

NUCLEAR REGULATORY COMMISSION

ORIGINAL

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: September 24, 1982 PAGES: 11,187 - 11,308

AT: Hauppauge, New York

TR & 1

*Return orig + 2 extra
Copies to A. M. Mc Namara
439 E/W*

ALDERSON  REPORTING

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

Telephone: (202) 554-2345

8209290087 820924
PDR ADOCK 05000322
T PDR

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 :
:
(Shoreham Nuclear Power Station) :
:
----- x

Docket No. 50-322-0L

Third Floor, B Building
Court of Claims
State of New York
Veterans Memorial Highway
Hauppauge, New York 11787

Friday, September 24, 1982

The hearing in the above-entitled matter convened,
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 the Applicant, LILCO:

3 W. TAYLOR REVELEY III, Esq.
4 ANTHONY F. EARLEY, Esq.
5 Hunton & Williams
6 707 East Main Street
7 Richmond, Virginia 23212

8 On behalf of the NRC Regulatory Staff:

9 BERNARD BORDENICK, Esq.
10 Nuclear Regulatory Commission
11 Washington, D.C.

12 On behalf of Suffolk County:

13 LAWRENCE COE LANPHER, Esq.
14 Kirkpatrick, Lockhart, Hill,
15 Christopher and Phillips
16 1900 M Street, N.W.
17 Washington, D.C. 20036

18 * * *

19

20

21

22

23

24

25

C O N T E N T S

	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>BOARD DISCUSSION WITH WITNESSES</u>
1					
2	<u>WITNESSES:</u>				
3					
4					
5					
6					
7					
8	By Mr. Lanpher	11,192			
	By Judge Brenner				11,216
9	By Judge Carpenter				11,219
	By Judge Brenner				11,221
10	By Mr. Lanpher	11,225			
	By Judge Carpenter				11,236
11	By Judge Morris				11,247
12	By Judge Brenner				11,249
	By Mr. Lanpher	11,251			

E X H I B I T S

	<u>NUMBER</u>	<u>IDENTIFIED</u>	<u>RECEIVED</u>	<u>BOUND IN TRANSCRIPT</u>
15				
16				
17	Suffolk County 60	11,271		11,271

19 RECESSES:

20 Morning - 11,250

21

22

23

24

25

P R O C E E D I N G S

1
2 JUDGE BRENNER: Good morning, We are ready to
3 continue the cross-examination.

4 MR. EARLEY: Judge, I have two preliminary
5 things, if I may. Last night we discussed the document
6 that Mr. Lanpher requested and I informed him last night
7 that we would provide them with a copy of that
8 document. We did so early this morning.

9 We thought that it would be most efficient to
10 give it up. There was some question about whether we
11 needed some clarification. I think the document
12 clarifies the situation and confirms Mr. Kelly's
13 testimony, and for the Board and for Mr. Lanpher's
14 information the panel is ready to answer questions, if
15 you want to clear up that point today.

16 The second preliminary matter: In response to
17 some questions, Mr. Eifert is also ready to provide some
18 information on dates of procedural changes regarding the
19 use of the master file. So if the Board and the County
20 want to get that information, he is ready to provide
21 that.

22 JUDGE BRENNER: Okay. Unless you have a
23 problem, Mr. Lanpher, I wouldn't mind getting Mr.
24 Eifert's answer first, and then we'll leave it up to you
25 as to whether you want to pursue the document now or

1 later.

2 MR. LANPHER: That's fine. I was not going to
3 proceed with respect to the document right away.

4 Frankly, I'd like to look at yesterday's transcript when
5 it comes in. So I was hoping that whenever we take the
6 morning break to have an opportunity to look at that.

7 But why don't you go ahead first.

8 JUDGE CARPENTER: Is there a copy of the
9 document for the Board to look at?

10 MR. EARLEY: We will provide copies.

11 JUDGE BRENNER: Mr. Eifert?

12 Whereupon,

13 T. TRACY ARRINGTON,
14 FREDERICK B. BALDWIN,
15 ROBERT G. BURNS,
16 WILLIAM M. EIFERT,
17 T. FRANK GERECKE,
18 JOSEPH M. KELLY,
19 ARTHUR R. MULLER, and
20 WILLIAM J. MUSELER,

21 the witnesses on the stand at the time of the recess,
22 resumed the stand and, having previously been duly sworn
23 by the Chairman, were examined and testified as follows:

24 WITNESS EIFERT: Mr. Lanpher, we had, I
25 believe it was yesterday and it may have been the day

1 before yesterday, in the testimony discussed the
2 procedural requirement that responsible engineer
3 maintain a file of the E&DCR's applicable to his
4 specifications, and I had indicated that that was in
5 addition to the files that are maintained in the project
6 official files and in the job books.

7 The procedural change where we deleted
8 requirement for the responsible engineer to maintain
9 that file occurred in March of 1978. That change was
10 made after we had developed sufficient confidence in the
11 change record mechanism as a mechanism for the engineers
12 to recognize what E&DCR's were outstanding against the
13 specifications.

14 FURTHER CROSS EXAMINATION

15 ON BEHALF OF INTERVENOR

16 BY MR. LANPHER:

17 Q Mr. Eifert, was this change only related to
18 specifications? I mean, we have talked about drawings,
19 specifications and procedures, I think in the past.
20 Just so I understand.

21 A (WITNESS EIFERT) Yes, sir, it was only
22 related to specifications.

23 Q And with this change, did that mean that
24 specifications in the field, so to speak, which we have
25 talked about as being controlled by documents after

1 1978, there was not a requirement for them to be kept up
2 to date in the sense of E&DCR's being filed with the
3 specification?

4 A (WITNESS EIFERT) No, sir. We're talking a
5 responsible engineer on the project only. It was a
6 project unique requirement and did not affect the
7 document control practices in the field.

8 MR. LANPHER: Judge Brenner, should I
9 proceed?

10 JUDGE BRENNER: Yes.

11 MR. LANPHER: I'm going to go to a new topic.

12 BY MR. LANPHER: (Resuming)

13 Q Gentlemen, yesterday I think it was you, Mr.
14 Eifert, were discussing engineering assurance audit 40
15 and the audit finding related to an E&DCR which was
16 stated to have been written against a document which
17 didn't exist. And you indicated that one of the
18 obstacles in how to handle a somewhat unique situation
19 was that you could not use an E&DCR to change a
20 manufacturer's drawing -- maybe that was you, Mr.
21 Museler -- or without the manufacturer concurring, at
22 least; is that correct?

23 A (WITNESS MUSELER) No, Mr. Lanpher. I believe
24 what I indicated is that an E&DCR can be used to change
25 manufacturer's drawing, but in this particular case the

1 manufacturer's drawing would not be the official drawing
2 of this particular component, because the design
3 responsibility was transferred from General Electric to
4 Stone & Webster.

5 This is -- there may be a few other instances
6 of this type of a situation in the project, but they are
7 very, very unique. Normally, an E&DCR can be used to
8 change a manufacturer's drawing. But the manufacturer,
9 in this case General Electric, was not the design
10 organization.

11 By agreement, Stone & Webster had taken the
12 responsibility for designing that component.

13 Q Mr. Museler and the panel, I'd like to direct
14 your attention, then, to several audit findings where
15 there was a question about whether E&DCR's were being
16 used correctly in terms of the changes that they were
17 authorizing. I'd like to direct your attention to
18 engineering assurance audit 13, page 2 of that audit,
19 date April 1975, and item 1 at the top of the page.

20 This finding indicates, does it not, that
21 E&DCR's being used to document changes to manufacturer's
22 drawings is cited as a problem, at least, requiring
23 corrective and preventive action; is that correct, Mr.
24 Eifert?

25 A (WITNESS EIFERT) Mr. Lanpher, I think I'd

1 better try to give you some of the history of this
2 situation with manufacturer's drawings and the
3 development of the procedures to control, to provide
4 mechanisms for use of E&DCR's with respect to changes to
5 manufacturers' drawings.

6 The engineering assurance procedure for use of
7 E&DCR's to make changes addresses changes to drawings
8 and specifications to support field and shop work. That
9 was the original wording, if you will, of the procedures
10 as issued in the very early seventies, '72, I believe.
11 In that context, it was the initial intent of the
12 procedures to apply to Stone & Webster drawings and
13 Stone & Webster specifications, changes to those.

14 In August of 1975, we made a change to the
15 procedures to clarify that specific intent that we were
16 talking changes to Stone & Webster drawings and
17 specifications. At that time, or at least as we
18 initially developed the procedures for use of E&DCR's,
19 we had not anticipated that we would have a similar need
20 for changes to manufacturer's drawings. The process
21 with manufacturer's drawings was and still is the
22 primary change mechanism, to provide for project
23 engineering to communicate directly with the supplier,
24 for the supplier to process the change through his
25 mechanism, and submit to Stone & Webster a revised

1 design.

2 It has become -- it became evident on the
3 Shoreham project in the 1974-75 time frame that there
4 were going to be situations where, to support the field
5 schedule, it would be necessary to work quickly to get
6 the supplier to authorize a change to his design. What
7 we're seeing in audit 13 on page 2 is an audit finding
8 where the auditor has noted that the project is using
9 the E&DCR's to change manufacturer's drawings. The
10 auditor believed he properly understood the intent of
11 our E&DCR's procedures to apply to Stone & Webster
12 drawings, although it was not specifically a restriction
13 in the procedure at that time, and the auditor noted the
14 finding.

15 The action at this point was for the project
16 to issue a project instruction to describe their control
17 and review process for such E&DCR's. At that same time,
18 at this audit, the auditors did communicate with the
19 design and control procedures people in engineering
20 assurance to ensure that the practice being used on the
21 project was not in violation of our design control
22 practices.

23 The subsequent audits that we will discuss --
24 and I don't know if we want to take them in your order
25 or my order --

1 Q I'd like to go in my order.

2 (Pause.)

3 A (WITNESS EIFERT) The result of this audit 13
4 on page 2 was that the project issued a procedure, a
5 project unique practice, to control the use of these
6 E&DCR's. That was the corrective action.

7 The procedure did make it clear that the
8 normal practice was to revise the drawings with the
9 suppliers and that these were to be used only in the
10 situation where the changes were urgently needed to
11 support the construction schedule, and that established
12 the mechanisms to control the practice.

13 Q As of the time that this audit finding was
14 made in April 1975, it was a deficiency, however,
15 against your procedure, or at least that's what it is
16 described as here?

17 A (WITNESS EIFERT) I wouldn't classify it as a
18 deficiency. The project was processing those change
19 E&DCR's as a change to the review and approval
20 requirements of our then-existing EAP for E&DCR's. The
21 auditor did not identify any problems in the review
22 process or in the documentation of the changes. The
23 concern that we see here is an interpretation of what
24 was the intent of the procedures, although the wording
25 of the procedure was not very specific.

1 Q Then you disagree with this audit finding?
2 The first line of the page that we're on describes these
3 as deficiencies.

4 A (WITNESS EIFERT) Mr. Eifert, in 1975, at this
5 time I was supervisor of the design control procedures.
6 I had not recalled this one until we were able to
7 discuss it in preparing for these hearings. But looking
8 at the procedure in development at the time, when the
9 auditors brought this to my attention back then and I
10 advised that the project's corrective action was
11 appropriate, it was my judgment that the project was not
12 performing in any sort of a deficient manner, that they
13 were doing the appropriate work with respect to
14 controlling the situation.

15 And I also was aware that we had plans to
16 address the situation of how to use and when to use the
17 E&DCR's to change manufacturer's drawings. So in the
18 context of my position and interpretation back in 1975,
19 I do not call this a deviation in that sense.

20 Q Mr. Eifert, if I understand you correctly,
21 then, you took action as part of the corrective and/or
22 preventative action which is called for under this audit
23 observation to give proper instructions or to clarify
24 this situation; is that correct?

25 A (WITNESS EIFERT) Mr. Lanpher, I indicated

1 that the project did, as a result of this finding, issue
2 an addendum to their project instructions to ensure that
3 there was -- to ensure that the instructions to the
4 engineers were specific with respect to the situation of
5 using E&DCR's to revise or make urgent changes in the
6 manufacturer's drawings.

7 Q Mr. Eifert, I'd like to turn your attention
8 now to engineering assurance audit 21, audit observation
9 008 and item 1 thereof, dating from April 1977. Mr.
10 Eifert, this observation indicates, does it not, that
11 there is no procedural guidance on how changes to
12 manufacturer's documents would be authorized or recorded
13 to ensure incorporation; is that correct?

14 A (WITNESS EIFERT) Mr. Lanpher, this is an
15 audit observation that was written against the
16 engineering assurance procedural group, indicating that
17 we had not developed specific guidance in the corporate
18 standard procedures, the engineering assurance
19 procedures, on how to address the issue of changes to
20 manufacturer's drawings.

21 As a result of this observation, the
22 engineering assurance procedures were changed and now do
23 contain that specific guidance. I should emphasize
24 again, however, that as early as 1975, as a result of
25 the audit that we looked at a moment ago, project audit

1 13, the project specific instruction did exist and
2 procedures were in effect for the work being done for
3 the Shoreham project.

4 Q Well, Mr. Eifert, doesn't this audit finding
5 in engineering assurance audit 21 go right to the same
6 general subject matter of handling, as in engineering
7 assurance audit 13, namely the handling of changes to
8 manufacturer's drawings when the E&DCR mechanism is
9 used?

10 A (WITNESS EIFERT) Mr. Eifert, this is the same
11 subject area. I know it's repetitive, but this is with
12 respect to the auditor's recognition that a standard
13 practice was probably necessary as compared to the
14 project specific practice that had been established on
15 Shoreham as a result of project audit 13.

16 Q And would it be fair to state, Mr. Eifert,
17 that the corrective and preventive action or
18 instructions that were promulgated after engineering
19 assurance audit 13 had not completely eliminated the
20 problem, since a similar problem was determined to exist
21 in 1977?

22 A (WITNESS EIFERT) No, sir, it would not be
23 fair to say that. The decision on whether or not we
24 change our corporate standard practices is not a
25 decision that is necessarily needed immediately when a

1 project unique practice is identified.

2 The situation here again is, the Shoreham
3 project identified a need, took the necessary preventive
4 action with respect to establishing a clear guidance on
5 the project with respect to how to use the E&DCR's for
6 obtaining changes to manufacturer's documents. Again,
7 the situation with audit observation 008 from project
8 audit 21 reflects the input back from the audit program
9 to the corporate standard procedural program as feedback
10 used to determine what, if any, changes will be made to
11 our corporate standard design control procedures.

12 Q Was it determined that after this audit
13 observation 008, that further guidance would be required
14 in this area, and was such further guidance provided?

15 A (WITNESS EIFERT) After audit observation 008
16 was issued, there had been changes made to our standard
17 practices to incorporate mechanisms for utilizing
18 E&DCR's to change manufacturer's drawings. I would like
19 to also emphasize that what we are seeing here is the
20 feedback mechanism that we use with respect to the
21 project's implementation of the procedures, as a
22 mechanism to upgrade our corporate standard design
23 control procedures.

24 That is a normal practice and something that
25 we look for specifically to give us feedback to upgrade

1 and improve the efficiency, if you will, of our standard
2 procedural system.

3 Q Mr. Eifert, I'd like to turn your attention to
4 engineering assurance audit 23 and specifically
5 observation 041 and items 3 and 10 thereof. I ask
6 whether these are instances where personnel were
7 approving E&DCR's behind the scope of their authority.

8 (Panel of witnesses conferring.)

9 A (WITNESS EIFERT) Mr. Lanpher, I would like to
10 restate or rephrase the question so I have the specific
11 question.

12 Q Why don't I do it for you, Mr. Eifert. My
13 question was with respect to items 3 and 10 of this
14 audit observation, are these instances where the E&DCR
15 system is being utilized beyond its intended scope? And
16 if you want to take the items separately, that's just
17 fine.

18 A (WITNESS EIFERT) Mr. Lanpher, I will respond
19 first to item 10. This audit identified two E&DCR's
20 that were written to document changes to elementary
21 diagrams, ESK's, and logic diagrams, LSK's. These are
22 Stone & Webster drawings, diagrams, if you will, and our
23 practice has been and is to not use the E&DCR except for
24 changes to those documents immediately used by
25 construction.

1 In that sense these are an example where two
2 E&DCR's had been issued to change these documents. The
3 situation with these two were that they were listed on
4 the change record, there was no question asked with
5 respect to the proper review and approval. They had
6 been properly reviewed and approved.

7 The specific incidences were determined to be
8 unusual circumstances and it was not identified to an
9 extent beyond the specific E&DCR's. As part of the
10 corrective action, the project incorporated those two
11 specific E&DCR's and follow up indicated that --
12 follow-up by engineering assurance auditors indicated
13 that it had been an isolated instance of use of the
14 E&DCR's for this thing, and no further problems were
15 identified.

16 Q Mr. Eifert, does that finish your answer on
17 number 10?

18 A (WITNESS EIFERT) Yes, sir.

19 A (WITNESS MUSELER) Mr. Lanpher, on number 10,
20 I'd just like to add something to that. As Mr. Eifert
21 indicates, the particular engineers in the case of these
22 two E&DCR's did write E&DCR's against these documents
23 and the requirements of the engineering assurance
24 procedure for the reasons noted by Mr. Eifert did not
25 allow the use of the E&DCR system for these particular

1 types of drawings, because they are not generally used
2 in construction, although they are used in the startup
3 operation.

4 What we see here is a deviation from the
5 procedure, but one that clearly has no relationship at
6 all to the design control of the plant and certainly not
7 to the safety of the plant. The E&DCR's were noted,
8 that that's how the auditor could observe that someone
9 had written an E&DCR against either an ESK or an LSK
10 type drawing.

11 So the design control system was in effect and
12 would have ensured that these E&DCR's were incorporated
13 and that anyone who was going to use those drawings
14 would know that the E&DCR's had been written against
15 them. That's not to say that it was not a deviation.
16 It was. I just wanted to point out that this particular
17 kind of deviation from the engineering assurance
18 procedure is one that, while it is a deviation, bears no
19 relationship to, certainly to the safety of the plant.

20 Q Mr. Museler, do you know why this requirement
21 was instituted, or Mr. Eifert, that you are not supposed
22 to use the E&DCR's, as they were in this instance, for
23 the elementary diagrams and the other diagrams that are
24 mentioned?

25 A (WITNESS EIFERT) It's very simply a Stone &

1 Webster management decision that the preferable method,
2 the required method, for revising diagrams such as the
3 elementary and loop diagrams that we're discussing here
4 is to revise those diagrams. The policy is established
5 that way in general recognition that changes to these
6 diagrams are not normally of the type that are needed to
7 ensure that construction work proceeds on schedule.

8 The primary purpose of the E&DCR is to provide
9 that interface between construction and engineering.
10 These documents in the normal situation do not serve
11 that primary purpose, and management has insisted that
12 we maintain a policy of revising those documents as a
13 mechanism for changing them, I guess, simply stated, to
14 keep the process as simple as possible.

15 Q Mr. Eifert, you in an earlier answer indicated
16 that, or you implied, that you didn't think this was a
17 serious matter here because these changes by the E&DCR
18 method had undergone review and approval and had been
19 adopted. Isn't that review and approval mechanism
20 supposed to, among other things, determine whether it's
21 proper to use an E&DCR for that purpose?

22 A (WITNESS EIFERT) We have today a mechanism
23 built into the procedure for a specific review for
24 appropriateness of the E&DCR. In this time frame, I
25 don't believe we had a specific responsibility assigned

1 for that purpose in the procedure.

2 Q So the review and approval as of October or
3 early November 1977 would not have included review to
4 determine that it was proper to use an E&DCR in this
5 instance?

6 A (WITNESS EIFERT) Not a formally documented
7 review, which is the review that I have referred to that
8 was added to later versions of our EAP for controlling
9 E&DCR's. As I indicated, Mr. Lanpher, it was
10 established by the project that this was an unusual
11 circumstance isolated to these specific things. The
12 changes had been incorporated. The project, based on
13 the engineering assurance auditor's subsequent look to
14 determine if there were any additional E&DCR's being
15 used for this purpose, indicated that the project
16 preventive action in this case was effective, the
17 preventive action being to advise people again on the
18 use of E&DCR's. It had been effective in that we did
19 not observe further use of E&DCR's with respect to ESK's
20 and LSK's.

21 Q Mr. Eifert, why don't we go back to item
22 number 3 of this audit observation. I think you were
23 going to respond to my initial question whether this was
24 an example of using an E&DCR beyond the scope of
25 someone's authority.

1 A (WITNESS EIFERT) This situation, Mr. Lanpher,
2 is a totally different situation than those that we have
3 been discussing. This situation reflects the situation
4 where proje engineering had changed some specification
5 requirements to provide construction criteria, criteria
6 which the construction resident engineer would apply in
7 building the plant.

8 Included in that change to specification was a
9 mechanism by which construction would provide feedback
10 to engineering with respect to the application of that
11 criterion. As an example, the criteria provided
12 installation tolerances and provided a mechanism by
13 which the construction could install to those tolerances
14 and use an E&DCR to document the actual installed
15 condition, as a mechanism primarily to provide feedback
16 to project engineering on the specific installation.

17 There were also, as I recall these procedures,
18 mechanisms by which tolerances were specified, but prior
19 to construction being allowed to use those specific
20 tolerances they needed to obtain engineering approval of
21 that, and the E&DCR again would be used for that
22 application.

23 I do not know specifically the E&DCR's that
24 were involved in this particular instance, but the
25 situation we're seeing here is that the resident

1 engineer was implementing that mechanism and the auditor
2 is reporting that he is approving changes that are
3 slightly beyond his authorized responsibility. The
4 corrective action review did identify that there were 11
5 E&DCR's in that category and they were subsequently
6 acted upon as appropriate by engineering.

7 This was again a unique situation with
8 application of the project change mechanism as described
9 in the change to the specifications.

10 Q Mr. Eifert, I'd like you now to look at
11 attachment 27 to your prefiled testimony, site
12 engineering audit 12, I believe. And I'd like you to
13 look at audit observation 146.

14 (Panel of witnesses conferring.)

15 Q Mr. Eifert, is this an example where E&DCR's
16 are being used improperly to change, well, in this case
17 a vendor's document?

18 A (WITNESS EIFERT) Mr. Lanpher, this is again a
19 situation that the Shoreham project has encountered,
20 which has resulted in the need to generate a unique
21 practice. The vendor instruction manuals that are
22 referred to here are manuals that are provided by
23 equipment manufacturers with the equipment and used by
24 the plant personnel, and in this specific instance the
25 startup personnel in their activities.

1 The situation here was also that there was and
2 had not been anticipated even in 1981 when this audit
3 was done, that there would be a need for urgent changes
4 to such instruction manuals. These manuals are
5 provided, as I indicated, by the equipment manufacturer
6 and we did not recognize that there would be a need to
7 make any major changes to those.

8 The situation that the Shoreham project has
9 encountered is that during startup they have identified
10 some need to change the instruction manuals. They
11 initially contact the vendor and discuss the changes
12 with them, in an attempt to get the manufacturer to
13 revise his instruction manual and submit it so that it
14 can be used at the Shoreham plant.

15 In many cases here, we're talking equipment
16 that has been delivered and there is little incentive
17 for the manufacturer to revise instruction manuals
18 specific for their need at the Shoreham station. They
19 are, however, willing to discuss the changes and
20 authorize the changes as is appropriate within their
21 responsibility.

22 Therefore, this is again a unique situation
23 that they have encountered during the startup program.
24 The project is documenting these situations on E&DCR's.
25 The auditor, who I was able to talk to in this

1 particular case, indicated that there was no concern at
2 all with his review of how the project was processing
3 the specific E&DCR's, both with respect to the review
4 process, including as I indicated the contacts to the
5 vendor to get his authorization, and with respect to the
6 change control mechanism.

7 These are being included on the master log to
8 ensure there is full control of these.

9 I think I indicated yesterday, Mr. Lanpher,
10 that design process for a nuclear plant is a very
11 complex process. We have standard design control
12 procedures for controlling that process at Stone &
13 Webster. We have these unique situations that come up.
14 We can't anticipate in advance every condition that a
15 project is going to encounter.

16 This is an example of where they have
17 encountered a unique situation. The project, from a
18 design control standpoint, utilized the E&DCR very
19 effectively, fully in compliance with our design control
20 program. The observation we're seeing here reflects
21 primarily the lack of a practice within our standard
22 procedures for this specific aspect.

23 I again emphasize, the project was fully
24 acting, in documenting any changes within all the
25 requirements of our design control program --

1 Q I don't understand that, Mr. Eifert. Why was
2 -- when I read this audit observation, sir, it was my
3 understanding that the use of these E&DCR's in this
4 manner was not permitted under your E&DCR program,
5 absent some change for clarification of that program to
6 permit this. That was the purpose of this observation.

7 (Panel of witnesses conferring.)

8 A (WITNESS EIFERT) Mr. Lanpher, let me clarify
9 that with two points. First, I'd like to refer back to
10 my statements with respect to fully in compliance with
11 our design control program. In that context, I was
12 making specific reference to the Stone & Webster quality
13 assurance program that we have as applicable to the
14 system project.

15 In there, we make commitments to control the
16 design and to ensure that, for example, including to
17 ensure proper review and approval and so forth. In that
18 respect, the project in what they were doing fully
19 complied with our design control program commitments.
20 The specific instructions that we are discussing here
21 are instructions that are required by the procurement
22 specifications to be submitted for use by the plant
23 personnel.

24 One interpretation that would be an
25 appropriate interpretation with respect to our

1 procedures would be that to change these documents would
2 be to change the specifications. The audit did not
3 choose to look at it specifically that way, but rather
4 looked specifically to the detail contained in our
5 engineering assurance procedures with respect to vendor
6 instruction manuals.

7 The E&DCR's were being appropriately reviewed
8 and approved as if there was a specification change, I
9 believe. If we wanted to look at it from that
10 standpoint and if the auditor had made that judgment,
11 there would not have been a finding. The auditor
12 identified it as a specific type of vendor document in
13 his judgment. He processed the audit observation in
14 that light.

15 Q And by "in that light" you mean in the light
16 of his belief that it was a noncompliance with EAP 6.3,
17 correct?

18 A (WITNESS EIFERT) Mr. Lanpher, the auditor
19 would have recognized that EAP 6.3 did not specifically
20 identify or reference to vendor instruction manuals. As
21 I indicated, this is a unique situation that we have not
22 anticipated in our standard programs. The project was
23 using E&DCR's in precisely the same manner that they
24 used the E&DCR's to change the manufacturer's drawing.
25 I did not specifically talk to the project people, but

1 I'm sure at the time they did not believe it was in any
2 way a deviation to the procedures, because they would
3 not have been making the distinction between a
4 manufacturer's drawing and a vendor instruction manual.
5 And they followed the basic same review approval
6 documentation and control process for that.

7 From my standpoint in the engineering
8 assurance division, this to me represents in the primary
9 aspect of this type of operation again the feedback that
10 it gives to our standard program to take a look at the
11 standard program, to ensure that we have the necessary
12 detailed instructions that provide for the situations to
13 be encountered on the project.

14 And in no way does it give me any concern with
15 the practice being implemented on the Shoreham project.

16 A (WITNESS MUSELER) Mr. Lanpher, perhaps a
17 typical type example might serve to make this clearer.
18 Normally what would occur, the vendor's instructions
19 manuals are required as part of the specification and
20 they would be received and reviewed by the engineers
21 prior to acceptance. At that stage, if there were
22 changes or comments that the engineers wanted to make
23 they would deal with the manufacturer or the vendor and
24 get whatever changes were appropriate incorporated in
25 the document and the document would be reissued and

1 would go into the files corrected.

2 Once the startup phase of that particular
3 equipment begins, either the initial checkout or the
4 preoperational testing, many of the preoperational test
5 procedures are based upon information in the vendor
6 manuals, as well as the method of checking out the
7 equipment and the method of maintaining the equipment
8 and the method of operating the equipment.

9 At that stage, the startup organization is in
10 a scheduled test period, and if in the process of
11 writing or implementing their testing procedures they
12 uncover a need to change the vendor's instruction
13 manuals for whatever reason -- for instance, I'll just
14 pick an example: the vendor instructions in the case of
15 a skid-mounted piece of equipment might require certain
16 setpoints on relief valves or flow rates. The vendor
17 may call for certain flow rates through a heat exchanger
18 mounted on a diesel generator, for instance.

19 If for whatever reason there appears to be a
20 need to deviate from those vendor instructions, to have
21 a different setpoint on a valve or a different flow rate
22 higher or lower than the vendor's instruction manual
23 calls for, the startup organization would contact the
24 manufacturer, the vendor, and determine whether or not
25 -- they would either do it directly or they would have

1 the engineers do it -- to determine whether or not they
2 could make the appropriate changes that they felt were
3 necessary in order to operate the equipment properly or
4 to complete the test properly.

5 At that point, there is simply no time to go
6 through the process of commenting on, sending back,
7 revising, and then sending back to the site again the
8 vendor instruction manuals, and obviously it has to be
9 done on a much more real time basis. So the initial
10 contact is with the organizations whose requirements,
11 the vendor's requirements, as indicated in the
12 instruction manuals, need to be changed, and that is
13 either done directly by startup initially or it's done
14 in many cases by referring it to the engineering
15 organization, who then contacts the vendor.

16 In any case, what the engineers were doing is
17 utilizing the E&DCR's to make sure that those changes
18 got properly documented in a controlled system and
19 listed against a specification, hence against the vendor
20 instruction manual, so that the changes to the vendor
21 instruction manuals were done informally, that
22 information would not be captured in the document
23 control system.

24 So I think Mr. Eifert can more properly
25 address whether this technically is a discrepancy in one

1 of the EAP's. It's not clear to me either way, but I
2 think the facts of the situation are that this mechanism
3 was used in order to ensure that any changes in the
4 vendor's requirements were documented, cleared with the
5 vendor and cleared through the engineering department,
6 so that there were no changes that were in violation of
7 any of the specification requirements.

8 Q Mr. Museler --

9 JUDGE BRENNER: Excuse me. As I hear these
10 long answers, these seem to go mostly, if not
11 exclusively, to the first sentence of the description in
12 audit 146, which we're looking at, that is whether or
13 not it was proper to use an E&DCR. What about the
14 finding of the auditor in the second sentence, that in
15 effect, given the use of E&DCR's, the auditor says, in
16 addition the E&DCR's lack documentation of review by the
17 discipline responsible for the document affected by the
18 E&DCR change?

19 What did the auditor mean by that part?

20 (Pause.)

21 WITNESS EIFERT: Judge Brenner, I believe that
22 that comment was with respect to the lack of
23 documentation on the specific E&DCR's with respect to
24 the contact that was made with the vendor.

25 JUDGE BRENNER: Well, that's what I think

1 also.

2 You stated earlier, Mr. Eifert, that if this
3 had been a specification it would have been perfectly
4 okay to proceed this way. But would it have been
5 perfectly okay to issue an E&DCR, assuming an E&DCR is
6 correct to issue against the base document, without
7 having the review process as to the change?

8 WITNESS EIFERT: Your observation I believe,
9 Judge Brenner, is correct. The specific instructions
10 for processing specification changes would not require
11 any contact to the vendor to get his concurrence. The
12 context in which I was describing the possible
13 interpretation of the use of an E&DCR for such purpose
14 was in the context that it is a specification
15 requirement that the vendor supply instruction manuals.

16 I think the key point here is that, yes, our
17 standard procedures do not provide specific detailed
18 instructions to the people with respect to how to handle
19 vendor instructions manuals. The people doing the work
20 didn't ignore design control. They recognized the
21 appropriate mechanism or an appropriate mechanism. They
22 recognized the need to provide documentation to control
23 the situation in a formal manner, and they implemented
24 that.

25 JUDGE BRENNER: Well, I am still a little

1 confused. I'm not worried about the paper argument as
2 to whether or not an E&DCR can be issued against an
3 instruction manual, given your view as to maybe it fits
4 within the terms of the procedures and maybe it
5 doesn't.

6 But in any event, in substance it tracks and I
7 understand that portion of your answer. But you're also
8 telling us that through the method applied here all the
9 right reviews and concurrences were nevertheless in fact
10 performed before the change was implemented in a fairly
11 rapid time frame, because of the need for a fairly rapid
12 time frame.

13 But one of the concerns of the auditor as I
14 read these words here is that in fact that review has
15 not been conducted, and under the detail use of the
16 E&DCR's the thought seems to be repeated by the vendor,
17 by the auditor, where he states, "Vendor concurrence to
18 changes made to vendor requirements is therefore not
19 provided."

20 So how do you know all these proper
21 concurrences took place? I thought that one of the
22 concerns of the auditor is because of the way this was
23 used, beyond the fact as to whether or not an E&DCR is
24 okay in the first place. He's not sure if the in-fact
25 review took place, which was what I am understanding at

1 the moment also.

2 (Panel of witnesses conferring.)

3 WITNESS EIFERT: Judge Brenner, I'll answer
4 the question with respect to my knowledge of the
5 situation. Mr. Museler has additional knowledge. To
6 the best of my recollection, in my discussion with the
7 auditor who performed this audit he advised me that the
8 vendor contact was being made with respect to these
9 changes, and it was in that context that I had indicated
10 that the wording with respect to the vendor concurrence
11 was with respect to the documentation.

12 Mr. Museler has additional information which I
13 was not aware of on that matter.

14 JUDGE BRENNER: Would you agree, however, that
15 what you just told me is apparently inconsistent with
16 the cold words here, or at least you can't tell that
17 from the cold words here?

18 WITNESS EIFERT: Yes, I would agree. Auditors
19 are very pessimistic people.

20 WITNESS MUSELER: Judge Brenner, I am familiar
21 with --

22 JUDGE CARPENTER: Before you go on, may I ask
23 a question right there? When you say "contacted the
24 vendor," what are you telling us? Talked to the
25 salesman, talked to the head of the engineering

1 department? Who? What does that word mean in this
2 context?

3 WITNESS MUSELER: Well, for technical
4 concerns, the most common contact is someone that's
5 normally called a field service representative, who are
6 generally engineers. And these people many times we
7 also ask to come out to the site to resolve some of the
8 questions. That's the most common type of contact
9 that's made.

10 It depends on the particular problem. If the
11 problem went to, for instance, a structural design
12 component, we would have to talk to the engineers who
13 were responsible for that design within the vendor
14 organization. So those would be the people that we
15 would talk to.

16 Generally, we go to the field service
17 representatives to make the contacts, or a home office
18 coordinator of customer service. But in the case of a
19 change in a technical requirement, which most of these
20 are, many of them tend to be of the type I
21 characterized, where we are changing a flow rate
22 slightly. But some of them are of a more significant
23 nature.

24 In any case, when we say we contact the
25 vendor, we have to contact the appropriate person in the

1 vendor who had the responsibility for instituting that
2 requirement in the first place. And when we get into
3 what I will characterize as significant design
4 questions, those contacts are made by the engineering
5 department, generally through the site extension office,
6 but from one engineer to the appropriate engineer in the
7 vendor's organization.

8 JUDGE BRENNER: Mr. Museler, you had some
9 other information about this particular one?

10 WITNESS MUSELER: Yes, sir. With regard to
11 the type of observation noted in this audit, I have some
12 knowledge of a couple of these problems, because they
13 were brought to our attention at a few meetings.

14 The problems did not involve the fact that the
15 vendors had not been contacted, but rather the fact that
16 the E&DCR did not reference the contact with the vendor
17 and any documentation that might be available. Many
18 times some of these changes to vendor instruction
19 manuals would be followed up by a letter from the vendor
20 concurring with the change, or notes of telecon would be
21 generated to ensure that there was a record of those
22 conversations.

23 But the auditor observed that engineering had
24 reviewed the change to the vendor instructions and had
25 not indicated on the E&DCR what the source of the

1 vendor's concurrence was, whether it was a letter or a
2 phone call or what. And that is the observation that
3 the auditor is making.

4 I can't recall any instance where the vendor
5 was not contacted before a change to his instructions
6 was made. But the observation was that the E&DCR should
7 identify what the source of that vendor approval was.

8 JUDGE BRENNER: Well, as I read what the
9 auditor wrote, it's not the narrow point that the E&DCR
10 didn't indicate the source of the vendor approval. It
11 is rather that the E&DCR didn't even indicate whether
12 vendor approval was obtained or whether, you know,
13 discussions with the vendor were had.

14 I don't mean to imply that you have to have
15 absolute vendor approval to do everything, but a
16 technical interchange to make sure that you're not doing
17 something in ignorance of another requirement, I imagine
18 that's important. And as I say, from the auditor's
19 finding, just reading the words it looks as if that was
20 not indicated.

21 I will leave it at that.

22 WITNESS EIFERT: Judge Brenner, could I have
23 one more minute to look at part of our attachment to our
24 testimony that has additional information on this
25 matter?

JUDGE BRENNER: Sure.

2 (Panel of witnesses conferring.)

3 WITNESS EIFERT: Judge Brenner, I'd like to
4 refer you to attachment 27 of LILCO's prefiled
5 testimony. This attachment is -- it includes the audit
6 documentation for the specific concern that we are
7 discussing.

8 About an eighth of an inch into that
9 attachment -- the pages aren't documented -- is a
10 memorandum dated January 6th from Mr. Brabazon, the
11 Stone & Webster project engineer, to Mr. Shelton, the
12 chief engineer of engineering assurance.

13 JUDGE BRENNER: Where is it? Is it near the
14 end of the attachment?

15 WITNESS EIFERT: No, it's about an eighth of
16 an inch in from the beginning. It has a handwritten
17 number at the right-hand corner, 82-03.

18 Sir, could I find it for you?

19 JUDGE BRENNER: Yes. It must be me.

20 (Pause.)

21 WITNESS EIFERT: Judge Brenner, this
22 inter-office memorandum is part of the correspondence
23 between engineering assurance division and the project,
24 discussing the situation with respect to the use of the
25 vendor manuals. In the second paragraph of that memo,

1 the project engineer is advising the engineering
2 assurance division that this contact between Stone &
3 Webster and the vendor has been conducted.

4 JUDGE BRENNER: Well, this memo doesn't go
5 into the detail of requiring, if that be proper, that
6 the E&DCR reflect the discussion, that the discussion
7 with the vendor took place, which was my point. I want
8 to know how to categorize that audit finding as to at
9 worst a procedural technicality or whether, beyond that
10 problem, the review that would be very important to
11 substance did not take place because of the manner in
12 which things were done.

13 Those are the categories. I have to decide
14 how to fit all of this in when we look at the mass of
15 them some day.

16 WITNESS EIFERT: Sir, in response to your
17 remarks, I would categorize this as a procedural concern
18 and not a concern in any way with substance. The
19 auditor identified a unique application for E&DCR's. As
20 I indicated, in my discussion with the auditor he
21 indicated that the proper reviews were being obtained.

22 This memorandum from the project further
23 substantiates that the contact was being made with the
24 vendor. Subsequently, the project has issued a project
25 instruction which I'm sure provides fully for the

1 documentation of that vendor contact. So this was a
2 procedural problem.

3 Again, I emphasize that our procedures cannot
4 anticipate every unique situation that a particular
5 project might encounter. The importance of this
6 particular -- or the significance of this particular
7 audit observation I believe is that the people involved
8 recognized the need to control the situation and
9 appropriately did control it, with the exception of some
10 documentation concern, that they did the appropriate
11 thing with respect to controlling the work.

12 And we have issued a project instruction, and
13 there is also a revision to Stone & Webster's standard
14 procedure now in process to identify the specific
15 instance of a possible use of the E&DCR system.

16 MR. LANPHER: Judge Brenner, could I interrupt
17 your questioning?

18 JUDGE BRENNER: Yes.

19 BY MR. LANPHER: (Resuming)

20 Q In that same attachment to number 27, if you
21 could go three pages earlier from that memo you were
22 referring to before, Mr. Eifert, you described it as a
23 procedural problem. Those were your words. Item 3 on
24 that page, about the middle of the page, indicates a
25 lack of initial screening review due to the fact that

1 the E&DCR's, apparently because of time pressure, had
2 been distributed directly to the responsible discipline
3 for a solution, without going to an initial screening
4 reviewer.

5 Is that your understanding of what happened
6 here?

7 (Panel of witnesses conferring.)

8 A (WITNESS MUSELER) Mr. Lanpher, I presume you
9 are referring to audit observation 146, page 1 of 1.

10 Q Yes, Mr. Museler.

11 A (WITNESS MUSELER) Item number 3, to which you
12 are referring, starts in the extent of condition?

13 Q Yes, that's right, sir.

14 (Panel of witnesses conferring.)

15 JUDGE BRENNER: Mr. Lanpher, let me make one
16 point to make sure you are tuned in to what my questions
17 were, and then you are perfectly entitled to ask your
18 own. But I got the inference you thought you were
19 following up on what I had been asking about.

20 The audit observation which we had originally
21 looked at at page 146, in that second sentence that I
22 was concerned about, has two observations within that
23 second sentence. I was only interested in asking
24 expressly about, on the record, about the lack of
25 documentation of review by the discipline responsible

1 for the document affected by the E&DCR change. I did
2 not ask about the initial review to determine if any
3 E&DCR is necessary.

4 I just hope you were keyed in so when you
5 follow up -- okay?

6 (Panel of witnesses conferring.)

7 MR. LANPHER: Judge Brenner, so it's clear,
8 and for the witnesses' sake, I think I am going beyond
9 your comment. It seems to me from this additional
10 information here that maybe there's more than one review
11 that for some reason was not taking place and I'm trying
12 to bring that out.

13 JUDGE BRENNER: You're perfectly entitled to
14 ask. I was afraid you were going to be confused,
15 however momentarily, and I didn't want four or five
16 unnecessary questions to go by before that was cleared
17 up. But apparently you weren't confused.

18 WITNESS MUSELER: Mr. Lanpher, the item you
19 referred to relates to a situation that had been ongoing
20 for some time, primarily in the site extension office,
21 the situation being that we have mentioned that E&DCR's
22 are used to request design changes. They are also used
23 to request information and clarification, and in that
24 latter category there is obviously a gradation of what
25 kinds of information needs to be answered in a formal

1 design control process manner.

2 The engineers had noted that a number of E&DCR
3 requests -- in other words, the first portion, the
4 statement of the problem or request for information --
5 were being made that could be categorized as just asking
6 a question and getting an answer, the importance of
7 which is not such that it reflects a change to the
8 specification or a real clarification.

9 Obviously, whenever people read a
10 specification or a drawing they may have a question on
11 it which is not of such a substantive nature that it
12 ought to be committed to an E&DCR and therefore the full
13 document control system. Otherwise, any question that
14 anybody ever asks would be on an E&DCR and there
15 wouldn't be enough paper in the world to print them.

16 And that was a problem, because we have been
17 discussing the sheer volume of E&DCR's, over 50,000,
18 apparently at least over 55,000. So engineering quite
19 properly felt that a number of E&DCR's did not need to
20 be written because the question, while perhaps not
21 trivial, although in some cases trivial, was not of such
22 a nature that it needed to be written on an E&DCR,
23 responded to formally by an engineer, reviewed by the
24 various people in the review process.

25 So a system was instituted whereby a screening

1 process for E&DCR's was required in the site extension
2 office, indicated, I believe, although I'm not sure, by
3 either the head of the SEO or his designee just
4 initialing in the margin that he had reviewed that E&DCR
5 and that it was important enough to be an E&DCR. And if
6 it wasn't important enough, he would send the E&DCR back
7 to the person and say, either write an inter-office
8 memorandum or make a phone call and ask the question.

9 The audit observation you're referring to here
10 I believe indicates that in some cases -- excuse me a
11 second.

12 (Panel of witnesses conferring.)

13 WITNESS MUSELER: Excuse me, Mr. Lanpher.

14 So what the auditor had observed is that in
15 some cases the E&DCR did not have on it an indication of
16 this review. So some E&DCR's that might not qualify in
17 importance to be E&DCR's might have been distributed and
18 answered and gone through the review process. That
19 wouldn't affect anything. It would result in perhaps an
20 unnecessary E&DCR or a number of E&DCR's being written.

21 So that's the review that's talked about here,
22 and the next page contains a memo from the head of the
23 site engineering office which addresses that particular
24 subject and notes that the recent audit finding
25 indicated that that procedure was not being followed in

1 some cases, and it was a reminder memo to the
2 supervisors in the site engineering office to conduct
3 that review.

4 So that's the review that's being referred to
5 here.

6 BY MR. LANPHER: (Resuming)

7 Q MR. Museler, when I read that next page also,
8 I get the impression -- and correct me if I am wrong --
9 that the so-called screening review is not just to
10 screen out the insignificant information type requests
11 that really could be handled by an inter-office memo or
12 maybe just a phone call, what does this mean, but rather
13 also is to be a substantive review, at least to the
14 extent of ensuring that it's a proper subject matter,
15 proper use of an E&DCR.

16 A (WITNESS MUSELER) It's a substantive review
17 in that context, Mr. Lanpher, that the reviewer is
18 supposed to determine whether or not that subject matter
19 is proper for the use of the E&DCR document.

20 Q Mr. Eifert, if we could go back for a moment
21 to the January 6 memorandum you initially directed the
22 Board's attention to. The first sentence on the second
23 paragraph says: "Invariably, discussion takes place
24 between the vendor and the responsible engineer to
25 determine the solution, and some assurance is received

1 that the change will be made and submitted at a later
2 date."

3 Now, do you know in this case, in this audit
4 observation, what the nature of the discussions were
5 between the vendor and the LILCO engineer?

6 (Panel of witnesses conferring.)

7 A (WITNESS MUSELER) Mr. Lanpher, I'm sorry.
8 Could you repeat your question, please?

9 Q Do you know in this instance what the
10 substantive nature of the discussions were between the
11 vendor and the LILCO engineer who apparently had
12 discussions with the vendor about the manual change?

13 (Panel of witnesses conferring.)

14 A (WITNESS MUSELER) And this is in the context
15 of Mr. Brabazon's memo of January 6th?

16 Q No, in the context of audit observation 146.

17 A (WITNESS EIFERT) Now I'm confused, Mr.
18 Lanpher. I thought you wanted us to look at the January
19 6th memo from Mr. Brabazon to Mr. Shelton.

20 Q Let me try to unconfuse the situation. That
21 January 6th memorandum states that: "Invariably" --
22 which I interpret means in all cases -- discussion takes
23 place to provide some assurance."

24 Putting that in the context of audit
25 observation 146, that statement, do you know with any

1 precision what the nature of the discussions were
2 between the vendor and the LILCO engineer which provided
3 some assurance?

4 (Panel of witnesses conferring.)

5 MR. EARLEY: Judge, if I may interrupt, I'm
6 not sure what assurance you are referring to. The
7 assurance there that is referenced, the assurance that
8 the change will be made, or assurance that there was the
9 contact?

10 MR. LANPHER: I want to know actually both,
11 assurance that the contact was made and assurance --
12 there are three things: assurance that the contact was
13 made, assurance that there was really a substantive
14 contact as opposed to talking with a sales
15 representative, and assurance that there was really
16 concurrence in whatever change finally was effected. I
17 want to know the nature of these discussions.

18 WITNESS MUSELER: For these specific E&DCR's,
19 Mr. Lanpher?

20 BY MR. LANPHER: (Resuming)

21 Q For this specific audit observation 146, if
22 you know.

23 A (WITNESS MUSELER) Mr. Lanpher, your earlier
24 question referred to a LILCO engineer. The contact may
25 have been made by either a LILCO or a Stone & Webster

1 engineer. We don't know.

2 If you want a detailed answer to what
3 substantive discussions took place on the E&DCR's,
4 because those are the only references that get us to the
5 specific item here, what the specific conversation was
6 and what the subject of that conversation was, we would
7 have to go back and get those documents and perhaps talk
8 to the engineers involved. We don't have that
9 information now.

10 Q Mr. Museler, is attachment 27 to the best of
11 your knowledge the complete file regarding site
12 engineering audit -- site engineering assurance audit
13 12? Is that the complete documentation of that file?

14 (Panel of witnesses conferring.)

15 A (WITNESS EIFERT) Mr. Lanpher, to the best of
16 my knowledge this is a complete file.

17 Q Does this file at any place indicate whether
18 the auditor or other persons, in response to the audit
19 findings, provided documentation or information to
20 ensure that proper discussions, substantive discussions,
21 were held with the vendor to ensure that -- to document
22 that the changes to the manual were proper from the
23 vendor's point of view?

24 (Panel of witnesses conferring.)

25 JUDGE BRENNER: I take it from the pause that

1 none of the witnesses know without going through the
2 file more carefully, the attachment 27 more carefully;
3 is that correct?

4 WITNESS EIFERT: That's correct, sir.

5 JUDGE BRENNER: All right. That stands for
6 now. But if they want to come back at it, they can do
7 it later.

8 MR. LANPHER: Very well. That's fine with me,
9 Judge Brenner.

10 BY MR. LANPHER: (Resuming)

11 Q Gentlemen, I'd like to turn your attention
12 back to audit observation 146, the actual observation.
13 Item 2 at the bottom of the page, and really the example
14 which is part of that, it appears that changes to a
15 specification were made by the engineering mechanics
16 stress group with no apparent review by the controls
17 division personnel who performed the original review and
18 approval.

19 Now, is that a violation of your procedural
20 requirements, sir?

21 (Pause.)

22 A (WITNESS EIFERT) Mr. Lanpher, the situation
23 with the specifications, the concern in this part of
24 audit observation 146, is a situation where we have a
25 specification that falls under the responsibility of

1 more than one engineering discipline. In the specific
2 case identified, it was a situation where the controls
3 division had the lead responsibility, if you will, for
4 processing that specification and the engineering
5 mechanics division had a significant amount of
6 responsibility for that particular specification as
7 well, and it had provided input to and approved the
8 specification.

9 The changes that were being processed were
10 specifically in reference to the technical requirements
11 of that specification that were the responsibility of
12 the engineering mechanics division. In discussions with
13 the auditor, I was able to establish that there were
14 other situations where specifications were of this
15 similar nature, and the practice on the project for
16 documenting the approval for changes to these types of
17 multiple applications, multiple discipline
18 specifications, has been to require the approval of the
19 primary or lead discipline for all changes, and also the
20 documentation and approval responsibility of the
21 discipline responsible for the specific application.

22 The audit identified that for this
23 specification that accepted and intended practice on the
24 project was not being implemented and therefore we
25 issued this finding to follow that, to ensure that they

1 maintain that standard practice and, more importantly
2 probably, just to ensure that our documentation was in
3 essence perfect on this matter.

4 There was no question with respect to the
5 technical adequacy of the responses to the E&DCR's. The
6 engineer responsible, the engineering mechanics division
7 who was responsible for the technical area of concern in
8 the changes, were the people who were approving them.
9 The controls signature is added as a link to the primary
10 or lead responsibility for that specification.

11 Q Gentlemen, I'd like to turn your attention now
12 to field quality control audit 23.

13 JUDGE CARPENTER: Mr. Lanpher, are you leaving
14 this area now?

15 MR. LANPHER: Yes, I am, sir.

16 JUDGE CARPENTER: I have just a couple of
17 questions.

18 MR. LANPHER: Sure.

19 JUDGE CARPENTER: Mr. Museler, I wonder if you
20 could help me get a feeling for this. How extensive is
21 this need for changing vendors' instruction manuals in
22 the course of developing the startup at Shoreham? This
23 audit 146 references one item. Are there one, 10, 100,
24 1,000?

25 I'm trying to get some feel for the extent of

1 this.

2 (Panel of witnesses conferring.)

3 WITNESS MUSELER: Judge Carpenter, it is not
4 infrequent that we have to contact the vendor to either
5 clarify or request a change or a correction to a vendor
6 instruction manual. Mr. Muller and I were trying to
7 come up with a number, and we will get you a more
8 definitive number over the break.

9 But our impression is that it is over a
10 hundred, but not near a thousand. I realize that's a
11 very wide band, but those are the numbers that you
12 used.

13 JUDGE CARPENTER: So it is -- well, if the
14 number is between a hundred and a thousand, in my mind I
15 would say that is substantial. This is not an
16 insignificant or an exceptional thing. This is a fairly
17 substantial situation and it's something you have to
18 deal with, let's put it that way.

19 WITNESS MUSELER: Yes, sir, it is a frequent
20 occurrence.

21 JUDGE CARPENTER: The thing I need help with,
22 what kinds of equipment -- I realize now we are talking
23 about several hundred items, but do they fall in some
24 particular area or are they pretty well throughout the
25 project? Is it all different kinds of equipment or is

1 it particular areas that are leading to this?

2 (Panel of witnesses conferring.)

3 WITNESS MUSELER: Judge Carpenter, the types
4 of occurrences would cover -- I can't characterize
5 whether a majority is in one discipline, but it does
6 cover most of the disciplines. The types of components
7 that are most frequently the subject of discussions with
8 the vendors are items like pumps, motors, some
9 electrical equipment, relay settings, relief valves,
10 heat exchanger flow rates.

11 I would add that many of the discussions
12 relate to items that are where the vendor doesn't just
13 supply, for instance, a pump; the vendor may supply a
14 part of a process system which has pumps, valves and
15 electrical equipment on it. So the questions would go
16 to more than just the operating characteristics of a
17 pump in that case, but it would cover electrical
18 questions, mechanical questions, instrumentation
19 questions -- essentially the whole gamut of the type of
20 equipment we have in the plant.

21 And that's not at all unusual in the startup
22 of any plant or any large industrial undertaking. Many
23 times the nominal range is not something that is hard
24 and fast, and that that is what is down there as the
25 guideline and if you need to deviate from that guideline

1 you may not make any difference to the operation of the
2 equipment, but that change from the stated guideline in
3 the vendor's manual would have to be discussed unless it
4 were trivial.

5 JUDGE CARPENTER: Thank you for helping me
6 this far. I'm asking for help because of not having
7 experience with equipment of this size or with a piece
8 of machinery of this complexity. But in looking at
9 reliability evaluations one looks at the pieces of
10 equipment that are specified, assuming that that
11 equipment has been operated pretty much according to the
12 manufacturer's manuals, which are by and large provided
13 with that equipment.

14 Now I am learning that on an individual basis,
15 whatever the nominal rating of that equipment, it may be
16 operated slightly off that nominal rating for good
17 sufficient reasons. Do you see where I have some
18 concern?

19 Item of equipment A as listed in the roster is
20 now modified along the way and it's actual service
21 characteristics may be somewhat different than I would
22 have thought from the nominal identification of the
23 equipment, and I was trying to get some feel for this.
24 Presumably, the designer expected most of these things
25 -- most of this fine-tuning, if you will, wasn't

1 anticipated that it would be needed.

2 (Panel of witnesses conferring.)

3 WITNESS MUSELER: Judge Carpenter, I hope I
4 can add some clarification in two areas. First, the way
5 a piece of equipment is typically designed and then
6 tested by the manufacturer, he designs it for a range of
7 operating conditions and then he tests it in the main
8 for a range of operating conditions which at least
9 bounds and generally exceeds where he intended the
10 design range of whatever the parameter was, and let's
11 say it was the design rate of a pump.

12 What he would typically have in the vendor
13 instruction manuals is something that was inside of both
14 bounds of that range. So when you refer to what the
15 vendor intended in terms of design and what he tested
16 for, what he designed and tested for bounds usually
17 quite considerably what he tells us the range to use in
18 the vendor instruction manuals are.

19 So that's one point. We are not operating the
20 equipment outside of the vendor's recommended ranges.
21 We are -- if we want to operate it differently from what
22 the vendor instruction manual says, we will have to get
23 concurrence from the vendor that that's acceptable and
24 that's covered by his design and by his testing, if
25 that's appropriate.

1 The second comment I'd like to make is that
2 this is being done in order to -- this process that we
3 are talking about is being done in order to achieve the
4 system performance requirements of the preoperational
5 test program. If we are speaking about a safety system,
6 where -- and I will use the term "adjusting," if that is
7 an appropriate term -- various portions of the system in
8 order to ensure that the system as an entity will meet
9 the performance requirements of the preoperational test
10 program.

11 So what we are doing is ensuring that, in my
12 mind, is ensuring that, system by system and therefore
13 the entire plant will operate in accordance with the
14 requirements for the various systems.

15 I would certainly not characterize this as
16 operating outside of the vendor's design. We do deviate
17 from his vendor instruction manual at times, and at
18 times his vendor instruction manual may need a
19 correction. So to that extent we do operate the
20 equipment differently than the vendor instruction
21 manual, but not outside of design conditions.

22 JUDGE CARPENTER: Well, the auditor certainly
23 didn't say that. I'm having the same problem Judge
24 Brenner had. I am reading what is typed in audit 146,
25 and it simply says that vendor concurrences to changes

1 to vendor requirements are not provided. That's why I
2 was trying to get some feel for this.

3 You are assuring me that the equipment is not
4 being operated outside the vendor specifications?

5 (Panel of witnesses conferring.)

6 WITNESS MUSELER: Yes, sir, I am assuring you
7 of that. And I want to be clear that if we deviate --
8 and it doesn't mean that at times we don't need to
9 operate differently than the vendor instruction manual.
10 When we need to operate differently than that, we do
11 obtain his concurrence. The statement of the auditor I
12 think is in the context of, from the evidence he saw,
13 his concern was that the process could be construed as
14 not obtaining vendor concurrence.

15 I believe Mr. Eifert has stated that, on
16 talking to the auditors who were involved in this, they
17 did not indicate that the contact wasn't made. You
18 couldn't prove it with the paper that they looked at,
19 that that's a true statement at that point in time.

20 Mr. Brabazon's memo indicates quite strongly
21 that those contacts are made and I'm sure Mr. Youngling,
22 who will be with us at the next session, who is the
23 startup manager, can reinforce that. We're not
24 operating that equipment, if we have the change from the
25 vendor's specifications, without obtaining the

1 appropriate approvals for it, and we're not operating
2 the equipment outside of its design limits.

3 The whole preoperational test program is
4 designed to ensure that both on a component basis and on
5 a system basis, that the performance requirements of the
6 equipment and of the systems is met. That's the intent
7 of that program.

8 The program would reject conditions that
9 operated outside of design limits.

10 (Panel of witnesses conferring.)

11 JUDGE CARPENTER: I didn't know whether your
12 conference was going to lead to a further comment or
13 not.

14 WITNESS MUSELER: No, sir. I'm sorry.

15 JUDGE CARPENTER: You see, what I'm having
16 trouble understanding, one would think all the way
17 through the design process that an "engineering
18 judgment" is being used. I've heard ever since the
19 middle of may about engineering judgments. Presumably,
20 because engineering is always an approximation to the
21 truth and one never knows exactly the situation in terms
22 of the physics, one uses safety factors and margins.
23 That's why I was having a knee-jerk reaction now at the
24 proof point down the line, as you start doing the
25 startup testing, the implication here is that you were

1 on the edge of the manufacturer's specifications and you
2 had to check with him.

3 That's what I read here and you're testifying
4 that that was not so, that you were well within how he
5 expected the equipment service conditions to be, but it
6 wasn't quite in the manual. And I'm having trouble with
7 that, with it being quite that neat.

8 WITNESS MUSELER: Sir, let me try to give you
9 one example. But I do want to say before I give you
10 that example that I do not want to leave you with the
11 impression that there are not times when the
12 manufacturer's design limits don't have to be explored
13 to see if we are getting close to those design limits.
14 Those are rare, occurrences, but I didn't mean to imply
15 that all instances of this type are trivial.

16 A common example, however, of one that is the
17 type that occurs in the majority of cases is in the case
18 of a large piece of equipment, a diesel generator for
19 example, which has attached to it a heat exchanger for
20 cooling the circulating water that cools the engine, and
21 the secondary side of that heat exchanger is cooled by
22 cooling water from our service water system, and the
23 manufacturer has a nominal flow rate.

24 I believe in one case he gave one number for
25 the flow rate through that heat exchanger, not even a

1 range. And the function of that cooling water on the
2 secondary side is to keep the temperature of the primary
3 side at a certain level. That's the primary design
4 consideration.

5 And if the vendor -- and this has occurred --
6 gave one number and our service water system and the
7 associated piping and controls and orifice plates
8 produced a flow rate different than the one number,
9 whether it were higher or lower, we would look at that
10 situation. We would look at the input and output
11 temperatures on both sides of the heat exchanger, and we
12 would decide whether or not there appeared to be a
13 problem.

14 If there appeared not to be a problem -- we
15 would address the manufacturer in either case, but if
16 there appeared not to be a problem we would address the
17 manufacturer in the vein that, instead of the flow rate
18 being 150 gallons per minute, it may be, let's say, 120
19 gallons per minute on the secondary side, and the
20 temperature of the primary side is being maintained at
21 whatever the appropriate temperature of the engine is
22 supposed to be.

23 And our question to him would be: This is the
24 flow situation, it's 120 instead of your 150; the
25 temperatures are correct on the primary side; we would

1 like to operate the system this way; is that consistent
2 with your design requirements and whatever other
3 requirements may have been incorporated in your design?

4 We have also had the instance where, instead
5 of 150 gpm in the hypothetical example, the flow rate
6 has been 180 gpm, and we have to ask the question in
7 that case, too, because it is a deviation from the
8 vendor's instruction manual for that one parameter.

9 So I hope that puts a little perspective on
10 it. I don't mean to imply that some of them aren't more
11 complicated and more technically involved than that.
12 But that's a very typical example of the kinds of items
13 we have been discussing.

14 JUDGE CARPENTER: Well, of course I'm
15 surprised that a vendor would come out with a single
16 value criterion rather than indicating a range, an
17 acceptable range. I guess I am surprised about the
18 quality of these manuals as much as anything else.
19 Quality equipment and a quality manual go together, and
20 I'm a little distressed to read about errors in the
21 manuals, for example.

22 This is just as important as the piece of
23 equipment. They go together, and apparently you are
24 running into a lot of this. I find that surprising.
25 But as I say, that is out of my own personal ignorance.

1 Thank you for giving me a little feel for
2 this.

3 WITNESS MUSELER: Sir, I'd just like to say
4 that I would not characterize the situation we are
5 experiencing at Shoreham as being unusual, nor is it
6 surprising to the startup engineers and the people who
7 started up our fossil stations -- and a number of them
8 have also participated in the startup of nuclear
9 stations.

10 We think we are experiencing a normal startup
11 for a nuclear plant in terms of the numbers of these
12 types of questions that have to be addressed.

13 JUDGE MORRIS: Mr. Museler, what
14 considerations do warranties have in this activity?

15 WITNESS MUSELER: That was what Mr. Eifert and
16 others told me about, they told me to mention just a
17 minute ago. I elected not to discuss that, to bring the
18 commercial situation into this. But whether it be a
19 nuclear plant or a fossil station, the deviation from
20 any vendor's recommendation or any vendor's guidelines
21 is a warranty situation.

22 If we did not obtain the vendor's concurrence
23 before we operated the equipment differently than his
24 guidelines or his manual required, the warranty would be
25 voided. All manufacturers make that very clear in their

1 commercial documents.

2 This is not -- contacting the vendor has its
3 technical side in order to ensure that the equipment and
4 the system is operated properly, and it has its
5 commercial side, which would make us contact the vendor
6 in any case because of warranty considerations. And
7 when you consider the implications of financial impact
8 of a warranty on even one nuclear-grade pump, it's just
9 extremely unlikely, and for that reason as well as the
10 technical reasons the engineers involved would not take
11 it on themselves to change or deviate from the specified
12 operating conditions of those pumps.

13 In our fossil stations, the engineers are well
14 drilled that they had better check with the manufacturer
15 before they operate the equipment differently than his
16 recommendation, because it has a huge financial --
17 potentially has a huge financial impact on the company.

18 JUDGE MORRIS: Can you characterize whether or
19 not warranty considerations are dominant in initiating
20 these kind of contacts with the vendors, or whether the
21 technical reasons or dominant?

22 WITNESS MUSELER: In the case of Shoreham, and
23 I believe in the case of any nuclear plant, it is the
24 procedural requirements and the technical considerations
25 that are the predominant reason. Certainly that's true

1 in the case of Shoreham. That's why I didn't mention
2 the commercial considerations before.

3 JUDGE MORRIS: Thank you.

4 JUDGE BRENNER: Well, I guess the warranty
5 consideration makes it all the more surprising that you
6 don't have the documentation, because the discussions
7 don't do you a heck of a lot of good sometimes,
8 depending on the vendor, without the documentation
9 later, right?

10 WITNESS MUSELER: That's a true statement,
11 Judge Brenner, but the audit observation -- and I can't
12 say that the documentation was present in each case, but
13 the audit observation I believe indicates that the
14 records that they looked at and the lack of reference on
15 the E&DCR, they didn't see the documentation.

16 It's very rare that the contacts with the
17 vendors are not documented by, as a minimum, with notes
18 of telecom, with the parties' names and dates. And that
19 goes into the permanent plant file. I can't say that
20 there are no instances where there is no documentation,
21 but those contacts are documented.

22 JUDGE BRENNER: Well, we had one example
23 before us and the record stands on what we had before us
24 for that example so far.

25 Let's take a 15-minute break until 11:20.

1 (Whereupon, at 11:05 a.m., the hearing was
2 recessed, to reconvene at 11:20 a.m.)

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

1 (11:20 a.m.)

2 JUDGE BRENNER: Any time you're ready, Mr.
3 Lanpher.

4 BY MR. LANPHER: (Resuming)

5 Q Mr. Kelly, I'm going to direct some questions
6 regarding our discussion yesterday about the sampling
7 program that was instituted in mid-1977, after field
8 audit 602 had come out. Mr. Kelly, yesterday -- and
9 it's page 11042 of the transcript -- I asked this
10 question:

11 "You stated that the results of that analysis
12 were that implementation had not been adversely affected
13 by the fact that E&DCR's were missing or whatever, the
14 kinds of problems that were identified in field audit
15 602. Did you determine whether there were any instances
16 of -- well, did you determine any instances where the
17 implementation was not 100 percent in compliance with
18 your requirements?"

19 Your answer was no.

20 Mr. Ellis asked it to be reread and indicated
21 that he thought some clarification might be necessary.
22 Have you had an opportunity to consider this and decide
23 whether this answer is true and correct or needs some
24 clarification?

25 A (WITNESS KELLY) As far as in context with

1 previous questions and answers that occurred, namely on
2 page 11,040 and 11,041, that is correct. I guess what
3 Mr. Ellis' concern was, because the statement as far as
4 the implementation, as far as affecting the field
5 permanent installation, okay, there were no problems,
6 and that's what was referred to there, and all the
7 previous questions that were discussed and my answers
8 related to that.

9 I thought that was quite clear.

10 Q Well, Mr. Kelly, let me ask you this, then:
11 Is it your testimony that the implementation of the
12 E&DCR's -- and by that I mean the carrying out of what
13 was required under the E&DCR's -- is it your statement
14 that that was 100 percent correct, that was taken care
15 of?

16 (Panel of witnesses conferring.)

17 Q I think I'm going beyond field installation.

18 A (WITNESS KELLY) What I have said here, and
19 referring to previous questions, was regarding the field
20 implementation and to the permanent plant installation.

21 Q I am broadening that question. Isn't it a
22 fact that your sampling did indicate several instances
23 where the E&DCR's called for certain action and the
24 sampling review which was performed determined that that
25 implementation of E&DCR requirements had not taken

1 place?

2 A (WITNESS KELLY) Well, why don't we go through
3 the list of the items.

4 Q Could you please answer my question?

5 JUDGE BRENNER: Answer the question first.

6 (Panel of witnesses conferring.)

7 WITNESS KELLY: We had an instance where there
8 was a question regarding vendor documentation as it far
9 as it related to an E&DCR, but again not as it affected
10 the field.

11 BY MR. LANPHER: (Resuming)

12 Q Mr. Kelly, let me ask the question again.
13 Isn't it true that there were several instances
14 identified by your sampling audit -- and I will call it
15 that for want of a better word -- there were several
16 instances where the actions required to be taken under
17 the E&DCR had not been implemented as required?

18 A (WITNESS MUSELER) Mr. Lanpher --

19 Q I would like Mr. Kelly to answer if he could.
20 It's a follow-up on the earlier questions. And then if
21 Mr. Museler would like to amplify, that's just fine.

22 JUDGE BRENNER: That's fair. Let's do it that
23 way.

24 (Panel of witnesses conferring.)

25 WITNESS KELLY: Some of the administrative

1 requirements of the E&DCR's had not been accomplished at
2 this time on certain items.

3 BY MR. LANPHER: (Resuming)

4 Q Mr. Museler, do you want to say something?

5 A (WITNESS MUSELER) Thank you, Mr. Lanpher.

6 I believe it's important to note that the
7 reference to this sampling plan was in the context of
8 whether or not as a result of audit observation --
9 excuse me -- of audit 602, any of the posting
10 discrepancies and other administrative problems with the
11 E&DCR's in distribution and logging had affected the
12 plant in the field and therefore potentially affected
13 the safety of the plant.

14 This sampling, which was instituted at the
15 request of the LILCO project manager, was in the context
16 of assuring ourselves that the situation did not have an
17 impact on the safety of the plant and that it in fact
18 did not have an impact on the physical plant at all as
19 it was erected in the field.

20 We have been discussing with E&DCR's
21 discrepancies with certain of the posting requirements,
22 and I believe we have covered those at length, and with
23 incorporation of E&DCR's into the specification in a
24 timely manner. Some of those problems were reflected in
25 the sample.

1 However, the purpose of the sample and the
2 statement made yesterday that you asked Mr. Kelly to
3 confirm was whether or not, when we looked at these
4 E&DCR's, if they applied to a permanent plant
5 installation in the field, the plant was in fact built
6 in accordance with those E&DCR's as they affected
7 physical installation in the plant.

8 As the memorandum points out, when the
9 inspection was made 163 E&DCR's had already been
10 accomplished in accordance with those E&DCR's. 25 of
11 them were not accomplished in the field because the
12 construction schedule had not reached that point in
13 time. So therefore one could not say they were
14 implemented in the field, but the E&DCR's were issued
15 and there was no reason to expect that they would not
16 have been implemented.

17 There was no adverse finding that they had not
18 been implemented. It was verified that the construction
19 schedule did not call for that work to be done yet.
20 Four of the E&DCR's, even though they referenced
21 permanent plant drawings, did not apply to a piece of
22 permanent plant installation. And that may sound
23 strange, but we did verify what one of them was. It was
24 the installation of a coffer dam to keep water out while
25 work was being performed on another portion of that

1 drawing.

2 So those just are not applicable to checking
3 whether or not the field work was done. It wasn't a
4 permanent plant piece of installation.

5 Six of the E&DCR's exhibited one of the
6 discrepancies we noted before, that they had not been
7 incorporated in the specification in the next issue.
8 That doesn't mean they weren't outstanding against that
9 specification, because they would have been. But they
10 did exhibit those kinds of discrepancies having no
11 impact on the field work.

12 There's one E&DCR that had essentially been
13 made moot by another design change, which was referenced
14 on a drawing and the auditor just noted that; and one
15 E&DCR required documentation and the documentation had
16 not yet been received at the time of the audit. This
17 was a vendor-supplied piece of documentation, and in
18 fact we've been able to verify, through talking to the
19 people who were involved in that particular E&DCR, that
20 the specification had required that documentation. The
21 E&DCR was written to clarify a question that a
22 procurement quality assurance inspector at the vendor's
23 plant had at the time of the shift to the first valve,
24 and the E&DCR merely confirmed what the specification
25 said.

1 It's true that documentation had not been
2 received by FQC, as the audit states. But that was
3 neither unusual nor unexpected, and this is vendor
4 documentation, again, part of the specification
5 requirements for documentation, but not a physical
6 requirement of anything that we needed to do to build
7 the plant.

8 Just to complete that particular item, we have
9 also verified that all that documentation has since been
10 received by the field and is in our permanent plant
11 records. The bottom line is that we instituted this
12 audit to go out in the field and take a random sample of
13 E&DCR's, inspect the plant against those E&DCR's and
14 determine whether or not the plant had been constructed
15 in accordance with those E&DCR's. And as Mr. Kelly
16 indicated, we did not find any instances where the plant
17 had not been constructed in accordance with the
18 E&DCR's.

19 The major clarification, if it is needed, is
20 that in the case of 25 of the E&DCR's the construction
21 schedule had not yet reached that stage, but the E&DCR's
22 had been issued and there was no deviation to their
23 requirements.

24 A (WITNESS KELLY) I would also like to add that
25 this inspection, sample inspection that was done by

1 Stone & Webster field quality control, in addition to
2 that one of the auditors from my organization selected
3 32 of the 200 sample E&DCR's and performed his own
4 verification of those to confirm the validity of the
5 results of the sample.

6 Q Gentlemen, at the time this report was issued,
7 September 8, 1977, finding number 2 was that E&DCR
8 A-017, relating to required stress reports and impact
9 test documentation, had not yet been received, correct?

10 A (WITNESS MUSELER) What that indicates is that
11 those two particular pieces of documentation, stress
12 reports and Scharpy impact test documentation, had not
13 been received by field quality control at the time of
14 this audit, yes, sir, that's correct.

15 Q And is it not true that this sampling report
16 or audit report indicates that they should have been
17 received by that point? It's listed, in effect, as a
18 deficiency. There are no deficiency words or violation
19 words in here, but the clear indication is that this is
20 an item that was not in conformance with your
21 requirements, correct?

22 (Panel of witnesses conferring.)

23 A (WITNESS MUSELER) Mr. Lanpher, the
24 specification requires that that documentation be
25 provided to the field to be incorporated in the

1 permanent plant file. It does not require that that be
2 done at any given point in time. The normal process is
3 for the documentation package to be sent to Stone &
4 Webster engineering by the vendor, who reviews it and
5 then sends it to the field.

6 This indicated that the documentation at this
7 point in time in 1977 had not been received in the
8 field. The fact that it had not been received at that
9 given point in time does not represent a discrepancy.
10 The fact that it was outstanding -- in other words, that
11 it was required and was not received -- keeps that item
12 open as far as quality assurance is concerned.

13 We in the course of the evening -- as we
14 indicated yesterday, we have not had a chance to talk to
15 all the appropriate people -- we talked to some of the
16 people who were involved in this, and we have not been
17 able to determine why the wording of this particular
18 item is the way it is. But we have been able to
19 determine what all the pertinent facts are regarding
20 it.

21 It is not a deviation from requirements not to
22 have the documentation in our hands in the permanent
23 plant file within a certain time period of the time the
24 equipment is delivered. We naturally want to do that as
25 rapidly as possible.

1 In fact, with regard to the stress reports,
2 because the vendor had to be given the latest loads, the
3 latest Mark II loads, for example, on the valves, those
4 stress reports for some of the valves -- the
5 specification covers a number valves. The stress
6 reports for some of those valves have just been received
7 within the last year. So they were outstanding for that
8 period of time.

9 That doesn't constitute a deviation from our
10 requirements, and as long as they are properly indicated
11 as being an outstanding item the quality system just
12 treats it as an open item. It has to be provided. The
13 stress reports and in this case the Scharpy impact test
14 documentation for certain required components is
15 required. It does have to be provided, and as I
16 indicated, as of today, based on a check with the
17 quality assurance personnel at the plant, that
18 information is on file.

19 Q Mr. Museler, looking at page 2 of Mr.
20 Bernard's September 8 memorandum to you, Mr. Kelly, it
21 states in the top sentence: "This lot is considered
22 acceptable based on one reject. The documentation
23 required by E&DCR A-017 has been requested."

24 It was Mr. Bernard's opinion that the lack of
25 that documentation constituted some sort of a problem in

1 terms of this audit sample, correct? He called it a
2 reject.

3 A (WITNESS ARRINGTON) I think what Mr.
4 Bernard's memo is implying here is that it's considered
5 reject for the sample that was taken. The documentation
6 that was required and we did eventually get, although it
7 was not necessarily received at the point in time that
8 this sample was taken, that because the documentation
9 was not there it was considered to be incomplete at that
10 point in time.

11 But the system does allow for this
12 documentation to flow into the site files subsequent to
13 delivery of the material. There was no nonconformance
14 report issued as a result of this. It was strictly
15 tracked as an open item. It had been tracked as an open
16 item with this shipment.

17 The documentation does not come in the same
18 day as the component does necessarily, because of the
19 review process that takes place with the documentation
20 itself.

21 A (WITNESS MUSELER) And in the context of the
22 purpose of this audit of 200 E&DCR's, which was to
23 verify that the field installation was performed in
24 accordance with the E&DCR's, that item does not
25 constitute a reject.

1 Q Why was it listed here, then?

2 A (WITNESS ARRINGTON) As I stated, it was
3 listed because of the sample itself. It was not
4 complete. It was an E&DCR that required these tests to
5 be performed. It had not been received at the site at
6 that particular time.

7 The process allows that. So he had to account
8 for that E&DCR, whether it was complete or it was
9 incomplete. As I stated, there was no nonconformance
10 report issued because there was no violation of the
11 specifications. We did not have the documentation at
12 that particular point in time.

13 Q Why wasn't it put in the same category, then,
14 as number 5, these 25 E&DCR's that work hadn't even been
15 started on?

16 A (WITNESS ARRINGTON) I believe item 5 is
17 referring to the field operations, the actual permanent
18 plant installation. Item number 2, with this E&DCR, has
19 a documentation reference here, not a permanent plant
20 installation. They have two different meanings.

21 Q Looking at item 4, it indicates that there
22 were six E&DCR's that relaxed purchase or inspection
23 requirements, and it goes on to say: "There was a
24 problem with two of these, in that all of the E&DCR
25 requirements had not been incorporated into the

1 specification."

2 Do you have any reason to disagree with that
3 statement?

4 A (WITNESS ARRINGTON) I think Mr. Museler
5 indicated that this does not tell us that the E&DCR's
6 were not part of the spec. It indicates that they had
7 not been incorporated into the spec. In his closing
8 statement there, it was that the E&DCR requirements are
9 being adhered to in the field, which means that we were
10 not cognizant of the fact that these requirements
11 existed.

12 I think his statement there indicates that
13 they had not been completely incorporated into the
14 spec. He didn't say that they were not attached to it.
15 It would depend on the state of that specification.

16 Q Why is this a problem, Mr. Arrington, if you
17 know?

18 A (WITNESS ARRINGTON) It was not listed as a
19 problem. It was simply giving the condition of the
20 E&DCR's there. These are the various statuses that were
21 given on the E&DCR's that were part of the 200-lot
22 sample. He did not reject the lot based on that. The
23 lot was considered acceptable anyway.

24 Q Do you know why this was listed as a problem,
25 Mr. Kelly? It says it's a problem. I'm just reading

1 the words.

2 (Panel of witnesses conferring.)

3 A (WITNESS KELLY) I would like to say that the
4 purpose of this memo, it was the superintendent memo to
5 me, okay, to identify what occurred when they reviewed
6 this 200. The purpose was not to -- let's put it this
7 way. He could have simply said everything is
8 acceptable, period, without this. This was to give me
9 further information of what was found when they went
10 through the 200.

11 And as I said before, I further confirmed that
12 by having one of the people in my organization
13 specifically review the implementation of 32 of these
14 200 and found that acceptable. This was to give me more
15 information of what types of occurrences and what type
16 of information was found when they reviewed these.
17 That's a simple fact.

18 Q Mr. Kelly, as part of the inspection related
19 to the 163 E&DCR's which are referenced in paragraph 1,
20 were any aspects of these E&DCR's or the implementation
21 thereof accepted by a "use as is" or comparable decision
22 which might have waived some or all of the E&DCR
23 requirements?

24 (Panel of witnesses conferring.)

25 A (WITNESS KELLY) Could you repeat that so I'll

1 make sure I understand what your question is?

2 Q As part of the inspection of the 163 E&DCR's,
3 were any aspects of the implementation of those E&DCR's
4 accepted on a "use as is" basis or a comparable decision
5 which might have waived some or all of the E&DCR
6 requirements?

7 A (WITNESS KELLY) If I understand you correct,
8 what we have done is that the FQR inspection
9 organization took that E&DCR, took any information that
10 is stated on it, went out into the field to verify if,
11 as stated on that E&DCR, that work was performed. And
12 what they are stating here is that the 163, that that
13 work was performed as stated on the E&DCR.

14 A (WITNESS MUSELER) Mr. Lanpher, if I
15 understand your question correctly, let me add that if
16 the inspectors had noted a condition that was different
17 than the disposition on the E&DCR and if they wanted to
18 accept that, if they thought that was, even though it
19 was different, it was okay, that would have been noted
20 in this audit and another E&DCR would have been
21 generated.

22 I believe we're all familiar with the fact
23 that some E&DCR's, in their disposition some E&DCR's in
24 the whole population of E&DCR's are "accept as is" as
25 the disposition. And I believe I understand your

1 question. In the context of your question, if the
2 inspectors had noted that the actual piece of hardware
3 was different from the disposition, from the engineer's
4 instructions on the E&DCR, that would have been noted
5 and they would have had to request from engineering an
6 "accept as is." And they did not indicate that, so that
7 was not observed in the field.

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 Q That's not indicated on the documentation we
2 have been provided. This is sort of a summary
3 memorandum, correct? So I would like to know the basis
4 for your statement. Did you review the underlying
5 data?

6 (Panel of witnesses conferring.)

7 A (WITNESS ARRINGTON) Mr. Lanpher, in that 163
8 E&DCR's as far as verification to the field installation
9 is concerned, what we're saying here is that the
10 contents of the information that is on the E&DCR was in
11 fact incorporated into the field. If there had been a
12 deviation from what was listed on the E&DCR at the time
13 the inspection was performed, there would have been a
14 nonconformance report issued on it.

15 If you deviate from the engineer's design
16 criteria, it's a nonconforming condition that requires
17 the engineer to resolve it by dispositioning the
18 nonconformance itself. This indicates that in 163 of
19 the E&DCR's that were looked at for field installation,
20 that they were all acceptable. We did not write a
21 nonconformance report because some of them were not
22 implemented in accordance with the E&DCR requirements.

23 Q Mr. Arrington, that is your understanding of
24 this document, correct?

25 A (WITNESS ARRINGTON) Yes. I was at the job

1 site when this sample was taken. In fact, the
2 inspectors that did this did in fact work for me.

3 Q Is this based on any review of the
4 documentation which is referenced in the last sentence
5 of this memorandum?

6 A (WITNESS ARRINGTON) Not as of last night,
7 no. This is our normal process. There's no deviation.
8 If you go out there and there is a discontinuity between
9 an engineering requirement, be it on a drawing, a
10 specification, or an E&DCR, there is a nonconformance
11 that's going to be issued because it has been
12 constructed in a manner different than the way it was
13 designed.

14 If it has not been constructed, then there is
15 no deviation because the work has not taken place. I
16 did not review this backup document that you are
17 referring to. That is part of the permanent plant
18 files. But the process is the same. It has always been
19 the same.

20 Q Can you describe what that documentation
21 consists of which is referenced?

22 A (WITNESS ARRINGTON) The documentation would
23 consist of inspection reports. It indicates that the
24 inspectors went out in the field to verify that the
25 information on the E&DCR and the drawings was in fact in

1 accordance with the engineering design. These would be
2 inspection reports.

3 Q This would include checklists of what they
4 looked for and what their findings were?

5 A (WITNESS ARRINGTON) The inspection report
6 would indicate the procedures that they did their
7 inspection by, the quality control procedures. And the
8 E&DCR would also be listed because it was part of the
9 inspection.

10 A (WITNESS KELLY) I'd like to add that of the
11 163, based upon my conversations with the auditor, who
12 confirmed the specific 32 out of 200 that I was speaking
13 of, the understanding of what this is is 163 were
14 incorporated into the permanent installation. That
15 meant that those E&DCR's were matched against the
16 installation and they compared exactly as required.

17 MR. LANPHER: Judge Brenner, I'm going to move
18 ahead to something else unless the Board has some
19 questions on this item.

20 JUDGE BRENNER: We don't. Do you want to mark
21 it?

22 MR. LANPHER: I didn't have an opportunity
23 this morning to make copies of it. I just have the one
24 copy this morning. That's why I've not marked it.
25 Probably it would be good at some point to mark it,

1 yes.

2 JUDGE BRENNER: Why don't we mark it now and
3 you can get the copies later. I'm not sure what the
4 attachments are or whether I want to mark them at this
5 point. Unless somebody expresses something to the
6 contrary, I think all we need marked is the memorandum.

7 Mr. Earley, what do you think?

8 MR. EARLEY: Judge, I think it would be
9 appropriate just to put the memorandum in. The
10 attachment I think just lists the E&DCR's. We haven't
11 had any questioning on that.

12 MR. LANPHER: Judge Brenner, I don't care
13 about the list of the E&DCR's. I think the first page
14 of the attachment entitled "Inter-Office
15 Correspondence", which describes the methodology, that
16 is something that I may come back to in another context,
17 not today. But I think that would be appropriate to be
18 included with it.

19 JUDGE BRENNER: Okay. At this point it's only
20 being marked for identification anyway, so if there are
21 any evidentiary problems we can hear about it at the
22 time.

23 That's 60. We're marking the two-page
24 memorandum to Mr. Kelly from R.L. Bernard, dated
25 September 8, 1977, and also we will consider as an

1 attachment to the memorandum this handwritten document
2 at the top of which is printed "Inter-Office
3 Correspondence to Mr. Kelly from G.E. Gula" -- G-u-l-a
4 -- dated August 16, 1977, consisting of one page. And
5 all of that will be Suffolk County 60 for
6 identification.

7 (The document referred to
8 was marked Suffolk County
9 Exhibit No. 60 for
10 identification.)

11 JUDGE BRENNER: I would like to bind a copy in
12 at this point for convenience. For that we only need
13 one copy.

14 [The documents referred to, previously marked
15 Suffolk County Exhibit No. 60, follow:]

16
17
18
19
20
21
22
23
24
25

MEMORANDUM

September 8, 1977
J.O. #11600.50

TO : J.M. Kelly

FROM : R.L. Bernard

SUBJECT: Sample Inspection of Safety Related E&DCR's

In accordance with Mr. I.L. Guthrie's memo of July 8, 1977, a sampling plan and AQL of safety related E&DCR's per MIL-STD-105D was established to ensure that the E&DCR requirements have been incorporated into the Permanent Plant Installation. The details of the sampling plan were transmitted to you via IOC from G, Gula on August 16, 1977.

Of the 200 safety related E&DCR's in the sample, the results are as follows:

1. One hundred sixty-three E&DCR's had the E&DCR requirements incorporated into the Permanent Plant Installation.
2. One E&DCR (A-017) had not been incorporated in that it required stress reports and sharp impact test documentation to be provided. This documentation has not been received by FQC.
3. One E&DCR had that portion of the work deleted by a drawing revision; therefore, the work was not done.
4. Six E&DCR's relaxed purchase or inspection requirements. However, there was a problem with two of these in that all of the E&DCR requirements had not been incorporated into the specification. A new E&DCR is being developed to pick up these requirements. The E&DCR requirements are being adhered to in the field.
5. Twenty-five E&DCR's related to work which has not been started yet by Construction, either because they are awaiting ordered parts or because they have not yet reached that point in construction.
6. Four E&DCR's did not relate to permanent plant installation.

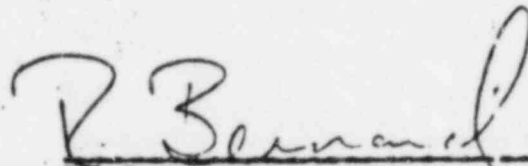
Long Island Lighting Company
Sturtevant Site
Quality Assurance

Drawn To	For	Init.
1	10/24/77	
	11/27/77	
	11/11	
	11/1	
2		RLB
	11/17	
3		

WORKING FILE
FA-607

This lot is considered acceptable based on one reject. The documentation required by E&DCR A-017 has been requested.

The documentation for this sample inspection is available in the FQC office.



R. Bernard
Superintendent of
Field Quality Control

JDD/mr

cc: I.L. Guthrie
R.S. Costa
Q.C. Master File
Q.C. Date File



INTEROFFICE CORRESPONDENCE

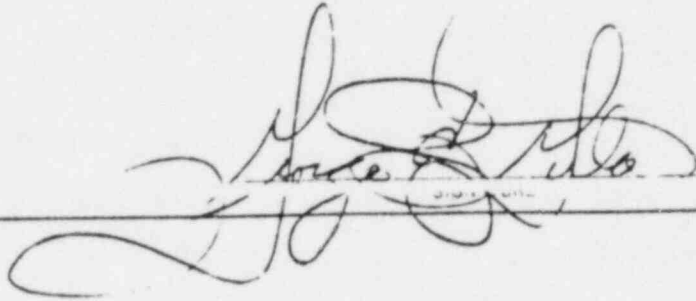
TO: <i>To Mr. Kelly</i>	LOCATION <i>LILCO</i>	SUBJECT / REFERENCE / J.O. NO. <i>Sample Inspection Of E&DCR's</i>
FROM: <i>G. E. Gula</i>	REGION <i>SWEC</i>	

MESSAGE: - As Per Our Conversation Of August 12, 1977 On Safety Related E&DCR's. The Following Sampling Plan And Acceptable Quality Level (AQL) Per MIL-STD-105D Was Agreed Upon Single Sampling Plan, Normal Inspection Level II Using A Lot Size Of 3876 And A Sample Size Of 200 With An Acceptable Quality Level (AQL) Of 1.0 The Sample E&DCR's Will Be Selected Using MIL-HDBK-53 Section 13, Table Of Random Numbers. Attached You Will Find A Listing Of The Randomly Selected E&DCR's Which Will Be Checked For Incorporation Into The Effected Documents And Permanent Plant Installation

Copy To:

*I. L. Guthrie
R. L. Bernard*

Aug 16, 1977



279

REPLY:

SIGNATURE

TELEPHONE

1 BY MR. LANPHER: (Resuming)

2 Q Gentlemen, I indicated earlier that I wanted
3 to go next to field quality control audit 23 and page 2
4 thereof, and also observation D-2. I think they relate
5 to each other. Have you had an opportunity to review
6 that, Mr. Baldwin?

7 A (WITNESS BALDWIN) Yes, I have.

8 Q Is it true that this audit report found that
9 over 25 percent of the E&DCR's which had been reviewed
10 had not been listed on or attached to the affected
11 document?

12 (Panel of witnesses conferring.)

13 A (WITNESS BALDWIN) Mr. Lanpher, as identified
14 on page 2 of the audit report in section 3.1.1A, I
15 believe that refers to observation D-2, which discusses
16 25 percent of the E&DCR's reviewed with regard to that
17 observation on page 1 of 6, D-2.

18 Q So the answer to my question would be yes,
19 that's what this audit indicates, correct?

20 A (WITNESS BALDWIN) That's correct.

21 Q The audit also goes on to note that the
22 auditor felt like these data that had been developed in
23 this audit indicate that the distribution and control of
24 E&DCR's at the job site was suspect at this point in
25 time. I may as well note that this is September 1977.

1 A (WITNESS BALDWIN) That is correct.

2 Q Do you have any reason to disagree with the
3 conclusion?

4 (Panel of witnesses conferring.)

5 A (WITNESS BALDWIN) I've got no reason to
6 disagree with the auditor's remarks on that page. I
7 might not have written it the same way. But I would
8 also like to add, as you indicated, this was in the fall
9 of '76.

10 Q '77, I believe.

11 A (WITNESS BALDWIN) '77. And I think we have
12 discussed this before. I think Mr. Museler has
13 discussed it at great length, along with Mr. Kelly. And
14 this is an indication within the same time frame of
15 having certain conditions and findings as related to
16 E&DCR's.

17 After hearing Mr. Kelly and Mr. Museler and
18 after reviewing this report and after talking to people
19 involved with this audit during this period of time,
20 there appears to me to be a direct link to the situation
21 that was previously described as it is described in
22 observation D-2.

23 I'd like to point out a couple of particular
24 things, that in the corrective action to this Long
25 Island Lighting indicated that they would go back and

1 review all of the documents in question, and this was
2 going to take place in the fall of '77. We also heard
3 another testimony of the changeover at this point in
4 time, with the numerous documents that were being used
5 and all of the people that were using them, that they
6 felt that by going to a more practical and automated
7 system it would be highly beneficial to the whole
8 engineering and design control system that was in effect
9 at the job site.

10 In addition to that, I recall in the
11 corrective action it was indicated that procedures would
12 be changed. They were changed in early 1978.

13 I would also point out the fact that not only
14 LILCO's audit program, but Stone & Webster's audit
15 program has identified and has captured these conditions
16 and has brought them to appropriate management
17 attention; and again, as Mr. Museler indicated in
18 previous testimony, the extensive management attention
19 that was given to this condition.

20 That's all I have to say. Oh, I would like to
21 point out one thing to correct the record. In D-2, the
22 second paragraph, there is a statement there that says:
23 "Contrary to these requirements, E&DCR's are not being
24 distributed." And in going back and checking up on the
25 particulars and the details for questioning on this,

1 that sentence itself is misleading. It should read:
2 "Contrary to these requirements, E&DCR's are not being
3 distributed in all cases."

4 In reviewing the backup correspondence and
5 talking to individuals at the construction site, they
6 indicated back to us that during that period of time,
7 that E&DCR's were being distributed on a daily basis,
8 but not to everybody that was on controlled
9 distribution.

10 The point, or the confusing point being, here
11 and possibly within the mind of the auditor, was if you
12 were on controlled distribution you were more or less
13 assigned within one or two groups. You would receive
14 each and every E&DCR for the controlled document which
15 you had, or it would have been identified as to what
16 documents you need.

17 In other words, you either have complete
18 distribution or a partial distribution. That might have
19 caused the confusion to that remark in that sentence.
20 But on further backup and verification, what we find is
21 it was not in all cases that they weren't being
22 distributed.

23 Q But there were instances identified by the
24 auditors where proper distribution had not occurred; is
25 that correct?

1 (Panel of witnesses conferring.)

2 A (WITNESS BALDWIN) Could you repeat that,
3 please?

4 Q Certainly. You were attempting to clarify the
5 second paragraph of D-2. As I understand it now, it
6 wasn't all E&DCR's that weren't being distributed, but
7 rather some E&DCR's still were not being distributed
8 correctly.

9 A (WITNESS BALDWIN) That's what I'm led to
10 believe. Some of the detailed information. It's hard
11 to read that into it, but it appears that way.

12 I would also like to point out that this is a
13 similar situation as discussed earlier with Mr. Kelly on
14 his audit report number 602, as I recall.

15 A (WITNESS ARRINGTON) Mr. Lanpher, I have
16 something to add. In my discussion with the office
17 supervisor, one of the problems that happened along this
18 period of time was that some areas were on distribution
19 for two complete sets of documents, specifications or
20 drawings. Any E&DCR's that affect those documents, they
21 are also automatically on distribution for those
22 documents.

23 The people that were sharing the same E&DCR
24 log did not want to receive two copies of the E&DCR's
25 because they were going into -- because they were

1 working in the same area. They didn't want two E&DCR
2 copies. They were having to -- they were having an
3 extra copy.

4 They went back to the supervisor and asked
5 that they not be on distribution for the E&DCR's. That
6 was part of the confusion there. The supervisor -- I
7 think there was a procedure that was instituted
8 associated with this that there was some limited
9 distribution for that reason where some work areas had
10 two or more sets of controlled documents and they wished
11 not to receive the E&DCR's for those corresponding
12 documents because they were being filed in the same
13 basic area.

14 Q Gentlemen, I'd like to --

15 A (WITNESS BALDWIN) Mr. Lanpher, could I take
16 one moment, please?

17 (Panel of witnesses conferring.)

18 A (WITNESS MUSELER) I'm sorry, Mr. Lanpher. We have
19 nothing else to add to that response.

20 Q Gentlemen, I'd like to turn your attention to
21 engineering assurance audit 23, observation 041, and
22 item 8 of that observation. This observation indicates
23 that 7 of 40 E&DCR's which were sampled and which
24 revised other E&DCR's did not cross-reference to the
25 revised E&DCR.

1 Now, this is a violation, is it not, of your
2 document control requirements?

3 (Panel of witnesses conferring.)

4 A (WITNESS EIFERT) Mr. Lanpher, in this audit
5 the auditor did identify some specific E&DCR's that do
6 not cross-reference to the revised E&DCR, as the
7 administrative requirements of our procedures asked
8 for. The recommended action that the auditors made to
9 the project was to ensure in the future that that
10 cross-reference was provided.

11 The traceability concern that this would seem
12 to indicate is not a concern, because the auditor was
13 able to verify that the particular E&DCR's were
14 appropriately indicated on the change record as changes
15 to the affected documents, and therefore the link to
16 assure that the individuals using the documents were
17 aware of all the changes that affected that document did
18 exist.

19 Q The cross-reference requirement is, however,
20 an independent requirement from the listing of E&DCR's
21 on the change record, correct, at least as of this point
22 in time?

23 A (WITNESS EIFERT) It would be a different step
24 in the process, however, related requirements in that
25 they serve the same primary function of ensuring that

1 the people using documents understand what is applicable
2 at a point in time to the given document that they are
3 using.

4 JUDGE BRENNER: Excuse me. Mr. Eifert, is the
5 change record part of the monthly log and the weekly
6 summary log which was previously talked about, or is
7 that yet another index?

8 WITNESS EIFERT: The change record is
9 equivalent, it is the same document as we have referred
10 to here as the master log. I used the term "change
11 record" because that is Stone & Webster's standard
12 terminology. "Master log" is the project specific
13 terminology.

14 JUDGE BRENNER: Okay. Does the weekly log
15 also indicate that cross-reference to changes, the
16 weekly summary, if you know?

17 (Panel of witnesses conferring.)

18 WITNESS EIFERT: Judge Brenner, I'm not sure
19 exactly when the weekly summaries were initiated. The
20 weekly summaries would normally include the same
21 information that would be included on the monthly master
22 log as a weekly update. So in that sense it would have
23 included this same identification, so that the users had
24 knowledge of the applicable EEDCR.s

25 BY MR. LANPHER: (Resuming)

1 Q Mr. Eifert, is it your opinion, or do you have
2 an opinion whether, this problem which item 8 in
3 observatio 041 is part of the overall problems that we
4 have been talking about in 1977 with E&DCR control
5 similar to what Mr. Baldwin in the last observation tied
6 it into the findings of field audit 602 -- is it your
7 feeling that this is part of that same area?

8 (Panel of witnesses conferring.)

9 A (WITNESS EIFERT) I do not believe that this
10 ties into that area as the general topic we've been
11 discussing. This is a unique instance that does not
12 relate to the problems that we have been discussing with
13 respect to the FQC audits and the LILCO QA audits.

14 Q Well, isn't this requirement for
15 cross-referencing part of your means of indexing,
16 logging, filing, generally keeping track or tracing
17 design documents? I think you used the word
18 "traceability" earlier.

19 A (WITNESS EIFERT) I wouldn't characterize the
20 procedural requirement that when you issue an E&DCR that
21 revises an earlier E&DCR that you identify the earlier
22 E&DCR on that document as part of our indexing and
23 tracking mechanism. This is a convenience reference for
24 the people who happen to be using the later E&DCR. But
25 this would not be part of the tracking mechanism.

1 The master log that's used on the Shoreham
2 project provides the necessary information. This is not
3 an indexing requirement in any way.

4 Q So this requirement is solely as a matter of
5 convenience; is that correct?

6 A (WITNESS EIFERT) The primary purpose for such
7 a reference here would be to provide a specific
8 reference to the people who are preparing and processing
9 the revision to the E&DCR, not the people who would be
10 using the E&DCR. The important tool is the list which
11 identifies all the E&DCR's that an individual needs to
12 have when he's using the document, and this doesn't
13 provide that kind of information.

14 Q Gentlemen, let me turn your attention now to
15 field quality control audit 33, observation B-1.

16 (Pause.)

17 Q Gentlemen, am I correct that this is an
18 instance where --

19 A (WITNESS BALDWIN) Mr. Lanpher, can we have
20 one moment to get to the right spot?

21 Q Sure.

22 (Pause.)

23 A (WITNESS BALDWIN) Yes, sir.

24 Q Am I correct, Mr. Baldwin, that this is an
25 instance where field quality control files contain

1 deficiencies, in that many E&DCR's have not been noted
2 on the affected drawings?

3 A (WITNESS BALDWIN) I guess I wouldn't use the
4 word "deficiency". What we have here is a situation
5 where the documents weren't posted on the drawing, but
6 they were in a file folder filed with the drawing, right
7 with it. As indicated on the note, it says the E&DCR's
8 were present in the file folder.

9 Q The requirement says at that point in time,
10 and I believe this is in 1980, it was required that the
11 E&DCR number be actually noted on the affected diagram;
12 is that correct?

13 A (WITNESS BALDWIN) That's correct.

14 A (WITNESS ARRINGTON) Mr. Lanpher, I'd like to
15 add to what Mr. Baldwin said. This was noted in one
16 specific area within the field quality control
17 department. The drawings here, as is listed in the
18 observation itself, does indicate that the E&DCR was
19 present in the file folder.

20 The process that we use is we have folders for
21 the drawings or components and the E&DCR's are required
22 to be logged on the drawing itself and filed with that
23 drawing. It's easier for us to keep up with it that
24 way. It's a better process for us. In this particular
25 case, there were five drawings that did not have those

1 E&DCR's that were listed. As stated by the auditor,
2 they were not posted on the document itself. But as he
3 did note, they were in the file folder.

4 As I indicated, this was in a specific area.
5 It was localized. It took us two subsequent audits to
6 get this particular situation straightened out. What
7 I'd like to do is give you a little insight as to why it
8 did happen.

9 It should not have. We are required to meet
10 the same requirements as the other departments. As I
11 stated, there were two subsequent audits that were
12 performed, and this particular area was still not
13 cleared up.

14 The problem was that the supervisor that was
15 responsible for this set of drawings was also
16 responsible for the mechanical discipline which included
17 the mechanical equipment and the HVAC. The drawings
18 that are listed here and in subsequent audits are
19 structural drawings. They are platform drawings and
20 structural steel drawings. There was virtually no work
21 going on in those areas.

22 The E&DCR's come into the work area, which is
23 listed here. They go into a basket and then they are
24 put into the folders and required to be logged. Because
25 of no work taking place in the structural discipline,

1 the supervisor -- it's bad judgment on his part;
2 nevertheless, he made the decision that the most
3 important thing to do was to cover the work that was
4 taking place in the associated discipline that he was
5 responsible for.

6 He made the decision that they would not take
7 the time to go through and meet all the requirements of
8 the procedure. It was picked up in audit 34. It was
9 not corrected. We indicated that we were going to
10 correct it, even after 33, that we were going to take
11 care of it.

12 It was not taken care of. 35, it was also not
13 taken care of in that one drawing did not have the
14 E&DCR's that were required to be posted on there. But
15 all the cases that were observed by the auditor were in
16 the structural steel.

17 There was a meeting of the minds between the
18 supervisor and myself and I stressed the importance of
19 getting those drawings up to speed with regards to his
20 position in that area, and that was taken care of. But
21 it was in a specific area, structural steel. There was
22 no work taking place in there. He made the decision
23 that he wanted to cover the work with the resources that
24 he had, with the inspectors, and this came secondary to
25 him.

1 But as I stated, the process does include --
2 this is a requirement that we impose on ourselves --
3 that the E&DCR's will be in the folders with the
4 drawings. However, they were not logged as required.

5 Q Gentlemen, I believe you stated yesterday --
6 maybe it was you, Mr. Baldwin -- that you felt that the
7 proper distribution of E&DCR's is an extremely important
8 part of the quality control function. I don't know if
9 those are exactly your words. But would you agree with
10 that statement?

11 A (WITNESS BALDWIN) That sounds like what I
12 said.

13 Q You would agree with it?

14 A (WITNESS BALDWIN) Yes.

15 Q Excuse me?

16 (Panel of witnesses conferring.)

17 Q Would you agree with that statement, Mr.
18 Baldwin?

19 A (WITNESS BALDWIN) Yes, I would agree that the
20 distribution of documents is important to the document
21 control process, as is many of the other requirements
22 that are required of the process.

23 Q I didn't mean that exclusively, for sure.

24 By "distribution", you include timely
25 distribution? I mean, as soon as possible after the

1 E&DCR has been issued?

2 (Panel of witnesses conferring.)

3 JUDGE BRENNER: You know, these aren't the
4 hard questions yet. He's just leading up. Maybe you
5 ought to answer him one at a time, instead of worrying
6 about where he's going, because I can't believe -- you
7 know, you can have as much time as you want, but I can't
8 believe you need all that time with that one question,
9 as opposed to I guess what you are doing, and that is
10 thinking ahead.

11 BY MR. LANPHER: (Resuming)

12 Q Do you recall the question, Mr. Baldwin?

13 A (WITNESS BALDWIN) Yes. I believe you were
14 referring to the timeliness in the distribution of
15 documents.

16 Q Would you agree that that is important too?

17 A (WITNESS BALDWIN) Yes, sir, just as the
18 distribution is. In addition to that, it is important
19 that they get to the right people, the right people
20 using them.

21 A (WITNESS MUSELER) Mr. Lanpher, I would like
22 to add to that. It's important for a number of reasons
23 that documents be distributed in a timely manner. The
24 basic subject of our discussion is the quality of the
25 plant. The timely distribution of a document is not the

1 primary quality consideration. The primary quality
2 consideration is that the plant is built in accordance
3 with those documents and that those documents do not --
4 and the important thing is that those documents do get
5 incorporated into the plant.

6 The fact that a document may not be
7 distributed within an optimum time period, whatever that
8 time period may be, one week or two weeks, and that it
9 may take longer than that -- the important thing is that
10 it gets distributed to the right people and that the
11 plant is built in accordance to it. That's the quality
12 issue.

13 The quality issue is not whether it takes one
14 week or two weeks to get there. And I think in that
15 sense the context of what we're discussing has to be
16 considered. We're talking about quality and the quality
17 is determined by whether or not the design change is
18 incorporated into the plant.

19 And what we have seen through the items and
20 the audit observations we have discussed is that the
21 requirements of the designs and the requirements of the
22 E&DCR's have been incorporated in the plant. They may
23 not have always been incorporated as rapidly as we would
24 have liked.

25 Q Mr. Museler, is it your testimony that

1 distribution of E&DCR's is not a quality issue? Just
2 looking at distribution, is not a quality assurance
3 issue?

4 A (WITNESS MUSELER) Distribution is a quality
5 assurance issue. As I noted, it is important. If the
6 document were never distributed and the plant were never
7 built in accordance with it and the quality assurance
8 organizations never inspected the plant to those
9 documents, that would be a quality assurance concern.
10 So I did not mean to imply that distribution was not
11 important in a quality sense.

12 The timing of that distribution I don't
13 believe relates significantly to quality.

14 Q Would you agree that criterion 6 of Appendix B
15 to Part 50 specifically addresses the distribution of
16 documents? Well, it doesn't reference E&DCR's
17 specifically, but the design documents.

18 (Panel of witnesses conferring.)

19 A (WITNESS MUSELER) Yes, sir, I would agree
20 with that. The statement in that, in number 6, is that
21 they be distributed to and used at the location where
22 the prescribed activity is to be performed.

23 Q Mr. Baldwin, 15 or 20 minutes ago we were
24 talking about the field quality control audit 23 and
25 observation D-2, and rather than go back there, you

1 recall that in that, in discussion of that, you
2 identified that certain E&DCR's, some E&DCR's had not
3 been properly distributed, correct?

4 A (WITNESS BALDWIN) That's correct, in
5 accordance with the procedure as identified.

6 Q I would like to direct your attention also to
7 engineering assurance audit 15, page 1 of that. The
8 date is November 1975.

9 A (WITNESS MUSELER) What's the reference,
10 please?

11 Q The bottom of the first page, sir.

12 Gentlemen, would you agree that this finding
13 indicates that the project is not distributing the E&DCR
14 records on a weekly basis, and that it is also not
15 meeting the minimum distribution requirements of EAP
16 6.3?

17 (Panel of witnesses conferring.)

18 A (WITNESS EIFERT) Mr. Lanpher, the situation
19 with this audit was that the project was distributing a
20 change record, what is now called the monthly log, on a
21 monthly rather than a weekly basis. As a result of this
22 audit observation, as you can see from reading the top
23 of page 2 of that, the project contacted engineering
24 assurance to determine if they could vary from the
25 requirement of issuing a change record on a weekly basis

1 and issue it on a monthly basis.

2 The project received the concurrence of the
3 engineering assurance division and we subsequently
4 revised the EAP to provide for distribution of that
5 change record on a monthly basis as the standard
6 practice.

7 Q Prior to that revision, however, the weekly
8 requirement was in effect and it was not being met,
9 correct?

10 A (WITNESS EIFERT) The EAP in effect at that
11 time did provide for the weekly distribution of that
12 change record. That was the requirement that we had
13 established when we initiated the use of a change
14 record, as an arbitrarily established figure for a new
15 aspect of the program. And with implementation of the
16 program on Shoreham we -- and I believe we had feedback
17 from other projects as well at that time -- we decided
18 that the issuance of the change record on a monthly
19 basis was a more appropriate requirement, and therefore
20 we changed the EAP.

21 Q Mr. Eifert, your answers have gone to the
22 question of the timing, the frequency of distribution.
23 The second part of that first sentence at the bottom of
24 page 1 of this audit report concerns the minimum
25 distribution. Do you have information regarding what is

1 being indicated here?

2 My interpretation was that some persons or
3 entities required to get these weekly reports or records
4 were not getting them. Is that correct?

5 A (WITNESS EIFERT) Mr. Lanpher, in August of
6 1975 we had revised the engineering assurance procedures
7 to add a distribution that the project should make with
8 the change record. The project prior to that time had
9 been distributing the E&DCR's to the construction site,
10 to the senior construction representative at the
11 construction site.

12 One of the additional distributions that the
13 project was not complying with was the requirement that
14 we had put into the EAP that a copy be sent also to the
15 superintendent of field quality control. The practice
16 at the Shoreham site was that Mr. Arrington's
17 organization was receiving his copy from the site
18 document control through the construction department
19 representative on the site.

20 The EAP, again, was later revised in 1978 to
21 recognize the situation where the construction site
22 maintained a centralized document control center and
23 distributed onsite from that operation, and modified the
24 EAP requirement to indicate that when that is the
25 situation one copy to the site for site distribution was

1 the appropriate practice.

2 Q Gentlemen, turning to engineering assurance
3 audit 21 and observation 011, item 4. This item reads
4 that: "E&DCR and N&D change records were not forwarded
5 to the PQC division prior to April 1977."

6 The PQC division I assume is procurement
7 quality control?

8 A (WITNESS EIFERT) That is correct.

9 Q Am I correct, then, that this indicates a
10 distribution problem existing at least prior to April
11 1977 with respect to E&DCR and N&D change records?

12 (Panel of witnesses conferring.)

13 A (WITNESS EIFERT) Mr. Lanpher, in this audit
14 in April 1977 we did report that the procurement quality
15 control division was not receiving the change records.
16 The procurement quality control division is on
17 distribution for those E&DCR's which are important to
18 the procurement process and affect the work that they
19 may be performing in procurement process with respect to
20 supplier shop facilities.

21 We were, as a part of the information I was
22 able to gather from the people involved at this time,
23 able to establish that they were indeed receiving copies
24 of the E&DCR's which they needed to perform their work,
25 so that they would be knowledgeable to the E&DCR's that

1 affected their work.

2 The concern here only was that they were not
3 receiving the specific change records. There was
4 additional preventive action taken at this time also to
5 ensure that the PQC division would receive in the future
6 the change records.

7 Q But up to that point in time they had not been
8 receiving them; is that correct?

9 A (WITNESS EIFERT) Apparently that is the case,
10 as reported by the audit, yes. But as I emphasize, they
11 were receiving the documents that they needed to do
12 their work.

13 Q Gentlemen, I'd like to turn your attention to
14 field audit 654, Suffolk County Exhibit 57 for
15 identification, page 2, item 4.4.

16 Mr. Museler, what is the site listing?

17 (Panel of witnesses conferring.)

18 A (WITNESS MUSELER) I'm sorry, Mr. Lanpher.
19 Are you talking about field audit 654?

20 Q Yes.

21 A (WITNESS MUSELER) I'm having a document
22 control problem at the moment.

23 (Pause.)

24 A (WITNESS MUSELER) What page?

25 Q Second page at the bottom of the page, item

1 4.4, sir.

2 My first question is, what is the site listing
3 which is referred to there?

4 (Panel of witnesses conferring.)

5 A (WITNESS MUSELER) Mr. Lanpher, the reference
6 there is the site master E&DCR log, although you
7 certainly couldn't tell by reading that. That is the
8 reference. It's the master E&DCR log.

9 Q Am I correct that this log had not been sent
10 to Stone & Webster in Boston, which was contrary to the
11 LILCO requirement?

12 (Panel of witnesses conferring.)

13 A (WITNESS MUSELER) At the date of this audit,
14 Mr. Lanpher, it is correct that the master log had not
15 been sent to Boston. It had been sent to the site
16 engineering office, which is, as we have discussed in
17 the past, an arm of Boston. But it did need to go to
18 Boston. It had not been sent at that time, and it was
19 sent.

20 I believe the actual date of transmittal, or
21 at least the confirmation that the log was sent to
22 Boston, was December 12 of that year. So prior to the
23 audit it had been sent to Stone & Webster engineering
24 and the site engineering office; however, it had not
25 been transmitted to Boston, and it was transmitted

1 approximately a month after the audit took place.

2 Q Does this mean that during that time period of
3 approximately July 29, '77, until early December, Stone
4 & Webster in Boston had not received the master E&DCR
5 log?

6 (Panel of witnesses conferring.)

7 A (WITNESS MUSELER) Sir, the Boston office
8 would have received copies of all the individual
9 E&DCR's. But the audit finding does indicate that they
10 did not receive the master log during that period.

11 Q Now, am I correct that the result of that
12 deficiency or that situation was that revisions to
13 specifications drawings and welding procedures were made
14 utilizing previously established, inaccurate records?

15 (Panel of witnesses conferring.)

16 A (WITNESS KELLY) The Boston office wouldn't
17 have necessarily the latest information, but they would
18 have the E&DCR's.

19 Q At this point in time, you were relying upon
20 the master index or the master log as your control
21 document; is that correct?

22 (Panel of witnesses conferring.)

23 A (WITNESS MUSELER) Sir, the master E&DCR log
24 is one of the control documents for the design process.
25 I would like to emphasize, however, that the E&DCR's

1 themselves are reviewed by the project engineer or, in
2 the case of the site extension office, by the project
3 engineer's designee and all the appropriate engineers in
4 the discipline being affected by that E&DCR.

5 So the individual E&DCR's had to be approved
6 by the proper personnel. It is a fact that the log in
7 Boston during this time period lagged the site log. As
8 we have indicated before, the site generated the
9 majority of the E&DCR's during this period. That's why
10 it was designated as the master log.

11 This was also during the period of the
12 implementation of that follow-up action of audit 602.
13 The establishment of that log, the establishment of the
14 appropriate transmittal of that log and the updating of
15 the Boston information were all taking place during this
16 period.

17 I think the central point is that the
18 engineering organization, the site engineering office
19 and the Boston engineering office are in reality the
20 same organization. Therefore, the approval of the
21 E&DCR's occurred during this period as was required.

22 Q Mr. Museler, based on earlier figures I think
23 that Mr. Kelly gave, in 1977 there were just over 4800
24 E&DCR's. We're talking about a four-month period late
25 July to early December when this log was not up to

1 date. And you agreed that something in the neighborhood
2 of 1600 E&DCR's probably were not then logged correctly
3 or in an up to date fashion and made available to the
4 Boston office?

5 (Panel of witnesses conferring.)

6 JUDGE BRENNER: You mean, Mr. Lanpher, in your
7 question that the log was not made available to the
8 Boston office?

9 MR. LANPHER: Yes. I'm not concentrating on
10 the individual E&DCR's. The log would have been about
11 1600 behind in Boston.

12 WITNESS MUSELER: Mr. Lanpher, again, in this
13 period where the site master E&DCR log was being
14 established as the only document, the Boston officer was
15 still maintaining an annual log of E&DCR's and the
16 E&DCR's, as we indicated, were being sent to Boston. So
17 they were being entered in that master log.

18 This was not a case where Boston was not aware
19 of all the E&DCR's. They did not have the site master
20 log, that is correct. The number of E&DCR's you
21 characterize in that period is the right order of
22 magnitude.

23 But the situation was not one where the fact
24 that the log wasn't transmitted up there meant that they
25 did not have the cross-reference. They may not have had

1 every cross-reference because of the lack of the log,
2 but they were operating at the time, until the master
3 log was distributed regularly on a monthly basis to all
4 appropriate parties.

5 My knowledge of the situation indicates that
6 they were maintaining their manual logs and they were
7 logging in the E&DCR's which were sent directly to
8 them.

9 JUDGE BRENNER: Mr. Museler, then can you tell
10 me what is meant by this sentence in observation 4.4 of
11 field audit 654: "Revisions to specs, drawings and
12 welding procedures in accordance with project general
13 instructions section 4.12.5 continue to be made
14 utilizing previously established and accurate records"?

15 (Panel of witnesses conferring.)

16 WITNESS KELLY: Judge Brenner, maybe I could
17 help on that. One of the primary problems with the
18 Boston list that was previously maintained is one of the
19 factors was a time delay in E&DCR's because, as we said
20 before, the majority of the E&DCR's were generated at
21 the Shoreham site. So you had a physical transportation
22 going through the mail system and distribution system.

23 What would have happened, one of the
24 consequences of that is when it came time to revise a
25 specification the engineers would, let's say

1 hypothetically there's in reality ten E&DCR's that are
2 out to document holders against that specification. Due
3 to the time delay, say they only have listed in that log
4 when they are going to do the revisions, say, possibly
5 seven.

6 What happened is they would incorporate those
7 seven. That would mean that the holders of the
8 documents in the field would not have that revision that
9 they'd have to attach now, those of the remaining three,
10 since the document would not indicate that they had been
11 incorporated.

12 JUDGE BRENNER: So if I can parse the sentence
13 -- and I certainly was not sure what it referred to,
14 which is why I asked -- the previously established
15 inaccurate records referred to the log -- am I right so
16 far? -- rather than -- well, let me stop and ask that.

17 WITNESS MUSELER: Judge Brenner, I believe
18 what it refers to in that case is the Boston log, which
19 was inaccurate to the extent that it had not been
20 updated to align it with the site master log. So I
21 believe the reference to an inaccuracy in that paragraph
22 relates to the fact that the Boston log was not
23 reconciled to the site log at this point, and therefore
24 if it were not and E&DCR's were issued in the field that
25 were not posted against the document and that document

1 were revised, it would not include the E&DCR's that were
2 not contained in the Boston records at that point in
3 time.

4 JUDGE BRENNER: Because the revisions that are
5 made are made against the Boston log when a new revised
6 --

7 WITNESS MUSELER: At that point in time, yes,
8 sir. Currently there is only one log, but at that point
9 in time there were still two.

10 JUDGE BRENNER: What happens when the field
11 receives that revision? Do they toss out their earlier
12 version, including all the attached E&DCR's, or is there
13 a process by which they are required to check to see
14 that some of the E&DCR's that they're holding have not
15 in fact been incorporated in the revision?

16 WITNESS KELLY: The revision to the
17 specification would indicate what E&DCR's were
18 incorporated. So then the person would go through their
19 file and have this new revision -- any E&DCR's that were
20 still outstanding, that were not listed on that revision
21 as being incorporated, they would be required to still
22 retain.

23 JUDGE MORRIS: Mr. Kelly, do you have any
24 memory or knowledge of how extensive this problem was at
25 that time?

1 WITNESS KELLY: I would presume it was
2 probably better, but in 602 we indicated that there were
3 25 percent, 26 percent of our particular sample we took
4 during 602, it indicated that around 26 percent of the
5 E&DCR's there was a discrepancy between our records and
6 those E&DCR's that were listed on that Boston log. I
7 would presume during this period of time, since it was
8 later, that there would have been some improvement.

9 WITNESS MUSELER: Judge Morris, if I can ask
10 if this was your question, or maybe this may be the
11 answer. In terms of one category, let's say
12 specifications, revisions to specifications, how many
13 revisions to specifications -- not new ones, but
14 revisions to specifications -- were coming out during
15 this period?

16 Specifications are not updated frequently.
17 The major ones on the site have been updated perhaps
18 three or four times over the life of the project, which
19 comes out to be about once every two years. So the
20 number of specifications being updated that would
21 require the kind of E&DCR check that Mr. Kelly just
22 described would have been small at this period. The
23 number of drawings being revised would have been larger,
24 but the number of revised drawings also was not in 1977
25 -- the number of new drawings being issued was far

1 higher than the number of revised drawings being
2 issued.

3 But I can't quantify the drawing number at all
4 for you.

5 JUDGE MORRIS: I'm not so much interested in
6 the differences in documentation between Boston and the
7 site engineering office, but I'm interested in the
8 extent to which revisions were being made utilizing
9 previously established inaccurate records.

10 (Panel of witnesses conferring.)

11 WITNESS MUSELER: Sir, I worked in the site
12 extension office for a year. In fact, it was the time
13 period 1976, through the end of 1976, which predates
14 this time period by about nine months. However, in that
15 time period, which is close to this one, I can say that
16 when the revised drawings that we did get down and the
17 revised specifications that I was involved in -- while I
18 do recall at least one instance, but certainly not a
19 number of instances where the drawing came down and we
20 immediately had to post an E&DCR number on it because
21 that E&DCR had not been incorporated in Boston even
22 though it had been issued prior to the revision of the
23 drawing.

24 The number of times that happened while I
25 worked in the site extension office was a very small

1 number of times. So it did happen, but it happened in
2 very few cases, because I was dealing with the piping
3 and the hangers at the time and we did process a lot of
4 drawings. We did not find this condition, which meant
5 that the Boston engineers and the site extension office
6 engineers who were receiving the E&DCR's themselves, as
7 well as the logs during that time period, would make
8 sure to the best that they could that they incorporated
9 all the outstanding E&DCR's that were outstanding
10 against a given drawing.

11 So that did occur. It did not occur in all
12 instances, but it occurred in, I would say, the great
13 majority of the instances. I know that doesn't give you
14 a quantitative answer, but it is I think indicative of
15 what was going on during the period.

16 JUDGE MORRIS: Thank you.

17 I'm sorry I interrupted, Mr. Lanpher.

18 JUDGE BRENNER: Mr. Lanpher, I want to break,
19 unless you have just a very tiny bit on this item to
20 finish up.

21 MR. LANPHER: I think I have just one or two
22 questions. I won't go on to any others.

23 BY MR. LANPHER: (Resuming)

24 C Mr. Kelly, first, you referred to
25 approximately 26 percent problem in terms of the Boston

1 list as audit 602. I assume you are referring to
2 finding 4.6 of field audit 602?

3 A (WITNESS KELLY) Yes. I believe we discussed
4 that.

5 Q I don't want to go into that again now. And
6 finding 4.4 of audit 654 is in effect a follow-up on
7 that earlier finding, correct, in terms of noting that
8 corrective action had not been instituted?

9 A (WITNESS KELLY) I don't think we categorized
10 it that way. 4.6 and 602 identified that at that point
11 in time the Boston list was the list, the official list,
12 and as a consequence the 602 was recognized, since the
13 majority of E&DCR's were originated at the site, that
14 that's where the master list should come from.

15 Item 4.4 in 654, the subsequent audit,
16 indicated that basically timing -- we were expecting
17 that the site-generated list, which was really quite an
18 extensive effort to go through to create, be sent up to
19 Boston. So all we were referring to is a matter of the
20 timing, that, you know, we were expressing our desire
21 for this to be expedited.

22 MR. LANPHER: Judge Brenner, I'd better stop
23 here or else it may take a bit of time.

24 JUDGE BRENNER: Okay. Do you have more
25 questions on this field audit? You may, is that it?

1 MR. LANPHER: I may. I've ceased to make good
2 predictions.

3 JUDGE BRENNER: All right. We will br
4 now.

5 I note that at some point -- we are at some
6 point in group F.

7 MR. LANPHER: Very close to done in group F.

8 JUDGE BRENNER: All right. I don't have to
9 repeat the sentiments I have expressed several times
10 this week about how important it's going to be to be
11 able to put some of these findings that are related in
12 some sort of summary presentation form and getting some
13 agreement as to that to the fullest extent possible.
14 Where agreement is not possible, motions can be asked.
15 But something has to give.

16 And in the first instance, at least, we will
17 leave it to the parties, knowing that parties can best
18 accommodate their own mutual interests, before the Board
19 attempts to do something which may make nobody happen.

20 MR. EARLEY: Judge, I understand we are going
21 to get the list from Mr. Lanpher on the 1st. I would
22 assume that we will go through G, H and I when we come
23 back. I want to let the witnesses prepare this week
24 before they get the list on the 1st.

25 JUDGE BRENNER: Well, I hope that G, H and I

1 in fact may be the subject of the first part of a
2 stipulation as to which findings among these are
3 related, and we can get some sort of presentation that
4 way.

5 There's a lot of flexibility. One possibility
6 is to end up with a stipulation as to a lot of items and
7 then perhaps additional written testimony from LILCO
8 when we come back that addresses those items to the
9 extent, you know, Mr. Lanpher still has questions,
10 because he has informed you in general as to what he
11 cannot do in the form of a stipulation, instead of doing
12 it question and answer orally.

13 It's clear the prepared testimony does not
14 address the bulk of what the cross-examination is going
15 to be, at least on the item by item cross-examination.
16 And that is because we switched the sequence of the
17 cross plan. That's one possibility.

18 I'm not stating, do that. A lot of things
19 have been going through the Board's mind, and I'm sure
20 all of you as experienced counsel have at least our
21 imaginations, if not more. But there has to be a way to
22 shorten the time, yet still present the important
23 evidence before us.

24 We are capable of reading as well as hearing,
25 is what I'm trying to state, with appropriate follow-up

1 questions to flesh out the written word where necessary,
2 and there are many other possibilities. I don't mean to
3 imply that that's the best possibility.

4 MR. EARLEY: Judge, we will be discussing that
5 with the County. My concern was not wasting the week
6 for the witnesses, because I think it has been helpful
7 that they have been prepared on the specifics in
8 advance, and I think we have been able to move along
9 even in this format a lot better.

10 But it's going to take a while, I think, to
11 develop this stipulation, and in the meantime we could
12 be preparing, if we at least knew which direction we
13 were headed.

14 JUDGE BRENNER: Well, I expect that they will
15 continue through G, H and I. Is that right, Mr.
16 Lanpher?

17 MR. LANPHER: Yes, sir.

18 JUDGE BRENNER: Perhaps even in advance of
19 this formal writing on the 1st -- I'm not requiring
20 this, but perhaps you can give the indication of what
21 would come immediately next some time before that, so
22 the witnesses can make use of the time between now and
23 the 1st.

24 MR. LANPHER: I have already indicated which
25 audit reports, at least initially, will be used in the

1 next subject area. I have not give the exact audit
2 finding.

3 JUDGE BRENNER: Okay. Well, if it is feasible
4 for you, you might want to give a very informal interim
5 report to counsel.

6 MR. EARLEY: I do have one other
7 administrative matter, Judge. I do want to thank the
8 Board and Mr. Lanpher for the consideration to some of
9 our witnesses who couldn't be here. I might say, Mr.
10 Long did go back to California. He was still trying to
11 get rid of that cold and had seen a doctor.

12 We will have some problems the first week
13 back. Mr. Burns has some professional commitments to
14 speak and I'll be talking to Mr. Lanpher to make sure it
15 doesn't conflict with the areas that he wants to go into.

16 JUDGE BRENNER: Okay. We are flexible so long
17 as the parties can agree, and there's been no problem so
18 far in agreeing. That is probably one of the few
19 benefits of when you have a subject that is this
20 lengthy. You have that much room to adjust.

21 All right. We will resume at 10:30 on October
22 12th in Bethesda.

23 (Whereupon, at 1:10 p.m., the hearing in the
24 above-entitled matter was recessed, to reconvene on
25 October 12, 1982.)

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

ATOMIC SAFETY AND LICENSING BOARD

in the matter of: LONG ISLAND LIGHTING COMPANY (Shoreham Nuclear Power
Station)

Date of Proceeding: September 24, 1982

Docket Number: 50-322-OL

Place of Proceeding: Hauppauge, New York

were held as herein appears, and that this is the original transcript
thereof for the file of the Commission.

Susan A. Harris

Official Reporter (Typed)

Susan A. Harris

(SIGNATURE OF REPORTER)