations and General  
18 Design Criteria.

19           Q       Mr. Museler, you indicated severity levels,  
20 talked about severity levels 4 and 5 for those four  
21 items.  Can you tell us briefly what they involve, or  
22 any member of the panel?

23                   JUDGE BRENNER:  What the items involve or what  
24 the severity levels involve?

25                   MR. ELLIS:  I'm sorry; what the severity

1 levels mean.

2 JUDGE BRENNER: Do you want him to quote from  
3 the Commission's statement, enforcement outline; is that  
4 it?

5 MR. ELLIS: Yes, sir, just for context.

6 JUDGE BRENNER: I just want to be sure I  
7 understood the question.

8 MR. ELLIS: Yes, sir. I'm sorry I didn't  
9 state it very clearly.

10 WITNESS EIFERT: Mr. Ellis, the NRC's report  
11 on the CAT team inspections refers in the second  
12 paragraph to 10 CFR Part 2, Appendix C, which defines  
13 the NRC severity levels in Roman IV, Supplement 2, the  
14 severity categories for Part 50 facilities construction,  
15 and they define five severity levels, with severity 1  
16 being the most severe and 5 being the least severe.

17 With respect to the four items we are talking  
18 about, two of them were defined by the NRC as being  
19 severity level 5, and the severity level 5 is defined as  
20 violations that have minor safety or environmental  
21 significance. The other two, Items 1 and 2 in the  
22 notice of violation, have been defined as severity level  
23 4, which is the next level of severity.

24 Again, the NRC has identified that this is a  
25 category that, although not severity levels 1, 2 or 3,



1 are of more than minor significance. So what we are  
2 seeing here is that the NRC's assessment is that they  
3 have classified these violations as in the lowest two  
4 categories, and I think that their own definitions  
5 indicate that severity levels 1, 2 and 3 are the only  
6 ones which they feel are of a really significant nature.

7 I might point out that their severity level 2  
8 is their definition of what would constitute a quality  
9 breakdown.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 BY MR. ELLIS: (Resuming)

2 Q Well, Mr. Museler or Mr. Eifert, or anybody  
3 else on the panel, has LILCO with respect to Shoreham  
4 ever been charged with or alleged a severity level 1, 2,  
5 or 3 violation under this enforcement policy?

6 A (WITNESS EIFERT) No, Mr. Ellis. LILCO has  
7 never been charged with a severity level 1, 2, or 3  
8 violation.

9 And in addition, we have taken a look at the  
10 regulations that were in effect prior to these latest  
11 regulations, the regulations that were in effect since  
12 October 1980, which was the proposed rule containing  
13 comparable level 1, 2, and 3 severities. And LILCO was  
14 not cited in that time period of violations of those  
15 severities.

16 We have also made a comparison of the current  
17 definitions and reporting criteria to the terminology  
18 used by the Commission since roughly 1973, and feel that  
19 we have not had comparable violation over the years.

20 A (WITNESS MUSELER) Mr. Ellis, I think it's  
21 also worthy of note that we have never received from the  
22 Commission a stop-work order, we have never received  
23 from the Commission a requirement for increased  
24 management -- or, excuse me, the Commission has never  
25 deemed it necessary to impose escalated enforcement

1 actions on this plant, nor have they seen fit to  
2 determine the need for what I believe the term is, a  
3 management meeting to discuss unsatisfactory performance  
4 of the applicant.

5           Those are the types of actions that the NRC  
6 utilizes when they believe that the overall program or  
7 significant portions thereof are unsatisfactory to the  
8 point where something needs to be done about it. We  
9 have never received any of those NRC actions.

10       Q     Mr. Museler, we have been talking about the  
11 notice of violation, which is Appendix A to the CAT  
12 report, and Attachment 4 to Mr. Hubbard's testimony.  
13 And you described, you and Mr. Eifert have described,  
14 the severity levels there. What were the severity  
15 levels assigned by the NRC to the matters referred to in  
16 Appendix B to the CAT report?

17       A     (WITNESS EIFERT) The NRC did not apply  
18 severity levels, because they are not applicable to  
19 notices of deviations. Appendix B to the CAT team  
20 inspection report was a notice of deviation and not a  
21 notice of violation.

22       Q     Well, are these deviations then in the  
23 hierarchy of importance below even level 5 in violations?

24       A     (WITNESS EIFERT) Yes, it is. The Regulation  
25 10 CFR 2, Appendix C, describes the deviation and the

1 policy with respect to notice for deviations under Part  
2 E, titled "Related Administrative Actions." And the  
3 notice of deviation is there defined as something that  
4 is less than -- considered less than a violation, as  
5 would be characterized by the notice of violation with  
6 the severity level breakdown.

7 Q So does a notice of deviation even allege a  
8 violation of Appendix B, 10 CFR?

9 A (WITNESS EIFERT) No, sir, they do not.

10 Q What then, Mr. Eifert or Mr. Museler, is the  
11 nature of the items listed in the notice of deviations,  
12 which is Appendix B to the CAT report?

13 (Witnesses conferred.)

14 A (WITNESS MUSELER) These were, Mr. Ellis, a  
15 number of the items we discussed, I believe, during the  
16 cross-examination by Mr. Lanpher. And in terms of the  
17 discussion we had earlier relative to FSAR conformance,  
18 they fall in the main in the descriptive informational  
19 category.

20 Q You indicated that these notice of deviations  
21 are similar to the ones you discussed in connection with  
22 the SPCR program, that is descriptive detail. Can you  
23 give us a few examples from the CAT report?

24 A (WITNESS MUSELER) Yes, sir. In Appendix B to  
25 the CAT report, item 1 discusses the number of bolts for

1 the seismic criteria of cabinets associated with the RHR  
2 system. I believe we discussed this in some detail.  
3 And I believe I can best put it in perspective by  
4 stating that the applicable FSAR commitment in this area  
5 is that we design and construct the appropriate cabinets  
6 associated with the system to meet the applicable  
7 seismic criteria.

8           The fact that we used a certain number of  
9 bolts different from the number and size of bolts  
10 indicated in the FSAR is, in my judgment, a matter of  
11 descriptive detail, and that if the NRC -- and they may  
12 well have done this in some instances -- if the NRC were  
13 to perform or wanted to verify the seismic design of a  
14 particular cabinet such as this, they would have to, and  
15 they certainly would, get the design documents, the  
16 manufacturer's design documents, and the installation  
17 documents, the same documents we would use to build the  
18 plant in order to have analyses performed on them.

19           They would not do this utilizing the EEDCR --  
20 or, excuse me -- utilizing the FSAR because the FSAR  
21 does not give detail on the size and configuration of  
22 the cabinet. But you need to do a seismic analysis. So  
23 the number of bolts was provided early in the history of  
24 the FSAR for reference purposes as typical.

25           The detail design utilized a different number

1 of bolts. That is the number we use when we install the  
2 components, and those components were designed and the  
3 seismic adequacy determined from those manufacturer's  
4 design documents.

5 Q Mr. Museler, even though these are items you  
6 have been talking about are deviations and not Appendix  
7 B alleged violations, is it LILCO's intent to obtain a  
8 full resolution of these items?

9 A (WITNESS MUSELER) Yes, sir, it is, and it  
10 always has been. We have always tracked and resolved  
11 all items contained in I&E inspection reports in all  
12 three categories: the violations category, the  
13 deviations category, and the observation category. And  
14 in this particular case, we have reached agreement with  
15 the Commission on all except item 2 of Appendix B, and  
16 we expect to reach resolution on that item, which is  
17 referred to -- has been referred to NRR.

18 (Counsel for LILCO conferred.)

19 A (WITNESS MUSELER) Mr. Ellis, that is in  
20 reference to -- I forget the exhibit number -- but it is  
21 in reference to the November 4th letter to Mr. Pollock  
22 from Mr. Martin, director, division of engineering and  
23 technical provisions, LILCO Exhibit 33.

24 Q Are you referring to some particular paragraph  
25 in LILCO Exhibit 33?

1           A       (WITNESS MUSELER) Yes, sir. That letter is  
2 organized the same way the CAT inspection and the  
3 response to the CAT inspection is organized. It's on  
4 page 2, Appendix B. And that indicates that the status  
5 of the items is as I described. Item 2 will be reviewed  
6 by NRR as stated there. All the other items we have  
7 reached acceptable resolution with the Staff on.

8                   (Counsel for LILCO conferred.)

9           Q       Mr. Museler, does LILCO Exhibit 33 reflect  
10 your current understanding of the status of the matters  
11 under Appendix A and in Appendix B of the CAT report?

12           A       (WITNESS MUSELER) Yes, sir. And Appendix C  
13 also.

14                   (Counsel for LILCO conferred.)

15           Q       Mr. Museler, let's turn our attention to the  
16 remaining appendix to the CAT report, Appendix C. What  
17 does this appendix consist of?

18           A       (WITNESS MUSELER) Appendix C, Mr. Ellis,  
19 refers to observations of the I&E inspectors during this  
20 inspection and covers four areas: timely incorporation  
21 of the E&DCRs into drawings; electrical separation; the  
22 inclusion of certain systems into the proposed technical  
23 specifications; and carbon steel bolting material,  
24 corrosion.

25           Q       Are these matters assigned severity levels 1,

1 2, 3, 4, 5?

2 A (WITNESS MUSELER) No, sir, they are not. The  
3 title of "Observation" falls below that of "Deviations,"  
4 as Mr. Eifert described earlier. This is a less  
5 important category of finding than the deviations, which  
6 themselves fall below the severity levels.

7 Q Now, we have talked about the three appendices  
8 to the CAT report. Have you addressed all of the items  
9 in the CAT inspection report which required a response  
10 from LILCO?

11 A (WITNESS MUSELER) Yes, sir. In our responses  
12 to this report we responded to every item in all three  
13 appendices.

14 Q Is there another section entitled "Unresolved  
15 Items"?

16 (Witnesses conferred.)

17 A (WITNESS MUSELER) Yes, sir. The unresolved  
18 items section refers to questions that the NRC  
19 inspectors raised during the audit for which we needed  
20 at that time to provide additional information.

21 Q Does LILCO follow up these items even though  
22 no response is required?

23 A (WITNESS MUSELER) Yes, sir, we do. We have  
24 provided some of that information through Mr. Higgins.  
25 Other information on there referred to many times to the



1 status of a given activity, and that means that the  
2 inspector will follow up in a subsequent inspection when  
3 the activity is at such a stage that he can close out  
4 this concerns.

5           But all of those items, all of those  
6 unresolved items, are followed up both by ourselves and  
7 by the NRC I&E inspector on site.

8           A       (WITNESS EIFERT) Mr. Ellis, I would like to  
9 add that the items that the NRC reports in both the  
10 observations category and the unresolved categories are  
11 also not even alleged violations of 10 CFR 50 Appendix B.

12          Q       Well, with respect to -- did you have anything  
13 further to add?

14                   (No response.)

15          Q       With respect to CAT inspection and the CAT  
16 report, Mr. Eifert or Mr. Museler, has the NRC provided  
17 any further assessment of those results?

18          A       (WITNESS MUSELER) Yes, sir, Mr. Ellis. As  
19 part of the SALP yearly assessment of the overall  
20 program, the NRC considers the results of all of their  
21 inspections during the year and the applicants' and our  
22 responses to those inspections. And the SALP assessment  
23 consists not only of I&E NRC personnel but also of NRR  
24 NRC personnel in a committee-type forum to assess the  
25 overall -- excuse me -- to assess the overall

1 performance of the applicant.

2           They consider the findings of their I&E  
3 inspections, they consider our responses to those  
4 findings, and they do make a judgment as to the adequacy  
5 of the overall program. In some cases they indicate  
6 increased attention may be warranted. We do give  
7 considerable weight to those considerations. In some  
8 cases we may disagree with them, but we also provide  
9 overall responses to their assessment, and we have done  
10 that in the case of each SALP.

11           But in direct answer to your question, we  
12 believe that in the '82 SALP the CAT inspection results  
13 are summarized as follows. This is a quotation from  
14 that report:

15           "Management involvement in assuring quality  
16 was evidenced by explicitly stated procedures and  
17 policies, well-maintained and available records, a  
18 working corrective actions system, decision making with  
19 adequate management review and design activities well  
20 controlled and verified by QC inspection.

21           "The installed piping and wiring conformed to  
22 drawings and specifications. Documents, drawings and  
23 technical materials were readily available and carefully  
24 controlled. No inferior workmanship was observed. The  
25 NRC inspection team identified very few exceptions to

1 this assurance of quality. Several minor discrepancies  
2 and two of the violations were corrected by the licensee  
3 prior to completion of the inspection."

4 MR. ELLIS: Judge Brenner, that concludes  
5 LILCO's redirect examination.

6 JUDGE BRENNER: I guess you had better give us  
7 the date of the SALP report, as long as you have read  
8 from it at this point.

9 WITNESS MUSELER: The SALP report was  
10 transmitted by letter dated May 19, 1982, to Mr. Richard  
11 W. Sterestecki (phonetic), the chairman of the SALP  
12 committee of the SALP board, it's characterized as, to  
13 Mr. Pollock. And I am referring to page 17 under the  
14 CAT inspection section under the analyses heading.

15 MR. ELLIS: Judge Brenner, we have copies if  
16 the Board would like them.

17 JUDGE BRENNER: I have read it, so I know I  
18 have a copy somewhere. I guess we will get it in the  
19 normal service. But we will let you know if we need  
20 another.

21 WITNESS MUSELER: Judge Brenner, may I just  
22 say one thing? We have discussed a number of our  
23 conversations and, in some cases, disagreements with  
24 some I&E inspectors. However -- and this is a personal  
25 note -- I would just like to note on the record that I

1 believe that Mr. Lou Narro, who was our I&E regional  
2 inspector for many years, and I don't believe is  
3 anymore, that our company holds Mr. Narro in the highest  
4 regard as a professional, both as an engineer and as an  
5 inspector. So I don't want in any way to cast any  
6 aspersions at that individual nor at any of the other  
7 I&E inspectors.

8 I believe Mr. Narro's professional treatment  
9 of this plant over many years deserves to be  
10 acknowledged by the people he is auditing.

11 JUDGE BRENNER: You are entitled to disagree  
12 with inspectors without any implications beyond that  
13 being drawn.

14 All right. Judge Carpenter had some questions  
15 at this time.

16 BOARD EXAMINATION

17 BY JUDGE CARPENTER:

18 Q Mr. Gerecke, I would like to get your help for  
19 a few minutes from a perspective very different from  
20 what's going on over the last few weeks. I have a  
21 problem. Just to give you the framework. I am not  
22 having a problem seeing the forest for the trees. I  
23 might not be able to see the trees for the leaves at  
24 this point. So I am trying to cleave into this, and I  
25 want to look at this from a very broad point of view.

1 I looked at the Suffolk County Exhibit 63,  
2 which is a compilation of reports signed by you, reports  
3 to management on the quality assurance program. And I  
4 would like to get your help in the following area. Have  
5 you had a chance to review this Suffolk County 63  
6 document?

7 A (WITNESS GERECKE) Yes, Judge Carpenter, I  
8 looked over it again during the lunch hour.

9 Q I have been looking at the last six reports  
10 that run from May 30, 1980, through December 3, 1981.  
11 And in looking at those six reports, which are  
12 successive reports, I would like to ask if you would  
13 agree with me that it is true that you reported to  
14 management that there had been a failure to provide  
15 environmental protection for equipment in each of those  
16 six reports?

17 (Witnesses conferred.)

18 A (WITNESS GERECKE) Yes, Judge Carpenter, each  
19 one of those quarterly reports did reference findings  
20 relative to the environmental protection of certain  
21 equipment or material at the site. We also indicated in  
22 that progressively as we went along that the various  
23 findings had been corrected, had been resolved.

24 Q Yes. And I don't want to dwell on any  
25 particular one. We have had a lot of testimony about

1 many of those. What I would like to explore a little  
2 bit is, first of all, what responses did you receive  
3 from those to whom you were reporting this persistent  
4 problem? I am trying to get at the forest now, a little  
5 bit of management attitude.

6       A       (WITNESS GERECKE) I think, first of all,  
7 Judge Carpenter, these reports, they are routine  
8 quarterly reports just to let our management know, to  
9 keep our management apprised of the status of our audit  
10 program.

11               This is not the initial notification of  
12 concern that management would get for each of these  
13 audits. Each audit is the subject of an individual  
14 audit report which goes to the appropriate management  
15 personnel, those who would have to take some action  
16 relative to getting the condition corrected.

17               Normally, there is no action is required or  
18 expected of this particular report. However, I do  
19 frequently get calls, or I get the report back from  
20 management with a question on it, where they have looked  
21 at a particular finding and would ask do I think this is  
22 really significant, does it have potential for  
23 significance?

24               I cannot honestly say whether or not I  
25 received a question back from management on these

1 particular findings relative to environmental  
2 protection. As I say, each one did indicate that there  
3 was some finding in that area, but it was also indicated  
4 that previous findings had been in most cases, all had  
5 been resolved.

6           In looking at these findings myself and  
7 discussing them with Mr. Kelly, who was the division  
8 manager at the Shoreham site, we didn't attribute any  
9 great significance to any of these findings. If we had  
10 an audit finding that we felt was really significant or  
11 had the potential for becoming significant, we wouldn't  
12 wait for this report, or we wouldn't even wait for the  
13 individual audit report to be published. In this case,  
14 the concerns of management would be advised, I would  
15 like to say, immediately, I would say, within a day or  
16 so.

17           I think an example of this is one of the field  
18 audit reports that we discussed in earlier testimony, I  
19 think it was in 602, concerning the quarter and the  
20 difficulty we were having with the E&DCRs. In that  
21 case, the vice president was invited to the exit  
22 conference, sat in on the exit conference, and took the  
23 action that he felt was necessary to get audit  
24 management moving to start getting that problem resolved.

25           Q     To be sure I understood you correctly, you are

1 making the point that in addition to this report that I  
2 have been looking at that was compiled by the County,  
3 that there are separate parallel reports for things that  
4 you think they should pay particular attention to?

5 A (WITNESS GERECKE) What I indicated was that  
6 in addition to this report, each audit is a subject of  
7 an individual audit report. And then if we consider  
8 something is of special significance or may be of  
9 special significance, the concerned management is  
10 notified, normally not in a written report, but by phone  
11 or personal contact.

12 This, for example, is what was done in the  
13 case of the E&DCR audit. The vice president was advised  
14 that there was a finding in the field audit and told  
15 generally what it was about, and he was invited to the  
16 exit conference, and he attended.

17 BY JUDGE MORRIS:

18 Q Was that the vice president for engineering?

19 A (WITNESS GERECKE) I am sorry, Judge Morris,  
20 could you repeat that, please?

21 Q Which vice president, the one to whom you  
22 report directly or someone else?

23 A (WITNESS GERECKE) In the case of that  
24 particular report, both vice presidents were advised.  
25 But Mr. Loffert (phonetic), who was at that time the



1 vice president, project management, was the one who  
2 attended the exit conference.

3 A (WITNESS MUSELER) Judge Morris, he was the  
4 vice president with direct responsibility for  
5 construction and engineering.

6 A (WITNESS KELLY) Judge Carpenter, if I could  
7 just add something. Like Mr. Gerecke said, this isn't a  
8 vehicle we identify problems to our management. If we  
9 want them to be aware of something, we pick up the phone  
10 and call them. It is not an uncommon occurrence for the  
11 vice president to stop into my office over the last 10  
12 years, both Mr. Loffert and Mr. Pollock, if there's ever  
13 a problem and we need them there readily available to us.

14 BY JUDGE CARPENTER:

15 Q Well, Mr. Kelly, you just jumped three items  
16 down my question list. This was the point I wanted to  
17 get a feel for. You see, I just have this, or the only  
18 reports I have before me which show a persistent pattern  
19 with respect to time of quality assurance, giving  
20 attention to the failure to provide environmental  
21 protection. And I just was trying to get a feel for how  
22 the loop got closed.

23 All I see is the reports going up, and I was  
24 trying to get a feel for the closing of the loop. And  
25 specifically with respect to trying to reduce or -- and

1 I doubt "eliminate" would be a proper term -- but  
2 certainly diminish the frequency of this failure to  
3 provide environmental protection.

4 (Witnesses conferred.)

5 A (WITNESS KELLY) First, as far as the loop is  
6 concerned, the mechanism that gets the items fixed is  
7 the audit report that is sent out and the required  
8 responses for corrective action and preventative action,  
9 if appropriate. That is the mechanism to getting the  
10 items corrected.

11 This is a summary report to advise management  
12 of what is happening in the audit area. I think we  
13 mentioned earlier in the testimony, and it might be  
14 worthy to repeat, an awful lot of my field audits are in  
15 this front report for a very simple reason: If you  
16 notice on most of these, it starts off with a "For your  
17 information and usage, one copy of each of the reports,"  
18 and it talks about the quality systems, audit program,  
19 my audit program, and the operational QA audit program.

20 These are attached to these reports that go to  
21 management. In those reports for the other  
22 organizations is a fairly detailed listing of each  
23 finding and the status of previous audit findings in my  
24 section. Okay. Because during the quarter we usually  
25 conduct somewhere in the neighborhood of about 45

1 audits, to put it in that same type of format with a  
2 listing of every finding and to also give the status of  
3 all previous audit findings that are not yet closed out  
4 from other audits, you would have a report that would be  
5 about that thick (indicating).

6           So a lot of the findings to make management  
7 aware of what types of audit findings we are finding in  
8 the audit program, we put it into that front section  
9 because they do not have the type of nondescript in the  
10 other attached systems for my audits.

11       A       (WITNESS MUSELER) Judge Carpenter -- I am  
12 sorry.

13       Q       No, I want to keep narrowly focused, if you  
14 will. What I want to explore is whether there was any  
15 response to this persistent appearance of this item in  
16 the summary.

17       A       (WITNESS MUSELER) Judge Carpenter, I get, as  
18 a construction manager, I get copies of every one of  
19 those field audits individually from Mr. Kelly. And I  
20 read every one of them. In certain areas, the E&DCR  
21 area, I think when we discussed it, we have shown that.

22       Q       Mr. Museler?

23       A       (WITNESS MUSELER) I think we have shown that  
24 those audit findings have decreased over time  
25 substantially. I don't know what the numerical trend is

1 in terms of the environmental protection audit findings  
2 over time. My assessment from having been involved or  
3 having read those reports myself since 1976 on a  
4 real-time basis and in the discussions we have had as  
5 part of these hearings indicates to me that the number  
6 of observations, the number of audit findings in that  
7 area, is not excessive, to begin with.

8 I believe that it is representative of the  
9 situation one expects in the building of any power  
10 plant. You do have findings. I don't believe we could  
11 ever get those findings to zero. I am not sure we could  
12 reduce them below the level we are experiencing now.  
13 They are not at a high level, in any case. So I believe  
14 your question, I believe, went to what was happening to  
15 reduce these findings to get them --

16 Q No, I am sorry, Mr. Museler, I specifically  
17 wanted to know what responses were received from -- back  
18 to the quality assurance manager from the people to whom  
19 he was reporting. I understand what's going on at your  
20 level, I think, over the past 5 or 6 weeks fairly  
21 clearly. I am just trying to look a little bit at the  
22 loop back.

23 Mr. Kelly commented that he had some verbal  
24 communications, and I was just curious as to how the  
25 loop gets closed. How do you know that these people are

1 paying attention to you?

2 (Witnesses conferred.)

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1           A       (WITNESS GERECKE) Judge Carpenter, I have  
2 been questioned about these reports a number of times,  
3 just asking what I felt -- did I consider that some of  
4 these things were serious or not. I cannot recall  
5 specifically questions in this area of environmental  
6 protection.

7                   As a matter of fact, I think I can -- I  
8 remember explaining when we were talking about  
9 environmental protection in this case, in most cases it  
10 was just a torn poly-type cover or end caps missing from  
11 equipment. We don't expect normally to get specific  
12 action on these reports. I do get questions on it  
13 fairly frequently. At least every other report I will  
14 get a call from one of the two vice presidents it goes  
15 to.

16                   And, as I said, this is not the report that we  
17 use to get corrective action. As has been explained  
18 before, these are the audit reports and the follow-up is  
19 accomplished in the routine of following up on the audit  
20 finding.

21           A       (WITNESS MUSELER) Judge Carpenter, is it also  
22 significant, I think, that Mr. Coffert, who was the Vice  
23 President of Project Management, did have construction  
24 experience on Connecticut Yankee and he was familiar  
25 with the types of items that are discussed in terms of

1 environmental protection here. Mr. Pollack has ben  
2 involved in the construction of our fossil units for  
3 many years, so he also has a personal understanding of  
4 the kinds of things that were reported by Mr. Gerecke.

5 I think we have said that they haven't  
6 expressed any specific concerns in this area and I  
7 believe that is because in the reading of those reports,  
8 with their understanding of the process, it indicated to  
9 them that these did not indicate any substantive  
10 problems in this area.

11 A (WITNESS GERECKE) I think I can add one  
12 thing, Judge Carpenter. Many times the questions I get  
13 would not focus in on any one area of the report. I  
14 will many times get the report back and there will be a  
15 note on it. Is there anything in this report of  
16 particular significance that I should follow, or words  
17 to that effect.

18 It wouldn't omit on any one area. In this  
19 case I would either talk with him or pick up the phone  
20 and call him or go up to his office and talk with him,  
21 if he was available.

22 Q Well, this went on for 18 months. Every  
23 report talks about the same area, and I was curious as  
24 to whether it finally caught somebody's attention that  
25 began to inquire about this.

1           A       (WITNESS GERECKE) I can recall one instance,  
2 yes, Judge Carpenter, where he asked about this  
3 particular area, and this is where I just remember  
4 discussing the poly coverage and the end caps as being  
5 the primary source of these findings. I discussed it  
6 with Mr. Kelly before that on a number of occasions  
7 before ever writing these reports and I was convinced  
8 from talking to him that it was not a serious problem.

9                   It was something that was going on, probably,  
10 about the level one would expect, but once we had  
11 initially reported it we kept reporting it on a  
12 quarterly basis until we were satisfied from a quality  
13 standpoint the problem had gone away. And this did take  
14 a little while, but we followed it until it finally was  
15 resolved.

16           Q       Well, that is where, you see, I am having a  
17 problem. The reports I have from May 30, 1980, through  
18 December 3, 1981, show about the same level. Once  
19 again, I want to emphasize I am not talking about the  
20 particular incident but, rather, the category and the  
21 question of whether the audit program is putting static  
22 into the system or a substantive signal.

23                   What is this thing that keeps occurring in  
24 report after report? And the reason I have some  
25 interest in this, I was curious as to whether real



1 problems would be obvious to upper level management if  
2 they were buried in -- these would appear to be minor  
3 environmental protection failures.

4 I don't understand your criteria of  
5 significance. That is what I am trying to get at.

6 A (WITNESS GERECKE) Well, as I testified, for a  
7 real problem we don't rely upon this report to keep  
8 management advised of a real problem. If a real problem  
9 turned up in an audit finding, management would be  
10 advised right after and sometimes during the audit. As  
11 I mentioned with the case of the E&DCRs, if it were a  
12 case where it was impractical for management or a member  
13 of management to attend the exit conference, he might  
14 not be available for a few days, but as soon as he  
15 returns he would be advised that there was a significant  
16 problem where it required some management attention to  
17 get it resolved.

18 We would not rely upon a quarterly report to  
19 do that.

20 BY JUDGE BRENNER:

21 Q Who is the Vice President for Engineering,  
22 again?

23 A (WITNESS GERECKE) Dr. Cardero.

24 Q And Mr. Pollack is the Vice  
25 President/Nuclear?

1 A (WITNESS GERECKE) That's correct.

2 A (WITNESS MUSELER) Judge Brenner, just to make  
3 that clear, Mr. Pollack is Vice President of Nuclear and  
4 he is responsible for engineering relative to the  
5 Shoreham plant. Dr. Cardero's engineering department is  
6 for the rest of the company and not for Shoreham.

7 Q We talked a little bit the other week, Mr.  
8 Gerecke, as to who you report to. I think it was in  
9 your absence, actually, but people may have told you  
10 about it.

11 A (WITNESS GERECKE) Yes, sir, they did.

12 Q When you have these communications to your  
13 immediate upper management, which in your case is the  
14 vice presidential level -- and I note that under the  
15 current organization you have two recipients of your  
16 quarterly reports, one each to the Vice President of  
17 Engineering and the Vice President/Nuclear, and under  
18 the old organization you have the similar two  
19 recipients, although the titles of the offices were  
20 different.

21 Who do you interact with? Which Vice  
22 President in terms of having the matter highlighted? It  
23 is pretty much on an equal basis? Or would the Vice  
24 President/Engineering who, for quality assurance  
25 purposes, is your boss, or is it the Vice President of

1 Nuclear, who has to make sure that things are being done  
2 right below him?

3 I would get some advice on these matters  
4 through your program. How does that work?

5 A (WITNESS GERECKE) I guess in answer to your  
6 question, Judge Brenner, I would have to interact with  
7 both. I do interact directly with Mr. Pollack, who is  
8 the Vice President of Nuclear, and it would be his  
9 responsibility, naturally, to see that something gets  
10 done as it has to be done.

11 I also interacted directly with Dr. Cardero,  
12 who is my boss, but it mainly to keep him advised of  
13 what is going on. Mr. Pollack would be the one who  
14 would take the action.

15 Q Do I infer from that that if you found or find  
16 the problem that you think needs immediate attention for  
17 which you don't want to wait for a report, whether it be  
18 a quarterly report or an audit report, Mr. Pollack is  
19 the one you would call first?

20 A (WITNESS GERECKE) I would call him unless I  
21 knew that Mr. Museler, for example, had already let him  
22 know, yes, sir.

23 Q I was interested in the recipient of the call  
24 more than the caller, and I think you answered that  
25 question.

1           A       (WITNESS GERECKE) Yes, sir. In answer to  
2 your question, we do assure that he does get advised.

3           Q       Is it correct that although being generally  
4 advised, the Vice President for Engineering would only  
5 get involved when as QA manager you felt something was  
6 not being given the priority it should be and at the  
7 Vice President/Nuclear's office or in the organization,  
8 due to action or inaction by the Vice  
9 President/Nuclear? What is your clout, in other words,  
10 with Mr. Pollack?

11          A       (WITNESS GERECKE) I guess to a point, Judge  
12 Brenner, that would be true, but I do keep the Vice  
13 President/Engineering advised so that if the need for  
14 him to become personally involved at any time, he would  
15 be without any hesitation.

16                   BY JUDGE CARPENTER: (Resuming)

17          Q       To wrap this up, I felt perhaps that based  
18 upon what we were hearing last week about lines of  
19 reporting and so on that it would turn out that these  
20 reports of yours over an 18-month period that kept  
21 having a repetitive item would have led up through chain  
22 and back down to Mr. Museler and he might have remarked  
23 that he kept hearing about this from upstairs, and that  
24 is why I was curious to see whether the circuit really  
25 was closed, rather than this wiring diagram and a break

1 in it someplace.

2           And my experiment shows that apparently there  
3 is a lot of cross talk at lower levels, et cetera, and  
4 it is not as simple as I was trying to make it out.

5           A       (WITNESS MUSELER) Judge Carpenter, on the  
6 specific area you have been discussing in terms of the  
7 environmental protection, I did not hear from upper  
8 management on that issue. The reason I didn't hear is,  
9 I believe, because they understood that it was not a  
10 problem that required their attention or required us to  
11 do more than we were already doing on other areas that  
12 are covered in those reports.

13           Back through the years, I did hear from them  
14 on the E&DCR issue. I heard from Mr. Coffert quite  
15 frequently in terms of getting that squared away. There  
16 have been other areas, some of which have been discussed  
17 at these hearings where I have heard rather strongly  
18 from the Vice Presidents that they wanted us to address  
19 items.

20           Those items, some of them, are covered in Mr.  
21 Gerecke's reports, but our management had been informed  
22 of those items, as Mr. Gerecke described, by a telephone  
23 call or meetings because they were of such significance  
24 that quarterly reports just confirmed that those  
25 activities needed attention.

1           So that wiring diagram didn't close on the  
2 environmental protection in the reports that you  
3 referred to. In my opinion, it did not have to. I  
4 don't think that situation was out of control by any  
5 means, but it certainly did close in other areas and the  
6 Vice Presidents did make their desires and scheduled  
7 requirements for resolution known to us.

8           JUDGE CARPENTER: Thank you for helping me  
9 understand this exhibit a little bit better.

10           BY JUDGE MORRIS: (Resuming)

11           Q     Just to continue on, roughly relative to the  
12 same area, do any of you know whether the ROC Committee  
13 or the Nuclear Review Board addressed itself to the  
14 subject of quality assurance or quality control at the  
15 plant?

16                     (Witnesses conferring.)

17           A     (WITNESS GERECKE) The Nuclear Review Board is  
18 addressing itself to the quality assurance at the  
19 plant. They had a presentation on quality assurance  
20 scheduled by me for the last two meetings, but I was  
21 involved in the hearing so it hasn't been made, but it  
22 will be made at the next meeting of the Nuclear Review  
23 Board.

24           Q     Was that at your initiation or did the Review  
25 Board ask for such presentation?

1           A       (WITNESS GERECKE) I believe that initially  
2 the Nuclear Review Board asked me to make a  
3 presentation, but I was going to recommend a  
4 presentation anyway. I am a member of the Nuclear  
5 Review Board, but I believe the chairman came to me  
6 before I had a chance to talk to him to see if I could  
7 make a presentation.

8           Q       Were any specific directions given to you as  
9 to what to address?

10          A       (WITNESS GERECKE) A general description of  
11 our program that would also include a description of the  
12 OQA program by the operating QA engineer, and a  
13 discussion of the audit program that we would use to  
14 support the Nuclear Review Board.

15                   Judge Morris, we will present -- in the  
16 quality assurance department have a separate audit  
17 function where we will report directly to the chairman  
18 of the Nuclear Review Board.

19          Q       Yes, I understand that. And when some of  
20 those members are present I will follow up on that,  
21 namely the chairman.

22                   I want to switch to another item, which is  
23 sort of a housekeeping item. It is Attachment 46,  
24 Appendix 12.1, page 32 of 32, to your direct testimony,  
25 and it is the subject of instrumentation and control

1 exemptions from documentation requirements. It is  
2 SP-12.0109.01, Revision 6. It is, I guess, page 52 of  
3 Attachment 46.

4 MR. LANPHER: Judge Morris, I hate to  
5 interrupt you, but if you are going to pursue a number  
6 of questions on OQA, I would like to get my colleague --

7 JUDGE MORRIS: No, it is just one simple  
8 question.

9 MR. LANPHER: Okay, fine.

10 JUDGE MORRIS: I hope it is simple and that  
11 the answer, likewise, is simple.

12 BY JUDGE MORRIS: (Resuming)

13 Q It is on the question of exemptions and the  
14 number of items that are considered to be consumables,  
15 which are not subject to QA. It is the first sentence  
16 in the first paragraph.

17 A (WITNESS MUSELER) Yes, sir.

18 Q We spent a lot of time talking about this, but  
19 the loose end for me was that in ordering a piece of  
20 equipment which is subject to QA, are the individual  
21 components of that system -- for example, electrical  
22 components -- likewise subject to QA for the initial  
23 purchase?

24 (Witnesses conferring.)

25 Q I think Mr. Lanpher was hinting to me and



1 Judge Brenner has been more direct in that the subject  
2 came up with different witnesses, and it was in the  
3 arena of operational QA. But for that reason I wanted  
4 to get back to the original purchase, which I think you  
5 gentlemen are more familiar with.

6 To what extent, when a piece of equipment is  
7 bought, are such things as transistors or condensers  
8 subject to a full QA treatment?

9 (Witnesses conferring.)

10 Q I guess it was neither a simple question nor  
11 was it a simple answer. Do you want to think about it  
12 over the break?

13 A (WITNESS MUSELER) I would like to at least  
14 attempt to answer it the first time to see if we at  
15 least understand your question correctly, sir.

16 When we buy a piece of electronic equipment  
17 that includes the kind of components that you are  
18 referring to -- transistors, diodes, resistors, items of  
19 that kind -- the general situation -- and there may be  
20 some specific exceptions to it, but the general  
21 situation is that the supplier to us of a safety-related  
22 component would obtain those kind of components as  
23 catalog items from a sub-supplier.

24 The catalog items bought to the general  
25 specification for that kind of an item, generally a mill

1 spec in types of components like this, so that those  
2 components would be supplied in accordance with that  
3 specification by the sub-supplier. But generally no  
4 additional QA program would be imposed on that  
5 sub-supplier of the resistors.

6           As I said, in all cases that may not be the  
7 case, but in general when catalog items are included in  
8 the scope of supply of one of our suppliers, his QA  
9 program operates on his product, which incorporates  
10 these catalog items.

11           JUDGE MORRIS: Thank you. That is just the  
12 answer I was seeking.

13           BY JUDGE BRENNER: (Resuming)

14           Q     I guess, just to carry it one point further, I  
15 infer from that -- and I'm asking you to either confirm  
16 or tell me where I'm wrong -- that whatever assumptions  
17 as to the functionability of the overall instrument or  
18 whatever it is we are talking about assumes that the  
19 components of the types listed as consumables on this  
20 page are the ones ordered to a typical catalog  
21 specification, as opposed to anything on a higher  
22 grade.

23           A     (WITNESS MUSELER) Yes, sir. That is exactly  
24 right. Plus, with the environmental and seismic  
25 qualification programs the finished product is also

1 qualified, which includes all of those small  
2 components.

3 BY JUDGE MORRIS: (Resuming)

4 Q Mr. Long, earlier you were describing to us  
5 the General Electric program for QA on both  
6 safety-related and non-safety-related items, and you  
7 clarified your previous answer to indicate that the  
8 amount of QA, for example, on non-safety-related would  
9 depend upon the importance of the equipment or its  
10 function.

11 A (WITNESS LONG) Yes, sir, that is correct.

12 Q Who would decide what degree of QA to apply to  
13 such a piece of equipment?

14 A (WITNESS LONG) For non-safety-related items,  
15 that decision is typically a joint decision, Judge  
16 Morris, between our design engineering organization and  
17 the quality assurance organization.

18 Q This is within GE we are talking about?

19 A (WITNESS LONG) Within GE, yes, sir.

20 Q Have you been party to such discussions  
21 yourself?

22 A (WITNESS LONG) I have been, yes, Judge, but  
23 it has been quite a number of years since I have been  
24 involved in that particular activity.

25 Q Do you recall or are you familiar with how the

1 process proceeds? Is there a specific meeting called to  
2 decide that narrow question, or is this a part of the  
3 overall specification for the equipment?

4 A (WITNESS LONG) Typically you would have a  
5 drawing, for example, prepared by engineering and let's  
6 talk about a procured item now in this particular  
7 instance. The drawing would identify a particular item  
8 as being non-safety-related. The drawing would be  
9 prepared by engineering.

10 A material request identifying that drawing  
11 would be transmitted to the quality assurance  
12 organization. The quality assurance organization would  
13 review the characteristics that were called out on the  
14 drawing that was incorporated by the material request,  
15 and then the quality assurance engineer would contact  
16 the design engineer and jointly they would agree on the  
17 quality assurance characteristics considered important.

18 And based upon that agreement specific quality  
19 assurance requirements would then be added to the  
20 material request and those requirements in terms of  
21 programmatic requirements that would ultimately be  
22 placed on the supplier would be incorporated in the  
23 purchase order.

24 JUDGE MORRIS: Thank you.

25 JUDGE BRENNER: All right. We are going to

1 break and then it would be time to come back for any  
2 follow-up questions from the County. You mentioned  
3 earlier that you might need extra time, Mr. Lanpher. Do  
4 you know what your situation is on total time and  
5 whether a little extra time now would save time?

6           Why don't you tell us what the situation is  
7 and what you think you need?

8           MR. LANPHER: Well, I do think extra time  
9 would save time in the long run, but what I am trying to  
10 judge in my own mind is assuming we go until 5:00  
11 tonight, I can finish tonight, and that is a hard  
12 judgment.

13           JUDGE BRENNER: You don't have to promise.

14           MR. LANPHER: I am not promising. I don't  
15 have a great deal of recross, though some of the  
16 questions may lead to more extensive follow-up. I think  
17 my best guess would be that we will finish early  
18 tomorrow morning, but we will just have to see how it  
19 goes. I may finish by 5:00. How about giving me an  
20 extra five minutes now, until ten of four?

21           JUDGE BRENNER: Sure, that's easy, if that's  
22 all you want.

23           MR. LANPHER: And let me just see, because  
24 with a little flexibility at the end, possibly, but I  
25 will try to finish today. I just don't know.

1           JUDGE BRENNER: All right. Why don't we break  
2 until five to four to give you a little more than an  
3 extra five minutes, and we will come back at that point.

4           After the break or at the end of the day maybe  
5 we should talk about where we are going next.  
6 Originally we were not going to have that discussion  
7 until tomorrow, but we may get to something else  
8 tomorrow, so if the parties already know, they can tell  
9 us. If they don't already know, they had better figure  
10 it out. But let's break now so we have the time when we  
11 come back.

12           (A brief recess was taken.)

13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

1 JUDGE BRENNER: We are back on the record and  
2 ready to proceed with the County's follow-up questions  
3 based upon the redirect by LILCO and any Staff questions  
4 and Board questions since the Board last examined.

5 Do you want to clean up that storage chart  
6 first?

7 MR. LANPHER: I would be happy to, Judge  
8 Brenner. We previously marked as Suffolk County Exhibit  
9 73 for identification a document entitled, "Column  
10 Heading Abbreviations" with 13 pages attached, and this  
11 relates to the storage surveillance reports. There were  
12 some questions from the Board related to why there were  
13 some number discrepancies where we thought they should  
14 have marked up, and I would like to have marked as  
15 Suffolk County Exhibit 73A a document entitled "Suffolk  
16 County Explanation of Queries Relative to Suffolk County  
17 Exhibit 73."

18 I am informed by LILCO's counsel that they  
19 think the explanations are adequate, and unless there is  
20 any objection, I would like to move Suffolk County  
21 Exhibit 73 and 73A into evidence.

22 (The document referred to  
23 was marked Suffolk County  
24 Exhibit No. 73A for  
25 identification.)

1 JUDGE BRENNER: Are there any objections?

2 MR. ELLIS: No objections, Judge Brenner.

3 JUDGE BRENNER: Okay. Suffolk County Exhibit  
4 73 was previously identified on the record of October  
5 29, 1982, and it is now admitted into evidence along  
6 with Suffolk County Exhibit 73A.

7 (The documents previously  
8 marked Suffolk County  
9 Exhibits No. 73 and 73A for  
10 identification were  
11 received in evidence.)

12 MR. LANPHER: Thank you, Judge Brenner.

13 Should I proceed, Judge Brenner?

14 JUDGE BRENNER: I take it you are not going to  
15 finish today in any event.

16 MR. LANPHER: I am going to try.

17 JUDGE BRENNER: Well, let me raise one point,  
18 then. Originally we said we would wait until tomorrow  
19 to hear from LILCO on the Suffolk County designation of  
20 audit data to be moved into evidence, and as I said at  
21 the time we first discussed this, and you weren't here,  
22 Mr. Lanpher, I was very concerned that if there was any  
23 problem, we hear about it before you lost your  
24 opportunity to go back and examine on it.

25 Is LILCO ready on that, by any chance? I know



1 originally we said tomorrow. You see, if he finishes  
2 today, I don't want to find out there is a problem  
3 tomorrow when the witnesses are gone.

4 MR. ELLIS: That is right. Well, Judge  
5 Brenner, we have the raw data. If Mr. Lanpher can  
6 finish today, we will certainly do whatever has to be  
7 done to get it to him so that he can do whatever he  
8 thinks is necessary. As I recall from looking at the  
9 raw data, there are some instances where we focused more  
10 narrowly within a particular observation of Part 1 or  
11 Part 2, and I believe that raw data has been compiled.

12 JUDGE BRENNER: Let's leave it this way. We  
13 will leave the designation by Suffolk County aside for  
14 now. If there is a problem, try to resolve it as soon  
15 as possible. If it is unresolvable, which is probably  
16 not very likely but it could happen, then we will give  
17 the County an opportunity to examine on a point that it  
18 thought it had previously examined on but LILCO believes  
19 it hadn't. So we want to make sure this is taken care  
20 of certainly by very early next week.

21 MR. ELLIS: Yes, sir. We will also try to  
22 give Mr. Lanpher the information right now.

23 JUDGE BRENNER: Well, he can't do anything  
24 with it right now. It was either going to be you have  
25 no problem or we have to put it aside, so we have to put

1 it aside. All right. But we haven't forgotten that  
2 possibility, Mr. Lanpher.

3 MR. LANPHER: I have reviewed that transcript  
4 and I had assumed that -- well, enough said. I am going  
5 to go through as much of my recross as I can right now,  
6 and if I should finish everything else, I'm sure that we  
7 could let some of the witnesses go anyway. I would hate  
8 to see that fight, though.

9 [Laughter.]

10 MR. ELLIS: Well, Judge Brenner, I have to  
11 make a decision fairly soon about Mr. Youngling, who is  
12 in New York.

13 JUDGE BRENNER: Well, you make your decision  
14 at 5:00 or 5:15, whenever we are done. I can't help you  
15 now. We have gotten the estimate as close we can get  
16 it. He is going to try; he doesn't know.

17 MR. ELLIS: And if it is of any assistance to  
18 the Board and to Mr. Lanpher, I have received a  
19 unanimous petition from the panel that they are willing  
20 to go however late tonight that Mr. Lanpher is willing  
21 to go and the Board is willing to go.

22 JUDGE BRENNER: Not very late, is the answer.  
23 If it is a matter of a few minutes, we will consider it.

24 MR. LANPHER: Why don't I get on with it.

25 RE CROSS EXAMINATION

1 BY MR. LANPHER:

2 Q Gentlemen, I am going to first follow up on a  
3 couple of the recent questions that were asked by the  
4 Board, and then we will go back earlier in your  
5 examination by Mr. Ellis.

6 First, Mr. Museler, I believe in response to a  
7 question from Judge Morris, you related that the initial  
8 purchase of items which are described in Attachment 46  
9 to your prefiled testimony, page 32 of 32, that those  
10 components are generally purchased to mil spec  
11 requirements for the initial purchases. Is that correct?

12 A (WITNESS MUSELER) No, sir, it is partially  
13 correct. I did refer to mil specs as an example of what  
14 a catalogue item might be procured to. I did not mean  
15 to imply that the majority of those items were procured  
16 to mil specs. They were procured to the applicable  
17 industry standards.

18 A number of them, a number of industry  
19 standards and mil standards are synonymous, but I don't  
20 know what the breakdown is and I did not mean to imply  
21 that the majority of them were purchased to mil  
22 standards.

23 Q Thank you.

24 Mr. Long, for G.E.-manufactured electronics,  
25 are the electrical components purchased to mil spec

1 requirements or are they purchased to commercial grade?

2       A       (WITNESS LONG) I personally don't know of any  
3 procurements to military standards that are made in the  
4 G.E. electronics area. There may be some, but I am not  
5 personally aware of them. Most of the components that  
6 have been referred to here, resistors, capacitors,  
7 transistors, are procured as commercial grade type items.

8       Q       Now, Mr. Long, in response to another Board  
9 question you described a General Electric material  
10 request routing procedure. Is it your testimony that  
11 for non-safety related equipment purchased from G.E. in  
12 Wilmington and San Jose, that the material request is  
13 routinely routed to Quality Assurance for review?

14       A       (WITNESS LONG) I was referring, as I  
15 qualified my comment, to the procurement of items and  
16 equipment. The material requests do typically, yes, go  
17 to Quality Assurance for application of quality  
18 assurance requirements prior to being incorporated into  
19 the procurement documents and the purchase orders.

20       Q       So it would be fair to say that that is a  
21 routine requirement for procured items, that you get QA  
22 review of the material request?

23       A       (WITNESS LONG) I should qualify that to some  
24 extent, in that there are some standard procurements  
25 wherein for a class of items in a predetermined manner a

1 particular set of quality assurance requirements have  
2 already been established so that as long as that  
3 particular item is ordered and there are no deviations  
4 from what has been previously specified and ordered, it  
5 would not necessarily go through quality assurance for  
6 each procurement. It is done in a generic way and  
7 one-time manner and not necessary to be repeated for  
8 each procurement action.

9 [Counsel for Suffolk County conferring.]

10 Q Is there a difference, Mr. Long, in the  
11 material request routing --

12 [Counsel for Suffolk County conferring.]

13 Q Let me strike that. I may come back to it.  
14 Let me go to another follow-up item of sorts.

15 First, Mr. Kelly, I believe you testified  
16 earlier in this proceeding that to the quantity of field  
17 audits which your organization has performed, can you  
18 refresh my memory? It is in the order of 1400 or 1500,  
19 is that correct?

20 A (WITNESS KELLY) It is on the order, right  
21 now, in excess of 1500.

22 Q So what is the quantity of field audits that  
23 would be performed in any one quarter; several hundred  
24 or a hundred?

25 A (WITNESS KELLY) Typically I think it runs

1 about 45.

2 Q Now, Mr. Gerecke, in response to questions, I  
3 think, by Judge Carpenter concerning the quarterly  
4 reports to management, you referred to these as routine  
5 quarterly reports. Do you recall that testimony?

6 A (WITNESS GERECKE) Yes, I do.

7 Q What did you mean by routine?

8 A (WITNESS GERECKE) Routine. I meant just a  
9 routine quarterly report of the quality assurance  
10 activities, in this case program activities that were  
11 forwarded to management similar to many other routine  
12 reports that management orders from other areas of the  
13 company.

14 Q Now, Mr. Gerecke, the reports, the field  
15 audits or the field audit findings which are highlighted  
16 in the text of these quarterly reports, do you consider  
17 it to be routine to highlight things in the report in  
18 the text?

19 A (WITNESS GERECKE) In this particular report,  
20 yes, I do.

21 Q So it is your normal practice to single out  
22 one or several field audits to bring to management's  
23 attention in each quarterly report?

24 A (WITNESS GERECKE) Normally we would bring one  
25 or more field audits to management's attention in each

1 quarterly report.

2 Q So is it fair to state that the field audits  
3 that you specifically discussed in the text of these  
4 reports are one or several out of approximately 45 field  
5 audits which are done in that previous quarter?

6 [Panel of witnesses conferring.]

7 A (WITNESS GERECKE) Yes. These would be the  
8 ones we singled out of the 40, 45, whatever it might be  
9 that were performed during that quarter, and they would  
10 be incorporated because it was something we thought  
11 management wanted to, should know about. They might  
12 also be singled out because they were the follow-up  
13 audits or the follow-on audits to an area that was  
14 reported in a previous quarterly report.

15 Because they happened to be singled out in the  
16 quarterly report does not imply that in and of  
17 themselves they have any great significance. Normally  
18 the initial report would be or the initial time that a  
19 certain subject area was reported would be a case of  
20 where we felt that in the total population of audit or  
21 audit findings during that quarter, maybe none of which  
22 had any real significance but these. Probably there  
23 were none of them during the quarter of real  
24 significance, but from those that we did have, we would  
25 think that management should be aware of the one or two

1 or three or whatever it happened to be that we did  
2 single out.

3 I think Mr. Kelly explained a little earlier  
4 the way the report is set up. The field audits are  
5 listed but it is just tabulated by the field audit  
6 number and number of findings. There would be no way  
7 without management reading every one of the audit  
8 reports to know what the field audit program was  
9 identifying. Therefore, we tend to include more of the  
10 field audits in the memorandum than we would have audits  
11 from other sources.

12 Q Mr. Gerecke, if I could turn your attention to  
13 Suffolk County Exhibit 63, the first quarterly report  
14 that was referenced by Judge Carpenter, the May 30, 1980  
15 report, do you have that available, sir?

16 A (WITNESS GERECKE) Yes, I do.

17 Q Now, looking at the last paragraph, and I  
18 think this is something that Judge Carpenter was  
19 focusing on also and I just want to be sure I  
20 understand, it reads, "No other audit findings" -- and  
21 this is after the previous description -- "no other  
22 audit findings are of such significance as to warrant  
23 management attention at this time."

24 When I read that, sir, I understood it to mean  
25 that these were being highlighted for management and



1 some sort of management action was to be taken or some  
2 attention to be given to these specific audit findings  
3 that were highlighted. When I heard you testify in  
4 response to Judge Carpenter, I understand that that is  
5 not the case. That was my understanding. Can you  
6 confirm if I am correct now?

7 A (WITNESS GERECKE) These were highlighted in  
8 the quarterly report just to call them to management's  
9 attention. I think I testified earlier that we didn't  
10 really anticipate or expect that any action should be  
11 taken on the basis of the quarterly reports. This was  
12 done through other vehicles of the audit report itself  
13 or through direct communication with the responsible  
14 management personnel.

15 Q Well, what did you mean by the audit findings  
16 above warranting management attention?

17 A (WITNESS GERECKE) Just calling it to  
18 management's attention that these had been identified so  
19 they would be aware of it. Nothing beyond that, sir.

20 Q Well, wouldn't they have been aware of the  
21 findings anyway? Your earlier testimony, I thought,  
22 stated that. The audit reports are routinely sent to  
23 management, aren't they?

24 A (WITNESS GERECKE) Audit reports are sent to  
25 the management levels necessary to take the corrective

1 action. The audit reports don't necessarily all go to  
2 the vice presidents of -- well, right now the vice  
3 president-nuclear, vice president-engineering -- they  
4 get essentially a summary of the quarterly audit  
5 activity through quarterly reports, and they would be  
6 advised immediately by phone, by personal contact if  
7 there had been, if there were a significant finding in  
8 any of the audits. We wouldn't wait for even the audit  
9 report for that.

10 Q Mr. Long, let me come back to the question  
11 that I garbled before. Sir, is there a difference in  
12 the quality assurance review of material requests by  
13 G.E. for non-safety-related items purchased by G.E.  
14 Engineered Equipment Procurement as compared to  
15 G.E.-Wilmington and G.E-San Jose manufacturing  
16 departments?

17 A (WITNESS LONG) Would you please repeat the  
18 question?

19 Q I would be happy to. Is there a difference,  
20 Mr. Long, in the quality assurance review of material  
21 requests for non-safety-related items purchased by G.E.  
22 Engineered Equipment Procurement as opposed to  
23 G.E.-Wilmington or San Jose manufacturing departments?

24 A (WITNESS LONG) Well, there are differences in  
25 terms of who reviews the documents. They are reviewed

1 by different organizations. Quality Assurance  
2 Engineered Equipment reviews the procurement documents  
3 for the engineered procured items. We have a quality  
4 assurance component located in San Jose that reviews the  
5 material requests for control and instrumentation  
6 procurements, and in Wilmington we have quality  
7 assurance organizations. They are different  
8 organizations but the basic reviews, with some minor  
9 differences, are the same.

10 Q So it is the same substantive quality  
11 assurance review in both cases? You don't perceive any  
12 substantive differences?

13 A (WITNESS LONG) No, sir, I don't.

14 Q Am I correct that Engineering Equipment  
15 Procurement generally buys large items such as motors,  
16 pumps, tanks, that kind of thing?

17 A (WITNESS LONG) That is one of the activities  
18 of the Engineered Equipment Procurement activity, yes.

19 Q And the manufacturing departments generally  
20 purchase less expensive items that will be incorporated  
21 directly into G.E.-manufactured items?

22 A (WITNESS LONG) How did you characterize them  
23 again, Mr. Lanpher?

24 Q Less expensive items that the manufacturing  
25 departments go out and purchase items which will then be

1 incorporated into items of equipment that G.E.-San Jose  
2 or Wilmington will be manufacturing.

3 A (WITNESS LONG) Yes, that is true. Not  
4 necessarily less expensive. Some of the items are rather  
5 expensive.

6 Q Mr. Museler, on November 9 there was  
7 discussion -- I believe the transcript reference, if  
8 people want to follow, is at page 13,303 -- that the  
9 initial results of the Shoreham plant configuration  
10 review are being sent to Inspection and Enforcement to  
11 Mr. Higgins, I believe you testified. Do you recall  
12 that?

13 A (WITNESS MUSELER) Yes, sir.

14 Q You also stated, I believe, that he had gotten  
15 none of the final disposition reports. Do you recall  
16 that also?

17 A (WITNESS MUSELER) Yes, sir. The final  
18 disposition reports have not been issued internally at  
19 this point.

20 Q Earlier today in response to Mr. Ellis'  
21 questions you described -- I forget -- utilizing LILCO  
22 Exhibit 29, various categories of I will call them  
23 findings in the Shoreham plant configuration reports  
24 that have been marked as exhibits here. How did you  
25 come up with these categories? Was this based upon your

1 own personal review?

2 A (WITNESS MUSELER) No, sir. Although I  
3 participated in the review, I believe I indicated that  
4 we had with Stone and Webster and LILCO Engineering  
5 performed a preliminary review and assessment of those  
6 findings. What we have in effect is a preliminary  
7 disposition of those CDRs, configuration discrepancy  
8 reports that we were referring to. They have not been  
9 finally approved through the various engineering  
10 organizations nor through my organization, but we do  
11 have the preliminary input from the discipline engineers  
12 involved in those particular items -- excuse me, Mr.  
13 Lanpher -- and from General Electric where they were  
14 involved in those findings.

15 Q What is the timetable, if you know, sir, for  
16 what you refer to as the final disposition reports?

17 A (WITNESS MUSELER) For the SCPRs, in Suffolk  
18 County Exhibit, I believe it is, 71 for those seven  
19 systems, the final issue of the disposition CDRs, I  
20 believe, will occur within the next several weeks. We  
21 have the basis for them. They just have to go through  
22 the review cycle now.

23 Q Now, as you noted, in Suffolk County Exhibit  
24 71 there are seven plant configuration reports. Are  
25 there additional reports that have been completed since

1 I think these were turned over in August sometime. Are  
2 there additional reports now that have become available?

3 A (WITNESS MUSELER) Yes, sir.

4 Q Have you reviewed those reports, Mr. Museler?

5 A (WITNESS MUSELER) Yes, sir. I reviewed and  
6 signed the initial reports. I can't give you the exact  
7 number, but for perhaps another six to ten of those  
8 systems I have reviewed and Mr. Smith, the manager of  
9 special projects, who administers that program, has  
10 reviewed the findings. We have not performed the  
11 preliminary review that I referred to having been  
12 performed on Reports 1 through 7, which are in the  
13 County's possession.

14 Q Have you done a review similar to what you did  
15 in LILCO Exhibit 29 where you came up with 12 categories?

16 A (WITNESS MUSELER) No, sir.

17 Q I believe you testified earlier today that in  
18 your opinion each of the items that you have identified  
19 in Suffolk County Exhibit 71, which are the seven  
20 reports, would fall in your so-called descriptive  
21 category. Now, have you done a sufficient review to  
22 determine whether the findings in the subsequent reports  
23 also fall only in that category?

24 A (WITNESS MUSELER) Mr. Lanpher, my own  
25 personal review and Mr. Smith's would indicate that they

1 fall, that all of the remaining CDRs that I have  
2 reviewed the overall reports for fall into that  
3 category; however, we have not performed a more detailed  
4 engineering review even in the preliminary form with the  
5 discipline engineers, so I cannot state that. I do not  
6 have the same level of confidence in that assessment  
7 that I do in the first seven.

8 MR. LANPHER: Judge Brenner, I would like to  
9 move the admission of Suffolk County Exhibit 71 into  
10 evidence. That is the exhibit with the seven Shoreham  
11 plant configuration reports.

12 JUDGE BRENNER: Mr. Ellis or anybody, any  
13 objections?

14 MR. ELLIS: Could we have just a moment  
15 please, Judge?

16 [Counsel for LILCO conferring.]

17 MR. ELLIS: No objection, Judge Brenner.

18 JUDGE BRENNER: Staff?

19 MR. BORDENICK: No objections.

20 JUDGE BRENNER: All right. In the absence of  
21 objection, we are certainly are not going to raise an  
22 objection and we will admit them into evidence.

23 (The document previously  
24 marked Suffolk County  
25 Exhibit No. 71 for

1 identification was received  
2 in evidence.)

3 JUDGE BRENNER: Let me make the point that  
4 these are in totality quite a large number of pages, and  
5 there are a lot of things in there that weren't asked  
6 about, and if something is raised by a party as being  
7 terribly important in findings for the first time, our  
8 reaction to it may differ quite a bit from an aspect  
9 that was inquired into at this point. It depends upon  
10 (a) whether such an item was raised in findings, and (b)  
11 whether we feel we have a grasp of what it is from just  
12 what is before us in the absence of any further inquiry  
13 on it.

14 But subject to that potential problem, and it  
15 is only a potential at this point, it is admitted into  
16 evidence.

17  
18  
19  
20  
21  
22  
23  
24  
25



1 BY MR. LANPHER: (Resuming)

2 Q Mr. Museler, turning to Suffolk County Exhibit  
3 71, have you categorized all of the findings in Suffolk  
4 County Exhibit 71 into one of your 12 categories?

5 A (WITNESS MUSELER) Yes, sir. I would note  
6 that there is some instances where it is a call, a  
7 judgment call, as to whether it falls into one or  
8 another. But we have placed them in those categories.

9 Q Are you prepared at this time, Mr. Museler, to  
10 tell me which category 1 through 12 of LILCO Exhibit 29  
11 each of the findings fall? I mean do you have that  
12 information available?

13 A (WITNESS MUSELER) Yes, I do, sir.

14 MR. LANPHER: Judge Brenner, I have no desire  
15 to belabor the record asking him to go through page by  
16 page by page. I would like to get that information  
17 available. I see no reason why he could maybe not off  
18 the record mark up a copy.

19 JUDGE BRENNER: I got diverted for a moment.  
20 I think I know what you asked for, but I missed every  
21 detail of the question. Why don't you tell me again  
22 what you are asking for.

23 MR. LANPHER: Let me ask a preliminary  
24 question.

25 BY MR. LANPHER: (Resuming)

1 Q Do you have a tabulation of how this is  
2 categorized?

3 A (WITNESS MUSELER) Yes, sir.

4 Q Do you have copies of that, sir?

5 A (WITNESS MUSELER) Yes, we do. We don't have  
6 them down here. We have them elsewhere.

7 MR. LANPHER: It would certainly speed things  
8 up if we could get those and make that part of the  
9 record so we can follow his tabulation. What I was  
10 saying before is I don't have a great desire to ask him  
11 to go page by page and read it into the record if there  
12 is a simpler and quicker way to do it.

13 JUDGE BRENNER: Let me make sure I understand  
14 what you're asking him about. You are talking about the  
15 categories in LILCO Exhibit 29?

16 MR. LANPHER: Yes, sir.

17 JUDGE BRENNER: And you want the tabulation of  
18 all of the findings within the plant configuration  
19 reports in Suffolk County Exhibit 71 according to those  
20 12 categories?

21 MR. LANPHER: Yes, sir.

22 JUDGE BRENNER: And then what would you do  
23 with that if you got it without using it on the record  
24 here? And what would we do with it?

25 MR. LANPHER: I think there is a good chance

1 that I would use it in further cross-examination of  
2 other parties, specifically the Staff. I am not  
3 intending to pursue it with Mr. Museler.

4 JUDGE BRENNER: Okay, you answered my question.  
5 Mr. Ellis, do you want to think about it?

6 MR. ELLIS: Yes, sir, I do. I would like to  
7 think about it. This isn't something I guess -- does  
8 Mr. Lanpher plan any further questions on it today?

9 JUDGE BRENNER: No.

10 MR. LANPHER: Well, no, I hadn't planned on  
11 going into it. Today was the first -- or yesterday, I  
12 guess, when it was passed out was the first I saw of  
13 this categorization, and I am pursuing that. And I  
14 would rather not have to do it on the record.

15 JUDGE BRENNER: All right. Why don't you all  
16 think about it, and we will take it up again tomorrow  
17 morning.

18 MR. ELLIS: Thank you, sir.

19 JUDGE BRENNER: I can think of arguments or  
20 rationale on both sides of it offhand, but I will let  
21 you each think about those yourselves in the first  
22 instance.

23 MR. LANPHER: I am not going to pursue it more  
24 now.

25 JUDGE BRENNER: Among other parties, the Staff

1 may want to comment since you are going to pursue it  
2 with them.

3 MR. LANPHER: I think it would be of benefit  
4 to everyone.

5 JUDGE BRENNER: I don't have any problem on my  
6 own, but I will let you discuss it first.

7 MR. LANPHER: Very well, sir.

8 BY MR. LANPHER: (Resuming)

9 Q Mr. Museler, staying with the Shoreham plant  
10 configuration reports, under category 5, no discrepancy,  
11 the example that you provided was from system E-51, page  
12 2, numbers 2 and 3, and they had to do with drain  
13 connections which are typically not shown, I believe.

14 A (WITNESS MUSELER) That is correct, sir.

15 Q Do you have -- and basically what your  
16 testimony was, I believe, was that the reviewer who made  
17 up this plant configuration report was in error because  
18 you just don't normally show drain connections?

19 A (WITNESS MUSELER) No, sir, the reviewer was  
20 not in error at all. The reviewers who are engineers  
21 really have the same charter in some respects as the  
22 quality assurance personnel. They were instructed to go  
23 out and indicate all differences not utilizing the  
24 criteria we apply to what goes into the FSAR and what  
25 doesn't go into the FSAR. They were told to go and look

1 at the configuration of the system and if it was at all  
2 different from the FSAR figures involved, to note that  
3 difference.

4 So the reviewer wasn't wrong. We want to  
5 capture all of those types of items. And as I indicated  
6 before, we intend to reach agreement with the Staff on  
7 which of those they want incorporated and which of those  
8 they might agree with us that they don't need to be  
9 incorporated.

10 Q Thank you, Mr. Museler. Going to category 8,  
11 the analogue trip item, you testified, I believe, that  
12 while the FSAR did not reflect the as-built system, the  
13 NRC Staff had received the necessary data a couple of  
14 years before, I believe, is that correct, and, in fact,  
15 had reviewed it prior to you all instituting that system?

16 JUDGE BRENNER: I guess the example we're  
17 talking about is E-41 071A?

18 MR. LANPHER: Yes, sir.

19 (Pause.)

20 WITNESS MUSELER: Yes, Mr. Lanpher, that is  
21 correct. I indicated that the FSAR itself reflects this  
22 information in the form of Q&A exchanges between the  
23 Staff and ourselves. And the Staff was provided with  
24 detailed information as they requested it on this  
25 matter. This is, as I indicated, a generic BWR area or

1 a generic BWR improvement where we implemented or a  
2 number of plants did. Everyone hasn't, but a number of  
3 plants have in this particular area. And the Staff was  
4 well aware of the changes conceptually before we  
5 broached the subject to them. They are aware of the  
6 details of the Shoreham system.

7 I believe I also said that we did obtain Staff  
8 agreement that we could go ahead and implement this  
9 change.

10 BY MR. LANPHER: (Resuming)

11 Q Had it always been your intention, Mr.  
12 Museler, to eventually update the body of the FSAR to  
13 document the system that was actually being installed?

14 A (WITNESS MUSELER) Yes, sir. In this case,  
15 when the General Electric updated drawings were  
16 available, it was always our intention to include that  
17 information in the body of the FSAR so that those  
18 figures would be accurate.

19 Q What is the reason? I inferred that it has  
20 taken several years since you decided upon this system,  
21 and based upon Suffolk County Exhibit 71 the FSAR body  
22 still has not been updated in this regard. Do you have  
23 an explanation, sir, on why it hasn't?

24 A (WITNESS MUSELER) The detailed explanation is  
25 that for these types of systems, the General Electric

1 systems, we update the FSAR utilizing the GE drawings  
2 directly. The GE drawings have not been updated, or had  
3 not been updated. I believe they are at this point.

4           And the reason we didn't incorporate them in  
5 the FSAR is because they had not been updated by General  
6 Electric and that cycle is of the order of magnitude  
7 that you mention. We intend to incorporate them, and  
8 that will be done before fuel load.

9           JUDGE BRENNER: But you are saying it is in  
10 the FSAR and in the question-and-answer section?

11           WITNESS MUSELER: Not the design detail, sir.  
12 The design details were provided to the Staff in terms  
13 of the design documents, the design documents we used  
14 to install that system, RE diagrams and the like. The  
15 questions and answers I refer to are Staff, Staff  
16 questions that they asked after they reviewed the  
17 proposal that we have for Shoreham. So they don't  
18 reflect the entire detailed configuration of the system.

19           JUDGE BRENNER: Just the knowledge that  
20 Shoreham would use the analogue trip system?

21           WITNESS MUSELER: That is correct, sir. To  
22 the generic General Electric design.

23           BY MR. LANPHER: (Resuming)

24           Q I am a little confused. What drawings are you  
25 waiting for? I would think that you would need drawings

1 to have installed this system.

2 A (WITNESS MUSELER) The drawings that are in  
3 the FSAR in these areas are summary level B&IDs General  
4 Electric documents. The drawings we used to install the  
5 equipment are much more detailed design documents,  
6 wiring diagrams, cable tickets, documents such as that,  
7 and the appropriate change notices that go along with  
8 them.

9 It is the same situation as some of the other  
10 FSAR figures where we indicated, for instance, in a flow  
11 diagram on a system the actual detailed design document  
12 might be four or five pages, and the FSAR figure  
13 summarizes that into one page.

14 So this is -- there is a summary level General  
15 Electric drawing, and that is the drawing I was  
16 referring to.

17 (Counsel for Suffolk County conferred.)

18 MR. LANPHER: Judge Brenner, subject to  
19 possible further questions, I am going to leave the  
20 plant configuration review program. I don't know if the  
21 Board has any other questions in that area.

22 JUDGE BRENNER: Proceed.

23 BY MR. LANPHER: (Resuming)

24 Q Mr. Long, I am sorry to keep jumping back to  
25 you. You testified earlier today that General Electric



1 applies -- and I don't have your exact words -- a lesser  
2 Appendix B program or sort of a modified Appendix B  
3 program to non-safety-related structures, systems, and  
4 components which GE provides. Is that a fair  
5 characterization?

6 A (WITNESS LONG) No, sir. What I believe I  
7 said was that we applied a graded program for both  
8 safety-related and non-safety-related items.

9 Q But did you not testify also that for some  
10 non-safety-related items you applied some of the  
11 elements of an Appendix B program?

12 A (WITNESS LONG) I testified that, yes, we do  
13 apply some, and in some cases essentially all of the  
14 elements of an Appendix B program to non-safety-related  
15 items.

16 Q Now, Mr. Long, I believe you also testified  
17 that insofar as non-safety-related items are concerned,  
18 you, GE was taking this action not as a matter of any  
19 regulatory requirement. Is that your testimony?

20 A (WITNESS LONG) For non-safety-related items,  
21 yes, sir, that is true.

22 Q Mr. Long, with respect to -- are you familiar  
23 with General Design Criterion 1 insofar as it refers to  
24 quality assurance program for items important to safety?

25 A (WITNESS LONG) I am familiar with General

1 Design Criterion 1, yes, sir.

2 Q Does that not constitute a regulatory  
3 requirement for quality assurance programs for items  
4 beyond just safety-related items?

5 A (WITNESS LONG) No, sir. In my opinion, it  
6 does not.

7 Q You interpret that as solely applicable to  
8 safety-related items?

9 A (WITNESS LONG) I interpret the use of the  
10 terms "safety-related" and "important to safety" to be  
11 synonymous.

12 Q To the best of your knowledge, is that the way  
13 General Electric interprets those items?

14 A (WITNESS LONG) Yes, sir, it is.

15 Q Gentlemen, turning to another area --

16 JUDGE BRENNER: Let me go off the record for a  
17 minute.

18 (Discussion off the record.)

19 JUDGE BRENNER: Let's go back on the record.

20 BY MR. LANPHER: (Resuming)

21 Q Gentlemen, I am going to be directing some  
22 questions which relate to yesterday's transcript. I  
23 don't know, do you have a copy of that? And, Mr.  
24 Eifert, if you would turn to page 13,643, if you want to  
25 familiarize yourself with the context, I believe that we

1 were following up on the discussion that Judge Morris  
2 had had with you and other members of the panel relating  
3 to when you have sign-out cards for E&DCRs that are in  
4 certain files and some places you have sign-out cards  
5 and some places you do not. Just so you know the  
6 context.

7           Now, Mr. Eifert, would you agree that when you  
8 are talking about the sign-out context of E&DCRs, the  
9 level of detailed control which you would recommend  
10 establishing as part of an Appendix B program has to be  
11 graded in terms of the particular situation as applied  
12 to particular files and particular locations and  
13 particular uses of the documents in that kind of  
14 consideration.

15           (Witnesses conferred.)

16           A       (WITNESS EIFERT) I believe my remarks when I  
17 was responding yesterday was looking more at the level  
18 of detail vertically, so to speak, rather than  
19 necessarily looking at the different files and the  
20 different uses that they might get. That was the  
21 context of my remarks.

22           Certainly, it would also apply that we would  
23 look at the different files and who was responsible for  
24 those files, to determine the program that would apply.  
25 And typically, our document control programs do that.

1 We define which files are clearly controlled files  
2 versus which files are not controlled files because they  
3 are clearly for information purposes and are not used  
4 for design or construction activities.

5 Q So the degree of control which you determine  
6 should be established may vary depending upon the  
7 appropriate circumstances; correct?

8 A (WITNESS EIFERT) Yes, sir. That is one of  
9 the things we would consider.

10 Q That is a matter of judgment?

11 A (WITNESS EIFERT) When the system was  
12 initially or is initially set up, it would be a matter  
13 of judgment, yes. That judgment then is further  
14 verified through the various monitoring activities and  
15 feedback that we would get on how the system was working.

16 Q To follow up on that, Mr. Eifert, is one of  
17 the factors that you would consider, either up front or  
18 as you monitor it, whether the degree of control that  
19 you believe is appropriate is something that can be  
20 achieved? Or another way of asking it: You wouldn't  
21 impose a degree of control that you really thought the  
22 workers and other personnel just could never comply with?

23 A (WITNESS EIFERT) I don't think that would be  
24 the primary input that we would use in making the  
25 decision. If we encountered a situation where we

1 thought that something was impossible to control and  
2 that we would never achieve a reasonable implementation,  
3 then the system development developed in that particular  
4 program -- in this case, the document control program --  
5 we would have to identify an alternative practice that  
6 would achieve the goal that we were striving to achieve.

7 Q Would you agree then as a general matter that  
8 your document control procedures represent that degree,  
9 as they are plotted in different locations, that degree  
10 of control which you believe is appropriate and which  
11 can be achieved?

12 A (WITNESS EIFERT) I would agree that our  
13 document control programs do reflect what we feel is  
14 appropriate. I think, in some my descriptions of our  
15 compliance with Appendix B, I have indicated that we do  
16 recognize especially at the detailed level of our  
17 procedures that we will encounter a certain amount of  
18 difficulty with implementation. And that is why we have  
19 our audit programs.

20 I believe yesterday when we were discussing  
21 this in the group of audit findings that we were  
22 discussing, I think it was a very small number. It was  
23 either two or three observations. So clearly, that  
24 particular case, I don't think we -- I am sure that we  
25 hadn't identified that there had been an unusual number

1 or a number of observations that come through the audit  
2 program that would lead us to believe that we needed to  
3 change that program for that aspect.

4 Q Well, Mr. Eifert, I don't think you answered  
5 my question directly. I think the substance of it  
6 probably answered it. But am I right that the program,  
7 the document control program as illustrated by your  
8 various procedures in various areas, are programs that  
9 you think can be achieved if properly implemented? I  
10 mean you identified the degree of control and you think  
11 it can be, that degree of control can be achieved?

12 (Witnesses conferred.)

13 A (WITNESS EIFERT) The direct answer to that is  
14 yes, and that is true of all of our programs within the  
15 limits of human error that we do encounter to some  
16 degree in the various aspects of implementation of our  
17 programs.

18 Q Now, if you could turn back three pages in the  
19 transcript to page 13,640, the paragraph beginning at  
20 line 17. You state there that engineering assurance  
21 procedure 6.3, you say, you describe it, which is the  
22 procedure that identifies the E&DCR system and is in  
23 accordance with Criterion 5. And then the sentence goes  
24 on.

25 JUDGE BRENNER: That is Mr. Baldwin. Do you

1 realize that?

2 MR. LANPHER: Right. Mr. Baldwin, that was  
3 your testimony.

4 Thank you, Judge Brenner.

5 JUDGE BRENNER: Mr. Eifert can answer if he  
6 wants to.

7 BY MR. LANPHER: (Resuming)

8 Q Do you see that testimony?

9 A (WITNESS BALDWIN) I haven't read it yet.

10 Q The paragraph starts at line 17, Mr. Baldwin,  
11 on page 13,640. And my question is what you mean by "is  
12 in accordance with Criterion 5"?

13 (Witnesses conferred.)

14 A (WITNESS BALDWIN) Mr. Lanpher, in answer to  
15 your question, if I reference EAP 6.3 in relationship to  
16 Criterion 5 in what I was discussing, that is one of the  
17 procedures that meets that criteria and also Design  
18 Control Criteria 3. And I think I even talked to  
19 Criterion 6, document control. But that is the primary  
20 procedure.

21 Q So would it be fair to state that that is the  
22 primary procedure with respect to E&DCRs by which  
23 LILCO's Appendix B program implements the requirements  
24 of Criterion 5?

25 (Witnesses conferred.)

1           A       (WITNESS EIFERT)   The answer, I believe, is  
2   yes.  And I will put that in context.  EAP 6.3 describes  
3   the E&DCR program, so in relation to Criterion 5 you  
4   could think of it as the in a hierarchy of procedures  
5   implementing our change control to meet the Criterion 5  
6   requirement that we establish, have procedures for  
7   quality activities that is sort of the highest level  
8   procedure, if you will, in defining the activity of our  
9   use of the E&DCRS.

10                   That then is supplemented by project  
11   procedures as well as other procedures in the program  
12   which tie together a lot of different design activities;  
13   for example, document control being one.  Document  
14   control applies to all the design documents, all the  
15   documents that we use.  And in that sense, the E&DCRS --  
16   or EAP 6.3 is our primary procedure, and it is  
17   supplemented in effect by a lot of other procedures in  
18   describing fully how the E&DCR itself is processed.

19

20

21

22

23

24

25



1 Q So it would be fair to state that EAP 6.3, so  
2 far as the E&DCRs are concerned, represents the level of  
3 control which LILCO and Stone and Webster have decided  
4 is necessary and achievable under Criterion 5 for  
5 control of E&DCRs and also Criterion 3 and 6 also that  
6 you mentioned.

7 (Witnesses conferring.)

8 A (WITNESS BALDWIN) Mr. Lanpher, EAP 6.3  
9 describes the E&DCR system. That is linked into  
10 Criterion 3, and when we talk about design changes that  
11 procedure is also linked in Criterion 5. It is also  
12 linked in as one of the measures under document controls  
13 because E&DCRs come under Item 6 for document control.  
14 It is only one of the procedures of several having to do  
15 with design changes.

16 Now when you look at 6.3 and then you start  
17 talking about design control procedures, document  
18 control procedures and other instructions in procedures,  
19 they are all interwoven and linked together. If your  
20 question is the primary document for the E&DCR system,  
21 EAP 6.3 and associated and supportive procedures, yes,  
22 but the E&DCR system is also part of the document  
23 control system, which also has procedures, as does the  
24 design control procedures for Stone and Webster, which  
25 Mr. Eifert has talked about at great length before.

1           So you have to look at the whole family of  
2 things. I think your particular question is the E&DCR  
3 system.

4           Q       That is right, and I just want to focus on  
5 that for a moment. Let me ask it a different way, Mr.  
6 Baldwin.

7           Was it your testimony earlier that EAP 6.3 is  
8 the procedure which implements, related for E&DCRs, the  
9 necessary program to comply with Appendix B Criterion 5,  
10 and maybe it goes to other criteria too, but just  
11 focusing on Criteria 5 for the moment.

12          A       (WITNESS EIFERT) The answer to that is no.  
13 EAP 6.3 does not address all of the various requirements  
14 and steps in the process.

15          Q       Does it address some of them?

16          A       (WITNESS EIFERT) To fully describe the  
17 program, it does describe some of them.

18          Q       Mr. Eifert, during your testimony in response  
19 to Mr. Ellis a number of time you have been asked  
20 whether audit findings -- whether observations, in your  
21 opinion, and not just you but other members of the  
22 panel, whether audit observations and findings  
23 constitute, in effect, a violation of various Appendix B  
24 criteria.

25                 Would you agree with me that some of the audit

1 observations in the E&DCR area state that there has been  
2 a violation of EAP 6.3 -- and we can go through some if  
3 you want, but there have been cited violations of 6.3.  
4 Do you agree with that?

5 A (WITNESS EIFERT) Yes, I do.

6 Q Can you please explain to me, then, why when  
7 you cite yourself for a violation of EAP 6.3 that does  
8 not also constitute a violation of Criterion 5?

9 (Witnesses conferring.)

10 A (WITNESS EIFERT) Mr. Lanpher, I don't recall  
11 exactly how I expressed it yesterday and earlier in  
12 response to Mr. Ellis' questions, but I did at one  
13 point, I believe, describe how I personally use Appendix  
14 B in the context in which you are asking the questions,  
15 and that is as a total criterion and not solely as any  
16 one criteria alone or any few sentences of a criteria  
17 alone.

18 And the Appendix B has eighteen criteria.  
19 Various specific activities are addressed. It requires  
20 that we have established measures. It requires that the  
21 program include monitoring activities to ensure that  
22 those efforts are implemented. Specifically, that is  
23 referred to Criterion 18 in that it also includes  
24 Criterion 16, and I have described before that Criterion  
25 16 I see as a layer above some of our other monitoring

1 activities, such as those in 18 and 15.

2           And in that context, my understanding of  
3 Appendix B that way, I believe it is clear that the  
4 criteria recognize or the people who developed the  
5 criteria originally recognize that we would have or  
6 would not have perfect implementation of the program in  
7 all its aspects at all times, and that is why they  
8 included such monitoring activities as Criterion 15 and  
9 Criterion 18.

10           And that when we identify the implementation  
11 difficulties through those monitoring activities that  
12 they recognize that that is why they established those  
13 criteria and they would not, as I do not, consider that  
14 type of implementation difficulty a violation of an  
15 Appendix B criteria, and that is the context that I  
16 described it.

17           For example, with document control what I  
18 would consider a violation of Appendix B would be if we  
19 had not established a document control system that was  
20 in effect at the time we needed it at the construction  
21 site. But we did establish that and, therefore, I see  
22 no violation of document control Criteria 16.

23           Q     Criterion 6, do you mean?

24           A     (WITNESS EIFERT) Yes, Criterion 6.

25           Q     Mr. Eifert, my question went to -- let me ask

1 it a different way. Is it your testimony, then, that  
2 you would only get a violation of Criterion 5 if that,  
3 whatever the problem was, was linked with a failure to  
4 meet some other Criterion, particularly Criterion 16 --  
5 failure to take corrective action -- or 15, failure to  
6 control non-conforming items?

7 (Witnesses conferring.)

8 A (WITNESS EIFERT) I'm sorry, Mr. Lanpher.  
9 Could you rephrase that? I lost the link.

10 Q Mr. Eifert, my earlier question asked why when  
11 you have a violation of the EAP 6.3 that does not  
12 constitute a violation of Appendix B Criterion 5. You  
13 answered, sir, by, I thought, linking Criterion 5 with  
14 Criterion 16 and, to a lesser extent, with Criterion  
15 15. At least you mentioned those two in your answers.

16 So my follow-up question was was it your  
17 opinion that you would only have a violation of  
18 Criterion 5 if it was coupled with some problem related  
19 to corrective action or failure to take corrective  
20 action -- and I am referring there to Criterion 16 or  
21 perhaps some problem with Criterion 15.

22 JUDGE BRENNER: I think you mean 18.

23 MR. LANPHER: No, I thought he cited 15.

24 WITNESS EIFERT: I did cite both 15 and 18 at  
25 one point.

1 JUDGE BRENNER: I'm sorry.

2 WITNESS EIFERT: Let me clarify. My point is  
3 simply that we achieved compliance with 10 CFR 50  
4 Appendix B through implementation of our program that  
5 addresses all the criteria, and my interpretation would  
6 be that just that -- that we meet the Criterion B in  
7 total with all of the criteria.

8 BY MR. LANPHER: (Resuming)

9 Q Appendix B, you mean?

10 A (WITNESS EIFERT) Appendix E. If you read  
11 Criterion 5, it does contain words that are different  
12 than we see in other criterion, indicating at the end  
13 of -- just before the end of the first sentence that  
14 words contained therein indicate that appropriate to the  
15 circumstances and shall be accomplished in accordance  
16 with these instructions, procedures and drawings.

17 And if you look at just those words,  
18 literally, someone could imply or interpret that anytime  
19 there was any individual, slight deviation from your  
20 implementation procedures, you are violating that  
21 criteria. But that, I don't believe, is a reasonable  
22 interpretation of the intent of Criterion 5 of Appendix  
23 B or the intent of Appendix B taken as a whole.

24 JUDGE BRENNER: Mr. Lanpher, how much more do  
25 you have?

1 MR. LANPHER: I would like to go about another  
2 five minutes, if I could.

3 JUDGE BRENNER: Well, how much more do you  
4 have to finish?

5 MR. LANPHER: I am not going to finish  
6 tonight. I have got about another hour.

7 JUDGE BRENNER: What happened to the 4:00  
8 estimate of maybe finishing by 5:00?

9 MR. LANPHER: This has gotten more detailed.  
10 You told me you weren't going to hold me to it. I will  
11 finish early tomorrow.

12 JUDGE BRENNER: I'm not holding you to it. I  
13 am just inquiring about it. Okay, we would have been  
14 willing to run a little later.

15 BY MR. LANPHER: (Resuming)

16 Q Mr. Eifert, how do you define a violation --

17 JUDGE BRENNER: Wait.

18 MR. ELLIS: If he is going to go on in the  
19 morning, I don't know about everyone in here, but I am  
20 fairly tired.

21 JUDGE BRENNER: Well, I would give him another  
22 few minutes, and that is all he asked for. I was going  
23 to ask you if you have any re-redirect based upon what  
24 you have heard so far on recross.

25 MR. ELLIS: Maybe one question, but I'm not

1 sure.

2 JUDGE BRENNER: Mr. Bordenick, how about you?

3 MR. BORDENICK: I will be very brief --

4 probably five minutes.

5 JUDGE BRENNER: All right. Assuming Mr.

6 Lanpher's estimate is accurate, we should be finished by

7 10:00 tomorrow morning, if I let him run his five more

8 minutes now, which I will do.

9 What are we going to do right after that, the

10 County's operational cross examination?

11 MR. ELLIS: We will certainly be prepared for

12 that.

13 JUDGE BRENNER: Well, have the parties

14 discussed that as I have asked them to?

15 MR. LANPHER: Mr. Dynner is prepared to go

16 forward tomorrow morning. I would only raise the

17 question of we have things that I haven't seen their

18 position on things that we want to move into evidence.

19 I don't know if that is going to take some time on the

20 record tomorrow morning or not. I will look at it

21 tonight and tomorrow morning before the start of the

22 hearing.

23 JUDGE BRENNER: But putting that aside, all

24 right, let's be in a position to start that operational

25 cross examination, and I want the cross plan as I asked



1 for it when we start. I don't have to have it before  
2 then. It could be at the very moment it is started.

3 Has there been a determination made as to  
4 whether the leftover NPRDS ISEG 0737 item should be done  
5 with the ISEG witnesses plus additional witnesses?

6 MR. ELLIS: I told Mr. Dynner on the  
7 telephone. I gave him some information about both of  
8 the programs. I suggested he speak to his consultant  
9 and I suggested that the ISEG panel was the appropriate  
10 panel that might know about it. But as far as I was  
11 concerned he was entitled to take it up with both and my  
12 people would be prepared for both.

13 JUDGE BRENNER: Okay. In that case, who will  
14 you have for operational QA -- Messrs. Muller, Youngling  
15 and Kelly?

16 MR. ELLIS: Yes, sir. Mr. Kelly, of course,  
17 was not present for more or for all of the operational  
18 QA.

19 JUDGE BRENNER: That's up to you as to whether  
20 you want him or not. I'm just asking.

21 MR. ELLIS: Thank you, sir. If I could have  
22 that choice, I would appreciate it. I haven't made that  
23 decision because I was going to address that to the  
24 Board.

25 JUDGE BRENNER: It is up to you.

1 All right, the County in that case can -- Mr.  
2 Dynner, that is, when he starts with operational QA has  
3 the option of starting with the first matter that we  
4 said he could do before the offer of proof, the NPRDS  
5 programs, and that might be a good thing to start with.  
6 But if he exhausts that, he should be ready to go into  
7 the other area.

8 I recognize we said he would have a hearing  
9 day on the other area, and that is typically six hours,  
10 so we will adjust and take a look at how much he does on  
11 it tomorrow and then give him the additional and make up  
12 the six, I guess, on Tuesday to finish up. And then we  
13 will go to ISEG right after that.

14 MR. ELLIS: Yes, sir.

15 JUDGE BRENNER: Or do you want to go to your  
16 redirect on operational QA?

17 MR. ELLIS: I think that it might be -- we  
18 could do it whichever way the Board would prefer, but I  
19 would be prepared to go to redirect right away.

20 JUDGE BRENNER: Yesterday I asked the parties  
21 to think about all of this together and to know. Tell  
22 me tomorrow morning.

23 MR. ELLIS: Yes, sir. I did discuss this with  
24 Mr. Dynner, but he didn't indicate he had any preference  
25 one way or the other.

1                   JUDGE BRENNER: It's up to you, I guess, in  
2 your schedule of witnesses, then, whether you want to  
3 gap before you do your redirect. It might be better to  
4 hold your redirect and then you could pick up redirect  
5 on all subjects. But I will leave it up to you.

6                   All right, you wanted to say something, Mr.  
7 Lanpher?

8                   MR. LANPHER: With respect to Mr. Kelly, he  
9 wasn't here, through no fault of his own, for the  
10 County's cross examination, and I'm not sure whether we  
11 will have an objection to him appearing solely for  
12 redirect.

13                   JUDGE BRENNER: You missed what I said. The  
14 option was whether they want to put him on the panel for  
15 the County's additional cross examination on operational  
16 QA. I quite agree with you that if he had been there  
17 for no cross when he could have been there for cross, we  
18 wouldn't put him there for redirect. I don't have to  
19 make the decision as to whether we would have allowed  
20 him to be there for some sort of combined redirect, a  
21 little bit of rebuttal, if his absence from cross was  
22 for the reason that he was ill and couldn't be here, as  
23 we know.

24                   So I don't have to make that decision. That  
25 would have been a little harder, but what I said today

1 applies for the additional cross.

2 BY MR. LANPHER: (Resuming)

3 Q I just have one more question. Mr. Eifert or  
4 any other member of the panel, can you please define  
5 "violation" as you have been using the term in  
6 responding to numerous questions on redirect. When you  
7 were asked do audit observations constitute a violation  
8 of Appendix B or any criteria, you have been answering  
9 no.

10 How do you define "violations"?

11 A (WITNESS EIFERT) I was answering that in the  
12 context of or with an evaluation of, in my judgment,  
13 does our program and implementation thereof comply with  
14 Appendix B and the criteria thereof, and if we were not  
15 complying with Appendix B and the requirements of  
16 Appendix B, then I would have not been in a position to  
17 say we did not violate Appendix B.

18 Q When you don't comply with EAP 6.3 of your own  
19 procedures with respect to E&DCRs, that is a violation  
20 of your own procedure, correct?

21 A (WITNESS EIFERT) Yes, that is correct.

22 Q But you don't believe that would be a  
23 violation of Criterion 5?

24 A (WITNESS EIFERT) I do not.

25 Q Under no circumstances?

1 (Witnesses conferring.)

2 JUDGE BRENNER: That's three questions.

3 (Laughter.)

4 JUDGE BRENNER: Mr. Lanpher, come to a logical  
5 conclusion since we are going to go over anyway.

6 (Pause.)

7 JUDGE BRENNER: Mr. Ellis, we are going to try  
8 to let Mr. Long go, so I assume you have no questions of  
9 him and the Staff the same thing.

10 MR. BORDENICK: We have no questions.

11 MR. ELLIS: No questions.

12 WITNESS EIFERT: I believe your question is  
13 would I interpret that there would be any circumstances  
14 where a failure to implement one of our own procedures  
15 would be a violation of Criterion 5.

16 MR. LANPHER: I was just asking about 6.3.

17 WITNESS EIFERT: With respect to 6.3, if we  
18 are talking a single implementation difficulty at a  
19 given point in time I can't think of any specific aspect  
20 of EAP 6.3 where an isolated case, in my judgment, would  
21 in any way be considered a failure to comply with  
22 Criterion 5 or Appendix B.

23 And, again, it is in the context of my  
24 statement that I understand the total of Appendix B and  
25 not any one statement or sentence in a criteria, such as

1 exists in Criteria 5, that I indicate that.

2 BY MR. LANPHER: (Resuming)

3 Q And that was the context in which you were  
4 answering Mr. Ellis' previous questions when you were  
5 relating to violations? That was the definition of  
6 "violations" that you were using?

7 A (WITNESS EIFERT) That is correct. If you  
8 look at the words in Criterion 5 and if you wanted to  
9 literally use those words, I would not spend a great  
10 deal of time in discussing this with other people and  
11 try to argue one way or the other, but in the overall  
12 context of Appendix B, a single instance would never, in  
13 my judgment, be considered a failure to comply with  
14 Criterion 5 or 10 CFR 50 Appendix B.

15 MR. LANPHER: One second, Judge Brenner. This  
16 is my Mr. Long review.

17 MR. ELLIS: While he is at it, could he look  
18 for Mr. Burns?

19 JUDGE BRENNER: I don't know if he can do that  
20 in ten seconds.

21 MR. LANPHER: I can't do that.

22 JUDGE BRENNER: Just look for Mr. Long.

23 JUDGE MORRIS: While he is looking, Mr.  
24 Eifert, is your position reinforced by the existence of  
25 Criterion 16, corrective action?

1           WITNESS EIFERT: Yes, Judge Morris. That is  
2 at least the characterization that I am trying to get  
3 across, that Criterion 16 recognizes that difficulties  
4 are going to be encountered and we are going to take  
5 corrective action when we encounter those difficulties,  
6 and we implement Criterion 16 and do just that.

7           And if the intent was that everyone was going  
8 to be perfect 100 percent of the time, then we wouldn't  
9 have had Criterion 16.

10          MR. LANPHER: Mr. Long is a free man.

11          JUDGE BRENNER: Mr. Long, you have just been  
12 able to demonstrate one of the advantages, one of the  
13 many, of living on the West Coast, and thank you for  
14 your time. So thank you, Mr. Long.

15          I have one more thing on the record before we  
16 adjourn, just a reminder. We have received the views of  
17 the Staff and LILCO on the Board's proposal to use  
18 examinations before the hearing on the phase 1 emergency  
19 planning contentions, and you also have to make sure  
20 that SOC and NSC receive them tomorrow.

21          Mr. Reveley has something in his hand right  
22 now. Is that it?

23          MR. REVELEY: We will give them to you in a  
24 moment and they have gone by Federal Express to SOC.

25          JUDGE BRENNER: You anticipated me. I would

1 suggest that since you have to get it to them tomorrow,  
2 I would assume that they would be ready very early  
3 tomorrow at the latest, and it makes a difference to us  
4 to receive it early tomorrow as opposed to even midday.

5 MR. REVELEY: I will give it to you in a  
6 moment.

7 MR. BORDENICK: Judge Brenner, our filing will  
8 be over. I will try to get it over here first thing in  
9 the morning. I think it should be ready and I think Mr.  
10 Repka was planning to try to read it to the  
11 representatives of SOC and North Shore on the phone,  
12 assuming they are available.

13 JUDGE BRENNER: Get it to them physically,  
14 unless it is short.

15 MR. BORDENICK: I don't see how they can get  
16 it physically. Today is a holiday.

17 JUDGE BRENNER: Well, telecopy it to somebody  
18 and let a messenger deliver it, but do something. I  
19 don't want to change those dates. That is the message,  
20 unless you are talking about a few sentences, which I  
21 doubt. I don't think it is fair.

22 MR. BORDENICK: I don't know how long it is,  
23 Judge Brenner. I didn't prepare it.

24 JUDGE BRENNER: The requirement was to get it  
25 to them. We are all here today. Otherwise, we may have



1 to adjust the dates and I just do not want to do that.  
2 I can't be any stronger.

3 MR. BORDENICK: I can state almost certainly  
4 it is going to be a physical impossibility to get it to  
5 them tomorrow because it hasn't gone out.

6 JUDGE BRENNER: I know that, but that still  
7 doesn't make it a physical impossibility.

8 MR. BORDENICK: Well, if they are available by  
9 phone, it can be read to them. I don't think the filing  
10 is that long. It is certainly more than three  
11 paragraphs, but I don't think it is a filing that would  
12 take more than ten minutes to read.

13 JUDGE BRENNER: Mr. Bordenick, there are  
14 planes every hour to New York. We are not talking about  
15 West Pago-Pago. There are ways to get it there other  
16 than the normal ways. I don't care how hard it is. It  
17 is important because I want to be able to get those  
18 responses on the 18th so I am in a position to discuss  
19 them on the 22nd.

20 MR. BORDENICK: Judge Brenner, I was not  
21 directly involved in the preparation of that. I will  
22 pass the message on. I'm just pointing out to you that  
23 I don't think it is going to be done. There is nobody  
24 in the office right now.

25 JUDGE BRENNER: Well, tomorrow morning I am

1 talking about.

2 MR. BORDENICK: Well, there will be tomorrow  
3 morning.

4 JUDGE BRENNER: Starting tomorrow morning they  
5 still should be able to get it there by the close of  
6 business tomorrow.

7 MR. BORDENICK: I will relay the message.

8 JUDGE BRENNER: There are telecopiers. There  
9 are air freight services. Use your imagination because  
10 if they say they want an extension of time because there  
11 is something new in the Staff response that they didn't  
12 receive until Monday, I might have to grant it, and I  
13 don't want to.

14 MR. BORDENICK: Well, assuming they are  
15 available tomorrow and it can be read to them on the  
16 phone, I don't see what difference it would make if we  
17 send it to them, get it to them physically and they are  
18 not in their offices. I don't see what good it will do  
19 them. That is the point I was trying to make.

20 JUDGE BRENNER: If you get their agreement  
21 that their having heard it over the phone is sufficient  
22 for them to comprehend what is in the Staff's pleading  
23 and allow them to incorporate it into their filing, that  
24 would be okay. But in the absence of your obtaining  
25 that, you have got a problem. And if it is more than

1 just a few sentences it may be hard for them. Talk to  
2 people and see if it becomes an issue.

3 MR. BORDENICK: I will, Judge Brenner. I  
4 really can't address whether it will be a problem or it  
5 won't as far as reading it to them on the phone. I  
6 don't know what is involved with the filing.

7 JUDGE BRENNER: Let's go off the record a  
8 minute and when we go off the record in a minute I will  
9 make a suggestion. I think that's all I have on the  
10 record and we will be back at 9:00 tomorrow morning,  
11 except for Mr. Long, who unfortunately will have to pass  
12 up the opportunity.

13 All right. We are off the record.

14 (Whereupon, at 5:25 o'clock p.m., the hearing  
15 recessed, to reconvene at 9:00 o'clock a.m., Friday,  
16 November 12, 1982.)

17

18

19

20

21

22

23

24

25

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the  
BEFORE THE ATOMIC SAFETY & LICENSING BOARD

in the matter of: Long Island Lighting Company (Shoreham Nuclear Power  
Station)

Date of Proceeding: November 11, 1982

Docket Number: 50-322 OL

Place of Proceeding: Bethesda, Maryland

were held as herein appears, and that this is the original transcript  
thereof for the file of the Commission.

Ray Heer

Official Reporter (Typed)

Ray Heer

Official Reporter (Signature)