

NUCLEAR REGULATORY COMMISSION

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In the Matter of:

HOUSTON LIGHTING & POWER COMPANY

Allens Creek Nuclear Generating
Station, Unit 1

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UNITED STATES OF AMERICA

BEFORE THE
NUCLEAR REGULATORY COMMISSION

In the Matter of:

HOUSTON LIGHTING & POWER
COMPANY

Allens Creek Nuclear Generating
Station, Unit 1

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Docket No. 50-466CP

Krost Hall Auditorium
Bates College of Law
University of Houston
Houston, Texas

Tuesday,
March 17, 1981

PURSUANT TO ADJOURNMENT, the above-entitled matter
came on for further hearing at 9:00 a.m.

APPEARANCES:

Board Members:

SHELDON J. WOLFE, ESQ., Chairman
Administrative Judge
Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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I N D E X

BOARD

WITNESSESDIRECTCROSSREDIRECTRECROSSEXAM.

William T. White
(Resumed)

By Mr. Doherty

9077

By Mr. Raskin

9112

By Judge Cheatum

9117

By Judge Linenberger

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By Judge Cheatum

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By Mr. Black

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By Mr. Scott

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By Mr. Doherty

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By Mr. Raskin

9146

James R. Hussey

By Mr. Copeland

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Voir Dire:

By Mr. Doggett 9153

By Mr. Doherty 9158

By Mr. Scott 9162

By Mr. Black

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By Mr. Doggett

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By Mr. Doherty

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Applicant's 16

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P R O C E E D I N G S

9:03 a.m.

JUDGE WOLFE: All right. The hearing is resumed at 9:03 in the morning.

In attendance are Mr. Copeland, Mr. Raskin, Mr. Black, Mr. Doherty and Mr. Scott.

We will proceed to the cross-examination of Mr. Doherty.
Whereupon,

WILLIAM T. WHITE

having been previously duly sworn, resumed the stand as a witness, and was examined and testified further as follows:

THE WITNESS: If I may before we begin, I have a couple of corrections that I would like to make concerning some of the testimony yesterday.

JUDGE WOLFE: Are you referring to specific pages of the transcript, Dr. White?

THE WITNESS: I haven't seen the transcript, sir.

JUDGE WOLFE: All right.

THE WITNESS: Yesterday I gave the -- I was reading the estimates of the population projections for Fort Bend County for 1980; and I gave the following estimates: The Rice/Dames & Moore projections -

1-2

1 118,000; the Rice Center projections - 112,000; and the
2 HGAC projections - 100,000.

3 Rechecking my notes, I found that I was on the
4 wrong page.

5 The correct numbers -- and I'll read the whole
6 sequence.

7 For Fort Bend County in 1980, the 1980 pre-
8 liminary census was 130,508 people.

9 The 1980 Rice Center/Dames & Moore projection
10 was 129,216.

11 The 1980 Rice Center projection was 134,399.

12 The 1972 HGAC projection was 100,000.

13 And the 1977 Texas Water Development Board
14 projection was 73,000.

15 JUDGE WOLFE: All right.

16 THE WITNESS: Thank you.

17 MR. SCOTT: Mr. Chairman, can I ask what data
18 he was reading, what that was for.

19 THE WITNESS: Sir?

20 MR. SCOTT: You said you were on the wrong
21 page reading and giving the erroneous data yesterday. I
22 just want to know what data that was that you were reading
23 yesterday.

24 THE WITNESS: If you must know, sir, it was
25 notes I had taken for the Tennessee Valley Authority. It

1-3

1 had nothing to do with this job whatsoever.

2 MR. SCOTT: Okay.

3 MR. BLACK: Judge Wolfe, as a preliminary
4 matter, as you know, the Staff has scheduled certain panels
5 of witnesses this week.

6 One is the panel on the reactor vessel pres-
7 sure delivery -- or reactor pressure vessel delivery. And
8 the other one is the alternative site panel.

9 What I would like to do to facilitate our
10 planning of those panels is to poll both TexPirg and Mr.
11 Doherty today to determine a realistic assessment on their
12 part of how much cross-examination they have of not only
13 Dr. White on Mr. Doherty's part, but the other testimony
14 through Mr. Hussey, which is two issues, and through Mr.
15 McCuistian, which is one issue -- to determine if that will
16 go through Thursday.

17 And the only reason I ask this is because
18 I'm reluctant to bring a whole panel of witnesses here if
19 there's a realistic probability that they will not get on
20 the stand sometime on Thursday.

21 And even so, I'm kind of reluctant to bring
22 them here if they're only going to be on the stand two
23 hours, or something like that.

24 So I'd like to get some type of assessment
25 from the Intervenors as to what they think the duration of

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1 their cross-examination will be for the remainder of the
2 Applicant's case.

3 JUDGE WOLFE: You mean right now?

4 MR. BLACK: Yes, if I could, so I could --

5 JUDGE WOLFE: Mr. Doherty, could you give an
6 estimate?

7 MR. DOHERTY: I'll just throw a number out,
8 because it's hard.

9 I'd say two hours each; a total of six hours;
10 that's three folks. Mr. Hussey might take longer because
11 there's an awful lot there. But that's about my average.

12 I have missed badly on these kinds of guesses,
13 so I'm ... both ways.

14 JUDGE WOLFE: Mr. Scott?

15 MR. SCOTT: I'm somewhat like Mr. Doherty
16 in that I hate making these guesses.

17 I have been in communication with some of the
18 other Intervenors, and I have been told that Mr. Doggett
19 will be in later this morning. And let's just take as a
20 given, myself and Mr. Doherty will be here the rest of
21 the week.

22 Mr. Baker has stated he will be here tomorrow.
23 Mrs. Hinderstein has stated that she will be here Thurs-
24 day.

25 There's uncertainties about Mr. Bishop. You

1-5

1 know, these are TexPirg's issues and contentions. And
2 especially the last witness I intend to spend considerable
3 time on.

4 I guess the best way I can phrase it is if I
5 was in Mr. Black's shoes, even if there was a possibility
6 (but not a very good probability) that they could be on
7 all day Thursday. it would seem to me like a bad use of
8 resources to fly these people in from a long distance for
9 even one full day, and then to turn right around and fly
10 them back out the next day.

11 But ... I don't know. I'd say it's going to be
12 a close call as to whether or not we're through with these
13 people by Thursday or not.

14 MR. BLACK: When you say the last witness,
15 you have -- what --

16 MR. SCOTT: McCuistian, or whatever his name
17 is.

18 I consider him the most crucial witness of
19 the whole proceeding.

20 MR. BLACK: Did Mr. Doggett indicate to you
21 that he had any cross-examination of any of the Applicant's
22 witnesses?

23 MR. SCOTT: Yes. He is going to be in today,
24 and also probably Thursday. Thursday was more vague.

25 MR. BLACK: Well, that indicates to me that

1-6

1 it's -- just on my rough calculations, I would determine
2 that at best Staff would be able to present its issues
3 Thursday afternoon.

4 And I'm reluctant to call four people all the
5 way from Oak Ridge to present testimony for maybe at best
6 three hours or something like that.

7 So with the Board's permission, I'd like to be
8 able to put those two panels -- the alternative site
9 panel and the RPV delivery panel -- off until the start
10 of the next session.

11 JUDGE WOLFE: You're asking that now, or are
12 you just suggesting that that might be the result of all
13 this?

14 MR. BLACK: Well, in order to get the Oak
15 Ridge people here, I would have to let them know by this
16 afternoon.

17 JUDGE WOLFE: Well, from what I've heard, I
18 doubt very much that you would get to your witnesses more
19 than possibly two or three hours.

20 So, yes, we'll hold them over then until the
21 May 11th hearing session.

22 MR. COPELAND: Mr. Black, I wonder if there's
23 any possibility of getting Mr. Moon here on Thursday to
24 put in the pieces of testimony on miscellaneous Board
25 questions.

1 MR. BLACK: That's another possibility. I'm
2 thinking seriously of having that done.

3 JUDGE WOLFE: Well, you work on that. And if
4 it's possible, fine. And once again, if it's not possible,
5 why, it's agreeable that this testimony be held over --
6 continued over until the May 11th hearing.

7 Further, I think -- well, yesterday with regard
8 to this problem with Mr. Scott's presenting direct testi-
9 mony as a witness, I gave Applicant -- or I gave Mr. Scott
10 until the 23rd -- is that correct -- to file his sub-
11 mission; and Applicant is to file when again, please?

12 MR. RASKIN: The 30th.

13 JUDGE WOLFE: The 30th. I did not mean to
14 preclude any other party that wanted to participate in
15 that, so that all other parties may have also until
16 March 30th within which to respond to Mr. Scott's sub-
17 mission. And the responding parties may support Mr. Scott
18 or not, whatever their beliefs and conclusions are.

19 All right.

20 MR. SCOTT: Mr. Chairman --

21 JUDGE WOLFE: Yes, Mr. Scott.

22 MR. SCOTT: It may not help anything, but I can
23 report to the Board just as a very preliminary, preliminary
24 matter that TexPirg does exist. There is still a state-
25 wide organization. They do have a full set of officers

1 and all that stuff.

2 JUDGE WOLFE: Well, I would expect that that
3 would be covered both in your affidavit and in your brief
4 to the Board and parties.

5 All right. We will proceed now with the cross-
6 examination of Mr. White by Mr. Doherty.

7 CROSS-EXAMINATION
8 (Continued)

9 BY MR. DOHERTY:

10 Q Well, I had a general question about the
11 publication -- the study. Does Dames & Moore when it does
12 studies, does it use a peer review process before it
13 releases studies?

14 A Do you mean we have an internal review process?

15 Q Uh-huh.

16 A -- of people?

17 Yes, we do. In this case, the review
18 was the project manager and partner on the job, as well as
19 a senior economist, and a senior planner.

20 Q I see.

21 Well, did you get any feedback on it from
22 them that resulted in any changes? Do you recall?

23 A To the best of my recollection, Mr. Doherty,
24 the changes were primarily typographical.

25 Q Okay.

1 Now what is the population center of this pro-
2 ject?

3 A The population center of this project, I
4 believe, has been established as Richmond/Rosenberg.

5 Q That would be two cities -- two places,
6 wouldn't it? Was it just one, or was it two?

7 A I don't recall, sir. We'd have to check the
8 SAR.

9 Q Okay.

10 Now are those two cities within the 20-mile
11 ring ... or whatever you call it, the 20-mile --

12 MR. RASKIN: Mr. Chairman, I think I'm going to
13 object to any further questions along this line. It's
14 outside the scope of the contention.

15 The population center distance requirement was
16 addressed in the partial initial decision. The Inter-
17 venors attempted to raise this question in a contention
18 which the Board earlier rejected.

19 So I'm going to object to any further questions
20 along this line.

21 MR. DOHERTY: Well, in determining what the
22 population center was in the 1975 decision, the Board did
23 rely on projections which the contention questions.

24 And I wish to -- in light of this -- present
25 to the Board some additional facts which I think would

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1 perhaps change the partial initial decision. It is new
2 evidence since the partial initial decision. It was
3 added in this study.

4 MR. RASKIN: May I respond?

5 JUDGE WOLFE: Yes.

6 MR. RASKIN: I think if Mr. Doherty wants to
7 do that, he should file a late-filed contention and then
8 present a witness to do that. But that's not in this
9 contention.

10 MR. DOHERTY: The contention raises questions
11 about the projections. And, of course, it also raises
12 questions about what was done with those projections. In
13 this case, Section 81 of the PID was in part, if I
14 read the language correctly, a result of those pro-
15 jections.

16 Therefore, I think it's admissible as part of
17 Bishop 1.

18 JUDGE WOLFE: Precisely how does this fit
19 within the scope of the Bishop 1 Contention, developmental-
20 wise?

21 MR. DOHERTY: Well, Bishop 1 stated that the
22 then-existing projections -- there were two of them:
23 the Houston/Galveston Area Council and the Texas Water
24 Development Board -- were faulty in several ways; and as I
25 understand it, raised the Rice Center study as that

1-11

1 basis.

2 Now what I'm saying is the projections were
3 used, according to the PID, to establish the population
4 center as Rosenberg.

5 I think that within the scope of that con-
6 tention was the fact that the projections were used and not
7 just merely written down, but had some meaning. One of
8 the meanings was applied to the PID.

9 It seems that the report would have the Board
10 relying on those projections, where the contention raises
11 the fact -- or raises the possibility that the projections
12 were inadequate.

13 (Bench conference.)

14 MR. RASKIN: Mr. Chairman, may I make two
15 additional points?

16 The first is that the population center dis-
17 tance requirement gets into the subject of integrated
18 dose, as Section 100.11(a)(3) states. And that's simply
19 beyond the scope of this contention.

20 Second of all, we took Mr. Bishop's deposition
21 to determine what the scope and bases for his contention
22 were; and we never got into the subject of population
23 center distance; and so we didn't address it in our testi-
24 mony.

25 I just think we're going way outside the scope

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1 of this contention.

2 MR. DOHERTY: Well, may I reply, sir?

3 JUDGE WOLFE: Did you have another point to
4 make, Mr. Raskin?

5 MR. RASKIN: No, sir.

6 JUDGE WOLFE: All right. Yes.

7 MR. DOHERTY: Well, whatever Applicant did in
8 terms of asking Mr. Bishop questions I don't think is
9 relevant here at all. They have to look out for that,
10 make sure they cover that sort of thing.

11 And I don't think it's at all important that --
12 I mean he has brought up the fact of doses, I guess; and
13 I don't think that's a factor that I plan any discussion
14 on, or anything like that.

15 I just want to work on raising to the Board's
16 attention what appears to me a change since this PID.

17 (Further Bench conference.)

18 JUDGE WOLFE: Mr. Black, do you have anything
19 to add to this discussion? The Staff's position.

20 MR. BLACK: I concur in Applicant's position
21 with respect to the population center.

22 I think, first of all, that issue is a safety
23 issue. It is set forth in Part 100 of 10 CFR. My
24 understanding of this witness is that he is only here to
25 confirm or explain the population projections that are the

1-3

1 subject of the Bishop contention, not to describe the
2 population, in terms of the population center criteria
3 set forth in Part 100.

4 MR. SCOTT: Mr. Chairman --

5 JUDGE WOLFE: Yes.

6 MR. SCOTT: I would like to inquire: Is there
7 a safety contention that has raised this particular issue?

8 MR. BLACK: No.

9 MR. SCOTT: Well, then how are we going to
10 hear it at the safety hearings then?

11 MR. RASKIN: He didn't say we would.

12 MR. SCOTT: Well --

13 MR. BLACK: If it's not placed in issue.

14 (Further Bench conference.)

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1 JUDGE WOLFE: The Board overrules the ob-
2 jection.

3 We think we would like to hear the witness'
4 response as to whether he knows whether, in light of his
5 population projection analysis, whether the population
6 center should be changed from the Richmond/Rosenburg
7 area.

8 THE WITNESS: I can't give you an exact answer
9 on that, sir. I do not have the projections for the
10 community of Katy with me.

11 I would like to point out that on Figure 5 --
12 excuse me, I've got the wrong one -- Figure 10 for the
13 east/northeast direction, distance of 10 to 20 miles,
14 the maximum projections that occur for the sector in which
15 Katy is located are 35,000 people and 28,200.

16 One is for the 1972 HGAC, and the latter is
17 for the Rice/Dames & Moore. That's the best I can do at
18 this point.

19 I'd have to go back into our files to get the
20 exact projection for the town of Katy.

21 JUDGE CHEATUM: We weren't asking you about --
22 Well. The PID indicated the Katy/Rosenburg area was the
23 accepted population center.

24 Now I think the Board is interested in knowing
25 whether or not the population projections might, in your

1-15

1 knowledge -- might alter that decision with respect to --
2 not the Katy area, unless the Katy area is a candidate for
3 a new population center projection on the basis of your
4 projections.

5 THE WITNESS: As I understand, sir, the trigger
6 for defining something as a population center is whether it
7 has a population of 25,000 persons or more.

8 Is that correct?

9 To the best of my recollection.

10 Over the life of the plant. Rosenberg, I
11 believe, is approximately 21 miles from the site; and Katy
12 is approximately 19.

13 And what I'm saying is that at this point, I
14 simply do not know whether the town of Katy will exceed
15 25,000 or not.

16 MR. SCOTT: Mr. Chairman --

17 JUDGE WOLFE: Yes.

18 MR. SCOTT: Is there someone here -- I don't
19 have the information with me, but it's my understanding
20 that it wasn't necessarily the population of an incor-
21 porated area, but it was the urban area surrounding the
22 town, including the town. It didn't necessarily have to be
23 within the city limits. That would seem to be important,
24 whether or not it would all have to be within the city
25 limits.

1-16

1 Also there's a consideration of -- In Texas
2 we have the ability to expand our borders almost at will,
3 unless there's another city competing for the same
4 people.

5 MR. RASKIN: May I ask for clarification?
6 Dr. Cheatum, are you interested in whether Wallis or Sealy
7 should be the population center? Is that ... I mean --

8 JUDGE CHEATUM: We're just interested in know-
9 ing whether this witness, as a result of his re-
10 examination of the population distribution in this 50-mile
11 radius, has presented information or discovered information
12 which would cause the Applicant and the Staff to change
13 their population center distribution for the Allens Creek
14 project.

15 MR. RASKIN: All right.

16 In response to that I would like to say that I
17 don't believe the witness addressed it, because we didn't
18 think it was within the scope of the contention.

19 However, I think if you look at Figure 10,
20 you'll see that the HGAC numbers upon which the partial
21 initial decision was based are higher than his most recent
22 projections.

23 And, therefore, if anything, I think the
24 population center distance determination made at that time
25 would be even more fully supported by the later evidence.

(Bench conference.)

1
2 JUDGE LINENBERGER: Dr. White, can we perhaps
3 approach this same question in a slightly different way?
4 Again looking at Figure 10, the east/southeast sector and
5 the zone of that sector falling between the 20- and 30-mile
6 radius circles shows figures for Richmond and Rosenberg
7 that are on the average roughly twice as large as the Katy
8 area, and more than twice as large as most other popula-
9 tion figures given within the 20-mile radius.

10 Now, since the Richmond/Rosenburg figures do
11 stand out here as they do, and since they are distinctively
12 greater than the population density figures in the zone
13 that includes Katy, what would you, from your knowledge
14 and investigations here, conclude with respect to the
15 behavior of these figures in the future -- the future
16 meaning through the year 2020 with respect to a comparison
17 between Richmond/Rosenburg and the Katy area?

18 THE WITNESS: I'm not totally sure I under-
19 stand your question, sir.

20 JUDGE LINENBERGER: Well, all right. Let me
21 make it very explicit.

22 The Richmond/Rosenburg zone shows considerably
23 higher population density than the Katy zone -- the zone
24 that includes Katy.

25 THE WITNESS: Yes.

1-18

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1 JUDGE LINENBERGER: Would you expect that
2 pattern or ratio to continue through the year 2020?

3 THE WITNESS: Yes, sir.

4 JUDGE LINENBERGER: Okay, that answers my
5 question. Thank you, sir.

6 MR. SCOTT: Mr. Chairman --

7 JUDGE WOLFE: Yes.

8 MR. SCOTT: I really fail to understand that
9 answer. I mean ... the data to answer that I believe is
10 right there ... if you look at the year 2020 at those same
11 sectors ... and unless I'm blind, it shows that the
12 populations in the Katy sectors would be much bigger than
13 in the Richmond/Rosenburg sectors.

14 I mean, you just look. I don't understand the
15 answer in that light.

16 MR. RASKIN: I think maybe you are having eye
17 trouble then, Mr. Scott, because it shows exactly the
18 opposite.

19 MR. DOHERTY: Mr. Scott may be referring to
20 the 20- to 30-mile sector for the east/northeast pie
21 wedge, which shows a population prediction for the --
22 taken from the HGAC study, which exceeds considerably
23 that of the similar segment in the east/southeast pie
24 wedge, as does the Rice/Dames & Moore study.

25 I drew attention a moment ago to the 10- to

1-19

1 20-mile segment in the east/northeast. And this would be
2 the segment immediately further -- moving further from the
3 plant to the right of the Katy -- I guess we have care-
4 lessly called it the Katy segment.

5 There's a remarkable -- I think remarkable --
6 difference in those first two estimates: the HGAC and the
7 Texas Water Development Board, of 105,000 (if I may read)
8 versus 4900.

9 (Bench conference.)

10 JUDGE WOLFE: All right. You may proceed, Mr.
11 Doherty.

12 BY MR. DOHERTY:

13 Q With regard to some of the conversation -- or
14 testimony yesterday with regard to reasonableness as a
15 criterion, I was wondering where -- drawing your attention
16 to the east/northeast pie shape on Figure 10, if you
17 thought there was anything unreasonable about the two
18 projections in the 20- to 30-mile portion or annulus
19 there in the east/northeast wedge, where one is 20 times
20 the other.

21 Does that strike you as very --

22 A As I mention on page nine of my testimony, I
23 concur that that number is out ... very low. It's not in
24 line with the other projections.

25 And I explain in the testimony why that

1-20

1 occurred.

2 Q All right.

3 But you do agree that Katy is within 20 miles
4 of the site?

5 A Yes, sir.

6 Q So is it a fact then that two of the three
7 projections in the 10- to 20-mile segment of the east/
8 northeast -- or 10- to 20-mile annulus of the east/northeast
9 exceed 25,000 for the year 2020?

10 A That's what the numbers are, sir.

11 Q Okay.

12 Now moving on to page five of your testimony,
13 up at the top at line three you spoke of advanced computer
14 models in discussing the Rice Center computer model.

15 And I was wondering what features particularly
16 make it advanced?

17 A It's the econometric linkage, sir, between
18 the input/output model for the Houston/Galveston area
19 with the national economic behavior.

20 Q Now you said "national," and that would refer
21 to the United States?

22 A Yes.

23 Q Was there any econometric effort made in this
24 model to bring in Mexico?

25 A I simply don't know. You'd have to check with

1-21

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1 Rice Center, sir.

2 Q They didn't mention that because of the
3 proximity of Texas to Mexico and the in-migration of
4 Mexicans into the United States, that they had made an
5 inclusion -- made an effort to do that, did they?

6 A Again, sir, I simply don't know.

7 Q You don't recall anything like that?

8 A No.

9 Q Now you also stated on that same page: "As a
10 consequence it is the projection methodology which gives
11 confidence to the projections."

12 Now when you say confidence, is that a personal
13 confidence, sort of a gut feeling?

14 A No, sir. I would say it is a combination of
15 professional and personal confidence.

16 Q It's not a statistical confidence level?

17 A As I explained yesterday, sir, we've not yet
18 been able to put statistical confidence intervals
19 around any projection.

20 Q Okay.

21 Now did the model attempt in any way to deal
22 with the passage of -- I guess it's called Interstate 10,
23 the large highway that goes across the north of the map
24 there, actually goes ...

25 A Uh-huh.

1-22

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1 Q It did. Is that correct?

2 A Well, I just said yes, I understood which road
3 you were talking about.

4 Q I see.

5 Did it attempt to take into account the impact
6 that that highway might have on population --

7 A Yes, sir.

8 Q -- near the --

9 A In the model that allocates population to
10 smaller geographic areas within the study region, trans-
11 portation was one of the attractiveness factors used in the
12 model.

13 Q I see.

14 Now in arriving at that and developing this
15 factor in the model, do you know if they used experience
16 from a similar situation?

17 A No, sir, I don't know for certain. I'd be
18 surprised if they hadn't.

19 Q You'd be surprised if they had not? Is that
20 what you've just said?

21 A Yes.

22 Q -- I didn't hear you.

23 Okay. That would be a very typical way of
24 approaching this kind of attractiveness factor.

25 JUDGE CHEATUM: You just nodded your head --

1-23

1 THE WITNESS: Yes.

2 JUDGE CHEATUM: The record will show you said
3 yes.

4 THE WITNESS: Yes.

5 BY MR. DOHERTY:

6 Q In computing -- There are at least two cases
7 where -- I believe the criterion says that a particular
8 segment of an annulus should not exceed 50 percent of
9 the total.

10 Now would that mean you'd be actually, in
11 computing that out, counting the people and then taking
12 the area of what is essentially a doughnut? You actually
13 have to work out the area -- the land area in order to
14 get the number of people per square mile ... of a
15 doughnut-shaped object?

16 A I'm sorry, sir; I really don't understand your
17 question.

18 Q All right.

19 It's a question of language in understanding
20 how you do this.

21 A Yes.

22 Q There are several times a requirement is
23 expressed that you need the number of people per square
24 mile.

25 A This is in the 0625?

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1 Q No, I don't believe it's in 0625.

2 But, anyway, at any time do you need the area
3 of a ring, an annulus ring in any of these calculations?

4 MR. RASKIN: Mr. Chairman, that question is
5 impermissibly vague.

6 I would suggest if Mr. Doherty would point to
7 a specific part of the attachment and ask him how he
8 calculated a specific number that he came up with, it would
9 be very clear on the record and the witness could answer
10 the question.

11 I object to the way it's phrased.

12 MR. DOHERTY: I'll rephrase.

13 BY MR. DOHERTY:

14 Q On page seven of your testimony -- let's see
15 if we can get an example -- it states, starting on
16 line 18, " ... none of the projections for the 0-30 mile
17 annulus".

18 Now would that even be an annulus?

19 A Only in the sense, sir, that we have taken the
20 area included within the exclusion area out.

21 Q So you don't include that in doing the
22 division of land area into number of people? Is that
23 correct?

24 A No, I did not. It's about 3 1/2 square miles
25 approximately. Actually it increases the population

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1 density numbers here slightly.

2 Q Okay. I follow you there. That's good.
3 Thank you.

4 Now we discussed air photography as a way of
5 getting to some information. Do you know what multiplier --
6 what the multiplier is currently in ... as a number of
7 residents to population?

8 A No, sir, I don't recall. This was done on a
9 county-by-county basis. And I just don't recall what it
10 was.

11 Q Is there wide variation between the counties?
12 Do you recall that?

13 A No, sir, I don't believe there was wide
14 variation. I would say it's safe to assume that the persons
15 per dwelling is somewhere between 2.5 and 3.5 persons per
16 dwelling.

17 But we use the number reported for that specific
18 county.

19 Q That was reported by the Census Bureau? Is
20 that correct?

21 A Yes.

22 Q Okay.

23 JUDGE LINENBERGER: On this point, Dr. White,
24 I believe you said it was the 1970 census figures that were
25 used to give the number of people per household. Is that

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1 correct?

2 THE WITNESS: Yes.

3 JUDGE LINENBERGER: Thank you.

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1 BY MR. DOHERTY:

2 Q Well, on the bottom of page 9, you state at
3 line 20, "The more recent Rice Center/Dames & Moore
4 projections more accurately reflect the allocation of
5 population to various sectors and demonstrate . . .
6 in our compliance with the NRC's siting criteria."

7 Now, is that simply -- Well, I shouldn't say
8 simply.

9 Is that a professional opinion based on your
10 confidence in the models?

11 A In this whole paragraph, sir, we're discussing
12 not so much the projections now as we are the manner in
13 which they are allocated to the population wheels. Okay?

14 And, in line 20, what I am stating is that I
15 feel that the methodology used for allocating projections
16 made on a county and civil division level, are more
17 accurate than the case for the Texas Water Board, the
18 Water Development Board.

19 Q Yes.

20 Well, is your basis simply these what you
21 consider superior, more advanced computer techniques?

22 A No. The computer was not used to allocate
23 population to the population wheels.

24 Q All right.

25 You do state above that the method used may

2-2

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1 have distorted the estimates of populations.

2 A For the Texas Water Development Board, yes,
3 sir.

4 Q All right.

5 That's criticism of them; but that these do
6 not.

7 Is that right, the distortion is removed? Is
8 that what --

9 A Yes.

10 Q Okay.

11 JUDGE WOLFE: Did you answer that, Doctor?

12 MR. DOHERTY: Oh. I'm sorry.

13 JUDGE WOLFE: Did you answer that question?

14 THE WITNESS: Yes, sir, I did.

15 JUDGE WOLFE: Well, what was your answer?

16 THE WITNESS: Yes.

17 JUDGE WOLFE: All right.

18 THE WITNESS: I'll try to be a little louder.

19 BY MR. DOHERTY:

20 Q Now, has the Texas Water Development Board
21 ever done projections for this area before, to your
22 knowledge?

23 A With the exception of these projections, I
24 have not seen any other projections.

25 Q Have you ever heard of any other projections?

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1 A No, sir.

2 However, that doesn't mean that they don't
3 exist.

4 Q Yes.

5 Do you know of any projections that were done
6 by the Texas Water Development Board before 1977?

7 A I personally do not, sir.

8 Q Um-Hmm. Okay.

9 Do you -- Was the Houston-Galveston area
10 counsel figures done for the power company?

11 Did they do them?

12 A No, sir.

13 They were done for their own purposes.

14 These are the 1972 HGAC projections, similar
15 to what you're referring to. Yes.

16 Q Yes.

17 Now, to your knowledge was the Water
18 Development Board statistics done independent of HGAC
19 statistics.

20 By that, I mean, did they borrow any statistics
21 from that and put it in their models?

22 A To my knowledge, they were independent
23 projections, sir.

24 Q I see.

25 Now, what was the assumed number of people

2-4
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1 in each residence in the plant site?

2 A Pardon, sir?

3 Q What was the assumed number of people in each
4 residence within ten miles of the site?

5 A I think I have already answered that, sir.

6 Q Was it 3.5?

7 A I think I've already answered that, sir.

8 It depended on the county in which the a --

9 Q Okay. You're right, I'm sorry. My fault.

10 Now, I don't think we got around to this.

11 I think it was mentioned, how were transients
12 dealt with within the zero to ten mile site?

13 MR. RASKIN: Objection. The question of
14 transients was discussed yesterday and the Board cut off
15 any further questions.

16 (Bench Conference)

17 JUDGE WOLFE: Sustained.

18 BY MR. DOHERTY:

19 Q Are you aware that the NRC in its review of
20 population figures requires treatment of transients?

21 A Yes.

22 Q Now, on page 5 of your attachment, you
23 discuss the 20 to 30 mile annulus.

24 A Yes, sir.

25 Q And you state in the last paragraph -- Pardon

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1 me, the last sentence on page 6 of that discussion, 2020
2 the Rice Center/Dames & Moore projected population density
3 is 243 persons per square mile.

4 Now, this is what I was getting at a little
5 bit earlier, is that a population of something shaped
6 roughly like that with 20 miles between -- 20 miles across
7 here and here. Is that what that is?

8 What that says is 243 persons per square mile?

9 JUDGE WOLFE: That does not appear on the
10 record, that diagram and circled finger, Mr. Doherty.

11 (Laughter)

12 Describe what you're trying to ask.

13 BY MR. DOHERTY:

14 Q All right.

15 I'm holding my hand up in an attempt to form
16 a small ring, and I'm imagining that distance between
17 across this circle made between my thumb and forefingers
18 20 miles in order to describe an annulus to you.

19 If you can, -- If that makes sense to you at
20 this point, I'd like to go on and ask if that last
21 sentence on the top paragraph of page 6 of your
22 attachments, asks or does it say that there are 243
23 people per square mile for that ring. Okay?

24 A The way the 243 persons per square mile was
25 arrived at, as most of the population density shown on

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1 Table 2 were arrived at.

2 For the 20 to 30 mile annulus, I summed the
3 total number of people between 20 and 30 miles from the
4 plant. I then divided it by the area of the annulus.
5 In other words, it was calculated by taking 30 miles,
6 squaring it, minus 20 miles squared multiplied by pi.
7 Okay. So, it's a doughnut shaped.

8 Q Um-Hmm.

9 All right.

10 Now, what you just described, could that be
11 described as the cumulative population density?

12 A No, sir.

13 Q Well, how do you distinguish that?

14 A Cumulative population density would be the
15 total number of people within, say, 30 miles of the site
16 divided by the total area out to 30 miles of the site.

17 Q Okay.

18 Now, on page 9 of your attachment -- I'm
19 sorry.

20 A Right, sir.

21 Q There's a statement under a section marked
22 Rate of Growth of the Annulus, which I believe is taken
23 from NUREG 0625, or is similar to it, where you state,
24 "This criteria is interpreted to mean. . ."

25 Now, you've discussed your interpretation

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1 Do you know that this interpretation has ever
2 been used in any other licensing proceeding?

3 A I'm not sure that the 0625 criteria have been
4 used in any other licensing. Certainly not that I've been
5 involved in.

6 Q Okay.

7 Well, recalling that you have been in some
8 licensings previously, though I think the question got
9 lost there, you stated "interpreted".

10 What I'm trying to find out is do you know of
11 anyone else that has ever joined you in this --

12 MR. RASKIN: This was asked-and-answered.

13 MR. DOHERTY: -- applying the same
14 interpretation?

15 I'm having trouble figuring out if he just
16 answered that a minute ago?

17 Is that what you mean, counsel?

18 MR. RASKIN: No. He answered it yesterday,
19 Mr. Doherty.

20 MR. DOHERTY: That, I don't recall.

21 (Bench Conference)

22 JUDGE WOLFE: Sustained.

23 BY MR. DOHERTY:

24 Q All right.

25 Going on down to the next paragraph on that

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1 same page, you state, "Maximum 22 1/2 degree sector
2 population, no more than one-half of the allowed number of
3 persons in the zone should be permitted within any
4 22 1/2 degree sector."

5 Now, was it your understanding that you should
6 move the grid so as to get as many people as possible into
7 one 22 1/2 degree segment?

8 MR. RASKIN: Asked-and-answered, Mr.
9 Chairman.

10 We went into the whole discussion of moving
11 the grid around a little bit yesterday, and he added the
12 two largest grids.

13 MR. DOHERTY: I don't think that replies to it
14 at all, counsel.

15 I'm asking him specifically if it was his
16 understanding when he first looked at this if he was
17 supposed to do something; and I don't recall any question
18 like that --

19 JUDGE WOLFE: I think this is a slightly
20 different question, than the witness.

21 Overruled. You may answer.

22 THE WITNESS: When I interpreted this from the
23 0625, I assumed that we were using the standard population
24 wheel grid orientation.

25 MR. DOHERTY: Um-Hmm.

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1 BY MR. DOHERTY:

2 Well, in your judgment as a user of that
3 grid, wouldn't that mean possibly you might omit a
4 22 1/2 degree segment that would include many more people?

5 A There is that possibility. But, it s split.

6 Q Yes.

7 Okay.

8 Q In that diagram, are you confident that a
9 trailer home would be apparent enough to count?

10 JUDGE LINENBERGER: Excuse me just a moment,
11 but that diagram is going to be a problem to understand --

12 MR. DOHERTY: A problem. Yes, sir.

13 JUDGE LINENBERGER: -- on the record.

14 BY MR. DOHERTY:

15 Q On the aerial photo which Applicant has
16 placed behind you, and discussed yesterday in the record,

17 JUDGE WOLFE: Applicant's Exhibit 16, marked
18 for identification.

19 MR. DOHERTY: Is that what it was. Okay.
20 All right, Applicant's Exhibit 16, then, are you
21 confident that a trailer home would be visable and
22 countable?

23 THE WITNESS: If the trailer home is in the
24 open, not obscured by trees. The answer is yes.

25 If it is in an area with trees, there is a

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1 good possibility it would be obscured.

2 BY MR. DOHERTY:

3 Q You raise trees, now, for the first time.
4 I don't think we've discussed that at all.

5 Are you confident that a residence would
6 be seen despite trees?

7 A Yes.

8 JUDGE LINENBERGER: Is foliage a cover up
9 factor included in the interpretations from that
10 photomosaic?

11 THE WITNESS: Well, these photographs were
12 flown, October 31st.

13 And, most of the foliage should have been down.

14 JUDGE LINENBERGER: Incidentally, what year?

15 THE WITNESS: This year, --1980. Excuse me.

16 JUDGE LINENBERGER: Well, that --

17 THE WITNESS: But, no.

18 Explicitly, a foliage factor was not
19 deliberately introduced.

20 JUDGE LINENBERGER: Thank you.

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1 BY MR. DOHERTY:

2 Q In the econometric model I have some diffi-
3 culty understanding how you can take a national view of
4 the economy, focus it meaningfully to a particular section
5 of the nation.

6 Would you describe what factors are used in
7 making a -- in merely -- Let's see. How can you be
8 sure that you're not ... that you're getting in enough
9 local factors of purchasing, induce purchases and the kinds
10 of things you mentioned?

11 A The incorporation of local factors into a model
12 such as this depends upon the skills and qualifications
13 of the people who design the model and their familiarity
14 with the local area and its functioning -- economic
15 functioning.

16 Again, that's the reason we contracted with
17 Rice Center.

18 Q How long has Rice Center been in existence?
19 Do you know?

20 A No, sir, I don't know.

21 Q What is the reason you contacted the Rice
22 Center?

23 MR. RASKIN: Objection, Mr. Chairman.

24 MR. DOHERTY: He said a minute ago --

25 JUDGE WOLFE: Wait just a moment.

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The grounds?

MR. RASKIN: I think it's irrelevant to the contention, and I also think it has been asked and answered over objection by counsel yesterday.

MR. DOHERTY: He said, "That was the reason we contacted the Rice Center," and gave some -- well, really gave no reasons, although I assume he just ... he meant that Rice is a place that does this and is a university and that it --

MR. RASKIN: No --

JUDGE WOLFE: I'll overrule the objection.

THE WITNESS: We contracted with Rice because we checked the model out, and it seemed a good model, and they seemed to be quite familiar with the area, particularly having done studies for the Houston/Galveston Area Council.

BY MR. DOHERTY:

Q They had done studies for the Houston/Galveston Area Council?

A Yes, sir.

Q Did they do the 1972 study that you referred to as HGAC?

A No, sir.

Q In your opinion are all four of these projections sufficiently grounded in the kind of rigor that

3-3

1 you have described as required for doing good projections?

2 A My opinion is that three of them are. The
3 Texas Water Development Board does not have as strong a
4 grounding as the other three.

5 Q And that was the one that gave the very low
6 figure for the 20- to 30-mile segment of the east/northeast
7 next to Katy. Is that right?

8 A Yes, sir.

9 Q Okay.

10 JUDGE LINENBERGER: Mr. Doherty, there was one
11 facet of the answer to one of your previous questions
12 that I missed. I'd like to ask the witness here with
13 respect to Mr. Doherty's question about how you came to
14 make use of the Rice Center study, you described the
15 desirable attributes of their methodology.

16 But I'm curious one step ahead of that: How
17 did Dames & Moore come to know that such an endeavor
18 existed in the first place?

19 THE WITNESS: It was through the Bishop con-
20 tention, sir.

21 JUDGE LINENBERGER: Thank you.

22 BY MR. DOHERTY:

23 Q I have a question with regard to a question
24 that Mr. Black asked you yesterday about migrational
25 workers. Did you assume those were agricultural workers

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1 he was talking about?

2 MR. RASKIN: Objection, Mr. Chairman. The
3 subject of migrational workers has been asked and
4 answered.

5 The Board has cut off any further questioning.

6 MR. DOHERTY: I think the objection is
7 spurious. It was never set forth if these are agricultural
8 workers or not. It's a fair question to ask. It's an
9 agricultural area. It may not be the most intimidating
10 question imaginable. But I just think it's, you know, one
11 that makes sense.

12 I'm not clear what he had in mind. There's
13 other kinds of migrational workers.

14 (Bench conference.)

15 JUDGE WOLFE: Objection sustained.

16 BY MR. DOHERTY:

17 Q Are you aware of the Commission requirements
18 with regards to how close the population center can be to
19 the site?

20 MR. RASKIN: Objection. It's beyond the scope
21 of the contention.

22 (Bench conference.)

23 JUDGE WOLFE: Sustained. The question is
24 outside the scope of the contention.

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1 BY MR. DOHERTY:

2 Q Did the model take into account -- the Dames &
3 McCore model the influence on population of having a
4 large number of construction workers in the -- at the
5 site working and the effect that would have because they
6 would be doing some business in the area?

7 MR. RASKIN: Objection. This question was
8 asked and answered. The Board cut off questions along
9 this line yesterday.

10 And I might add that there is no Dames & Moore
11 model.

12 MR. DOHERTY: Well, I think we all know what
13 the Dames & Moore model refers to.

14 I'll say it again: Rice Center/Dames & Moore,
15 to make the record more correct.

16 The question goes to population. My auditing
17 of things yesterday was that that was discussed as demo-
18 graphy -- the impact of the people. I'm not talking about
19 the impact of the people. I'm asking about an increase in
20 population.

21 MR. RASKIN: I don't believe Mr. Doherty's
22 distinction is correct.

23 JUDGE WOLFE: I'll sustain Applicant's counsel's
24 first objection. It was covered yesterday.

25 MR. DOHERTY: I would like a minute more just

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1 to check through this to make sure there are no more
2 questions, since I will be the last questioner--

3 JUDGE WOLFE: Fine.

4 (Pause.)

5 MR. DOHERTY: Thank you for your patience this
6 morning, Dr. White. It was a pleasure questioning you.
7 Thank you. I have concluded.

8 JUDGE WOLFE: All right. Mr. Raskin, re-
9 direct.

10 And at this point, in light of objections to
11 Applicant's Exhibit 16 marked for identification, if you
12 do plan to re-tender that, you might ask your witness
13 questions to meet those objections with respect to that
14 exhibit.

15 MR. RASKIN: I'm not going to tender it, Mr.
16 Chairman.

17 JUDGE WOLFE: All right.

18 MR. RASKIN: I do have some questions on
19 redirect, however.

20 JUDGE WOLFE: All right.

21 Do you have a copy of the -- reduced copy of
22 the exhibit that will follow the record, or do you wish
23 that to be done?

24 MR. RASKIN: We can do that, if the Board
25 desires we do that.

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1 JUDGE WOLFE: We have no desire about it at
2 all. In light of the reduction of the large map, I doubt
3 whether it would serve any useful purpose for the Board's
4 review.

5 MR. RASKIN: Then I don't think there's any
6 reason to do it in that case.

7 JUDGE WOLFE: All right. Go ahead.

8 REDIRECT EXAMINATION

9 BY MR. RASKIN:

10 Q Dr. White, do you recall that yesterday and
11 again this morning you were asked whether you did an
12 independent calculation of transient population around the
13 Allens Creek site?

14 A Yes.

15 Q Do you know whether the question of transient
16 population was addressed in the Applicant's Environmental
17 Report and Environmental Report Supplement?

18 A Yes, it was addressed in the Environmental
19 Report in Section 2.2.1.4.

20 MR. SCOTT: Mr. Chairman, I must object. If
21 transient population is not part of this contention, then
22 why are we discussing it now? This has been repeatedly --
23 As I understand it, people have not been allowed to discuss
24 this.

25 Now I don't see how all of a sudden on

3-8 1 redirect, it can become an issue.

2 MR. RASKIN: We never objected on the grounds
3 that it was beyond the scope of the contention. We ob-
4 jected because the witness had answered that his independent
5 review, using the Rice/Dames & Moore study had not looked
6 at that particular question.

7 And that was the only reason we objected.
8 That answer was out on the record; and, therefore, we
9 thought it was asked and answered and should not be pur-
10 sued again.

11 MR. SCOTT: Well, then why are we pursuing
12 it if it has been asked and answered?

13 MR. RASKIN: Because we now have different
14 evidence that we want to place into the record -- well,
15 actually it's already in the record. We want to clarify
16 that it's in the record.

17 MR. SCOTT: I still object. We have had re-
18 peatedly -- Intervenors have been prohibited from getting
19 into this issue.

20 And the answer, I think, is quite clear that
21 it is beyond the scope of the contention; and there's
22 something very smelly about all of a sudden trying to
23 toss it in.

24 JUDGE WOLFE: I've asked counsel not to comment
25 on the evidence. It's for the Board to do that.

1 MR. SCOTT: Excuse me.

2 (Bench conference.)

3 JUDGE WOLFE: We must agree with Applicant's
4 counsel. It is our recollection that the Intervenor
5 were only met with an objection, and that objection was
6 sustained on the ground that questions put by the Inter-
7 venors had been asked and answered.

8 This being so and it being the statement by
9 Applicant's counsel that he was merely asking the question
10 for purposes of clarification, we'll allow that.

11 The objection is overruled.

12 MR. RASKIN: I'm going to repeat the question
13 for the record.

14 BY MR. RASKIN:

15 Q Do you know whether the question of transient
16 population was addressed in the Applicant's Environmental
17 Report and Environmental Report Supplement, both of which
18 have been placed into evidence in this proceeding?

19 A Yes.

20 MR. SCOTT: Mr. Chairman, I must object again.
21 If it has already been placed into evidence, there's no
22 point in discussing it any more. It has already been
23 asked and answered and it's already in evidence.

24 MR. RASKIN: It's a foundation question to
25 clarify the record, and for the next few questions --

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1 MR. SCOTT: We don't need clarification on
2 something that has been asked and answered. The Inter-
3 venors have repeatedly been -- tried to get into an issue
4 and ask preliminary clarification questions and been pro-
5 hibited by saying, "It has been asked and answered. Get
6 on with your question."

7 JUDGE WOLFE: I'll sustain that.

8 You may state into the record, to bring the
9 witness into focus, on what you're trying to develop for
10 clarification purposes and then ask your question.

11 MR. RASKIN: Okay.

12 May I have a clarification from the Board
13 then? Do you want me to read the sections of the Environ-
14 mental Report and Environmental Report Supplement that
15 address this issue?

16 JUDGE WOLFE: No, just paraphrase, just so you
17 can put the record today in context.

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3-11

1 BY MR. RASKIN:

2 Q Have you reviewed the sections of the Environ-
3 mental Report which address the question of transient
4 population?

5 A Yes.

6 Q Are those sections ER Section 2.2.1.4 and
7 ER Supplement Section 2.2.2.1.4?

8 A I'm sorry. On the Supplement you have too
9 many two's.

10 Q I've got more than that. It's ER Supplement
11 Section 2.2.1.4?

12 A Yes.

13 Q Okay.

14 Based on your work in developing population
15 projections, did you discover any information which would
16 lead you to believe that those sections are in error?

17 A No.

18 Q Does the information contained in those
19 sections change your conclusions with respect to the
20 ability of the Allens Creek site to meet NRC population
21 criteria?

22 A No.

23 MR. RASKIN: Thank you. I have no more
24 questions -- No, I'm sorry, I do have further
25 questions.

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1 BY MR. RASKIN:

2 Q Mr. White, will you turn to Table 4 of your
3 attachment to your testimony.

4 A Yes.

5 Q For the year 1990 you have a figure for Rice
6 Center/Dames & Moore in the south/southeast sector in the
7 second column of 3375. Is that figure correct?

8 A No, sir, there's a typographical error. It
9 should read 3775.

10 Q Under the year 2020, there was a footnote,
11 starred footnote. Is that footnote correct?

12 A No, sir. Again, there's a typo. It should
13 read: "The population which corresponds to 100 persons
14 per square mile for this annulus is 7550 persons."

15 MR. RASKIN: Thank you, Dr. White. I have no
16 more questions.

17 JUDGE WOLFE: It is now 10:30. For the record,
18 Mr. Doggett made his appearance at 10:28 this morning.

19 Are there Board questions?

20 Judge Cheatum.

21 BOARD EXAMINATION

22 BY JUDGE CHEATUM:

23 Q I have one, Dr. White. Mr. Raskin stated
24 that your new population projections substantiate the
25 validity of the 1972 choice of the Richmond/Rosenberg

1 area as the population center for the ACNGS site. Do you
2 agree with that statement?

3 A At this point, sir, I really can't agree or
4 disagree with it.

5 I would have to go back and look at my figures
6 for Katy to see what the projections are for it.

7 JUDGE CHEATUM: Thank you.

8 BOARD EXAMINATION

9 BY JUDGE LINENBERGER:

10 Q Dr. White, I'd like to ask you a couple of
11 questions about the -- first, about the previously identi-
12 fied photo-mosaic mural behind you, which had been identi-
13 fied as Applicant's Exhibit 16.

14 Did I understand you correctly that that
15 mosaic of photographs was compiled from actual flight
16 photographs taken in October 1980?

17 A Yes.

18 Q Does the enlargement that is on the wall behind
19 you represent the precise amount of -- or degree of en-
20 largement that was used for the analysis you made; or did
21 you use a greater or smaller enlargement than that?

22 A The -- I'm not totally sure I understand your
23 question, sir.

24 Q I'm not totally sure I understand the mosaic
25 either.

3-14

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1 A Okay.

2 Q Are the various pieces of the mosaic enlarged
3 compared with the size of the negative that was originally
4 obtained from the photography?

5 A I truthfully don't know, sir. The photographs
6 were -- The mosaic is made up of the photographs which
7 were cut to fit.

8 We worked at this scale. Now what the aerial
9 photography firm did to go from the negative to the
10 photographs using the mosaic, I don't know, sir.

11 Q All right.

12 But that display represents the scale at which
13 you worked?

14 A Yes, sir.

15 Q Okay.

16 Having myself stood in front of that display
17 and having examined it in a little bit of detail, I came
18 away wishing that it were maybe two or three times more
19 magnified than it is.

20 Do you feel that the results taken from that
21 display would have been more readily obtained, or more
22 reliably obtained if you had had a larger magnification
23 available to you?

24 A I believe so, sir. There is a practical
25 problem in the selection of scale. We simply didn't have

3-15

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1 a wall big enough for the enlargement of it.

2 Q I gather from what you said earlier that you
3 don't feel that foliage cover significantly obscures
4 the results you were trying to get from the photographs.
5 Is that correct?

6 A Not for this area. There's -- Compared to
7 other areas in which I've worked, there's very little
8 foliage there.

9 Q I think you also indicated that this was the
10 most recent of two such photographic representations that
11 have been used. Is that correct?

12 A Yes, sir.

13 Q And the first one was prepared when?

14 A It's my understanding that the first one was
15 prepared back in the original submittal of the Environmental
16 Report.

17 Q And approximately what date would that original
18 preparation have been then? About what year?

19 A I don't know, sir.

20 Q Okay. Then I must have misunderstood some-
21 thing, because I thought the earlier photograph that you
22 referred to had been prepared for one of the other popula-
23 tion studies --

24 A Yes, sir, it was --

25 Q -- that you referred to in your --

3-16

1 A It was prepared for use with the 1972 HGAC
2 projections.

3 As I understood your question, it was the date
4 at which the Environmental Report was submitted that I have
5 questions about.

6 Q No, I was interested in the date of the earlier
7 photograph.

8 A Yes. It was back when the '72 HGAC projections
9 were prepared.

10 Q Have you personally ever compared the two?

11 A No, sir.

12 Q -- photographic displays?

13 A I have not.

14 Q Have you done anything to satisfy yourself
15 that the reliability of the method used to extract infor-
16 mation from the earlier photographic display is comparable
17 with the reliability of the method used to extract infor-
18 mation from this photo display?

19 A I reviewed the notes and the methodology
20 outlined in the project file for their earlier work. And
21 nothing struck me as being out of line.

22 Q Okay. Now earlier during Mr. Doherty's cross-
23 examination -- and I believe yesterday also -- you
24 indicated that the number of -- average numbers of resi-
25 dences -- of persons per residence that you used came

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1 from 1970 census data. Is that correct?

2 A Yes, sir.

3 Q Would it be prudent in your estimation to make
4 a determination of whether that multiplier (I believe
5 you've called it) might have changed, based on the results
6 of the 1980 census?

7 A I would like to know what the changes were.
8 I think it would be prudent.

9 Q I infer from your answer that you don't have a
10 feeling for whether 1980 would indicate -- 1980 census
11 results would indicate a change or not. Is that correct?

12 A Not for this study area. The results I've
13 seen for other states indicate the average number of person
14 per dwelling has actually declined slightly.

15 But for this area I cannot answer questions
16 as to where it's going.

17 Q Okay.

18 Do you know whether the NRC Staff has made or
19 caused to be made independently of efforts of the
20 Applicant a population projection of any sort for this
21 area?

22 A Not to my knowledge, sir. I do not know what
23 the NRC Staff has done at all.

24 Q Who funded the 1980 Rice Center study? Do you
25 know?

3-18

1 A No, sir, I don't.

2 Q Apart from who funded it, do you know what was
3 the motivation for its having been made?

4 A No, sir.

5 Q If I remember correctly a comment of yours
6 yesterday, however, I believe you associated a Rice Center
7 study with one or another of the prior studies that have
8 been made in this area -- the Texas Water study or the
9 Houston/Galveston area study. Am I correct? Was there
10 such an association?

11 A There are two Rice Center studies. There's
12 the Rice Center/Dames & Moore, which we've been discussing.

13 There was a slightly earlier Rice Center
14 study which was prepared for the Houston/Galveston Area
15 Council. I don't know whether the Council funded it or
16 not.

17 But that is -- On the report it reads that
18 this was whom this was prepared for.

19 That study, as I understand it, is independent
20 of the projections prepared in 1972 by the Houston/
21 Galveston Area Council.

22 Q That clarifies my confusion.

23 But then, to go one step further: Was it
24 the Rice Center study for Houston/Galveston Area Council
25 that Dames & Moore evaluated when it reached its conclusion

3-19

1 concerning the methodology used by Rice center?

2 A We first obtained the reports and reviewed
3 them in detail. And then our senior economists met
4 with Dr. Charles Sevino, who was in charge of the model
5 for Rice Center, and went through the model with Dr.
6 Sevino.

7 And it was on the basis of both the publica-
8 tions and the review that we decided to go further with
9 Rice Center.

10 Q I see.

11 Was the decision on Dames & Moore's part to
12 evaluate the Rice Center methodology suggested or requested
13 of you by the Applicant; or was it totally a -- other than
14 the identification of Rice Center through the contention,
15 was it totally a sui spontae decision of Dames & Moore?

16 A It was Dames & Moore's decision.

17 JUDGE LINENBERGER: Thank you. I have no
18 further questions.

19 JUDGE CHEATUM: I have one.

20 BOARD EXAMINATION

21 BY JUDGE CHEATUM:

22 Q Was the 1978 study of the Rice Center referred
23 to by the Bishops -- the HGAC study which you spoke of
24 just a little bit ago?

25 A (No immediate response.)

3-20

1 Q The Bishops referred to a 1978 Rice study,
2 which was described in the Board's decision accepting the
3 Bishops' contention.

4 And I'm wondering where that 1978 Rice study
5 fits in relation to your testimony. And I think a little
6 while ago you said -- you explained it; but I'm not
7 sure.

8 MR. COPELAND: Dr. Cheatum, maybe I can help
9 out here.

10 It's my recollection that the Bishop conten-
11 tion does relate to a '78 study. I think at the time that
12 we contacted Dames & Moore to ask them to look at the
13 contention and begin formulating a proposal as to how to
14 address the contention, that we provided them with copies
15 of that '78 study.

16 That's my recollection.

17 I believe that at the time that they went to
18 the Rice Center to look at their studies and start talking
19 with them, they found out that the Rice Center had updated
20 the 1978 study and had this 1980 study that is discussed
21 in here.

22 That's my recollection of the scenario. So I
23 think that the '80 study is really just an iteration of
24 the '78 study with more recent information.

25 Maybe Terry can confirm that understanding.

3-21

1 THE WITNESS: I'm only familiar with the 1980
2 study, sir.

3 JUDGE CHEATUM: I believe that clarifies it.
4 Thank you.

5 MR. COPELAND: All right, sir.

6 JUDGE WOLFE: We will now have cross-
7 examination directed solely to the subjects of the Board's
8 questioning.

9 Mr. Black.

10 RECROSS-EXAMINATION

11 BY MR. BLACK:

12 Q Dr. White, when you indicated to Judge Linen-
13 berger that it would be prudent to go back and look at the
14 1980 census to determine what the residence per household
15 is in this 0 to 10 annular ring that is depicted on the
16 photographic map behind you, are you saying that it would
17 be prudent, in the sense that it's good to update all
18 sources of information; or are you saying that it's
19 prudent in the sense that it may change some of the con-
20 clusions with respect to the population densities within
21 that ten-mile radius?

22 A It's prudent in the sense that the information
23 is more up to date.

24 I do not think any of the conclusions would
25 change.

3-22

1 Q And are you also including the conclusions
2 with respect to the population densities within that ten-
3 mile radius with respect to the proposed guidelines set
4 forth in NUREG-0625?

5 A That's correct, sir.

6 MR. BLACK: No further questions.

7 JUDGE WOLFE: Mr. Scott.

8 RECROSS-EXAMINATION

9 BY MR. SCOTT:

10 Q Dr. White, are you familiar with the trees in
11 the Houston area?

12 A Am I familiar with the what, sir?

13 Q The different types of trees in the Houston
14 area.

15 A No, sir.

16 Q Well, you earlier stated, I think, that the
17 trees should have lost their leaves by October of 1980.
18 Isn't that true?

19 A That would be my guess, sir.

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1 BY MR. SCOTT:

2 Q Do pine trees lose their leaves by that time
3 frame of the year?

4 A Not unless you have different pine trees than
5 we have in Georgia, sir.

6 Q Okay.

7 How about live oaks?

8 A I'm not an expert in biology, sir.

9 Q You're not an expert in what?

10 A In biology.

11 Q When you looked at your photographs within the
12 ten-mile circle, did you notice that there was a lot of
13 foliage on a lot of the trees?

14 A When we looked at it, we did not notice a
15 great deal of foliage, sir.

16 Q Uh-huh.

17 Do you remember what time in October you took
18 those photographs?

19 A The photographs were taken exactly on
20 October 31st, 1981.

21 Q Do you know whether or not --

22 MR. RASKIN: I'm sorry. I think we ought to
23 correct the record. It's October 31st, 1980, is it not?

24 THE WITNESS: Pardon?

25 MR. RASKIN: October 31st, 1980.

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3-24

1 THE WITNESS: Did I say something --

2 MR. RASKIN: You said 1981.

3 THE WITNESS: I'm sorry. It's 1980.

4 MR. RASKIN: Okay.

5 BY MR. SCOTT:

6 Q Do you know when the killing frost took place --
7 the first killing frost took place in the year 1980 for
8 the area around Wallis?

9 A No, sir.

10 Q Okay.

11 Did you assume that there was a certain number
12 of people in each of the structures in the photograph
13 that you saw by the year -- that you took on October 31st,
14 1980?

15 A I think that has been answered, sir.

16 Q Well, I don't think it has.

17 JUDGE WOLFE: In any event, there has been
18 no objection, Dr. White; so answer the question.

19 THE WITNESS: Okay, sir.

20 As I explained before, we use a person per
21 dwelling for each county. The county boundaries are indi-
22 cated on the mosaic.

23 BY MR. SCOTT:

24 Q Well, I specifically phrased my question a
25 little differently. I asked about structures, not dwelling

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1 We will then get into the difference between
2 the two.

3 A All right.

4 MR. RASKIN: I'm going to object to this line
5 of questioning. Really it's just another way of getting
6 back to the question of resident versus non-resident
7 population.

8 And that question supposedly has been asked
9 and answered and put to bed by the Board.

10 Mr. Scott is just trying another way to get
11 to the same place.

12 MR. SCOTT: I'm not getting to that question
13 at all. We're talking only about residence.

14 JUDGE WOLFE: What do you mean "we"? You mean
15 you now?

16 MR. SCOTT: Yes.

17 My question ... that I'm talking about.

18 MR. RASKIN: If he has another purpose, I'll
19 withdraw the objection; and I'll pursue it later if he
20 gets back to it.

21 JUDGE WOLFE: All right.

22 BY MR. SCOTT:

23 Q Okay. My concern is how did you distinguish
24 between a structure and a dwelling?

25 A Unless it was a very, very large structure --

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1 and we saw no evidence of apartment-like parking arrange-
2 ments -- we, for the most part, assumed that structures
3 were dwellings.

4 In other words, we, in my opinion, overcounted
5 the number of residences.

6 Q Okay. Now that's the point.

7 Are you saying then that by your count, every
8 barn had a certain number of people living in it under
9 your assumption?

10 A If we could not identify it as a barn, using a
11 magnifying glass, then we played it conservative and
12 assumed that it was in fact a dwelling.

13 Q How are you going to be able to distinguish a
14 barn from a house, even with a magnifying glass?

15 A There is a difference with some experience
16 in interpreting photographs.

17 Q Explain them.

18 A Well, generally, a barn is associated with a
19 farm of some sort. And most of the farms in this area are
20 single-family farms. So you're able to pick out the
21 location of a house and a barn and often a storage shed in
22 close proximity.

23 Using a magnifying glass you can often ever
24 make out some of the fields in the direct proximity.

25 Q Some of the what?

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1 A Some of the pens, animal pens and what not,
2 in the direct proximity of the barn or the farm area.

3 Q Are you now saying that if you looked at a
4 rural area and you saw three structures, that you would
5 assume one was the barn, one was the house and one is the
6 garage?

7 A No, sir, I didn't say that.

8 Q Okay. I'm still uncertain as to how you
9 distinguish between two houses and a house and a barn of
10 comparable size.

11 A If they were of comparable size, we didn't.

12 Q In other words, you counted them both as
13 houses?

14 A That's right.

15 Q So if they were comparable size, you're telling
16 me you can't distinguish between a house and a barn?

17 A Not from this scale, sir.

18 Q Okay.

19 Are you aware of a number of situations where
20 one road, one dirt road typically, will come off of an
21 area and go to not one family, but maybe several families?

22 A Yes, sir.

23 Q Did you count each one of those as separate
24 residences? Or did you assume that maybe that was a
25 farm with a house and a barn and some other structure?

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1 MR. RASKIN: I'm going to object, Mr. Chairman.
2 He's arguing with the witness. The witness has stated
3 very precisely what they did; if they weren't sure if it
4 was a barn, they counted it as a house.

5 I don't see why we have to get into it any
6 further, other than to badger the witness.

7 MR. SCOTT: Well, Mr. Chairman, he very pre-
8 cisely stated it; and then he very precisely backed off
9 of it in the next question.

10 MR. RASKIN: No, he had said that before. You
11 just hadn't heard the answer. He was clarifying the second
12 time for you, and the record will reflect that.

13 MR. SCOTT: The record will reflect that all
14 structures were counted as residences. And the next
15 question was: Well, if we're out in the country, we
16 would distinguish them as some other types of structures
17 in many cases.

18 JUDGE LINENBERGER: Mr. Scott, the Board's
19 recollection is that the record will not reflect that all
20 structures were counted as residences.

21 I think -- in fact, I'm virtually certain the
22 witness said something a bit different than that.

23 JUDGE CHEATUM: Furthermore, the witness has
24 already indicated that where they were in doubt, they
25 considered it a residence. Therefore, the population

estimates were very conservative ... that is, greater than probably actually existed.

As far as I can see, Mr. Scott, you're not bettering your case any by pursuing that.

MR. SCOTT: Well, that depends on whether or not he sticks with that story. And I felt he had come off of that story very quickly when he said he couldn't tell the difference between a house and a barn.

JUDGE WOLFE: Do you really want to maintain your objection, Mr. Raskin?

MR. RASKIN: I certainly do. He has just admitted --

JUDGE WOLFE: In light of -- As Judge Cheatum points out, it's conceivable that the Intervenor is digging its own hole --

MR. SCOTT: Let me dig my own grave.

MR. RASKIN: Well, okay. If he wants to dig it further, that's fine. But I just don't want him badgering my witness.

JUDGE WOLFE: All right.

BY MR. SCOTT:

Q Did -- Let me ask you this. How many structures did you count within the five-mile radius?

A I don't recall, sir.

Q How many structures did someone else count?

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1 A I don't recall, sir.

2 Q Did you do all of the counting?

3 A No, sir.

4 Q Who else counted?

5 A One of my assistants.

6 Q So now you're relying upon the work of someone
7 else? Is that correct?

8 JUDGE WOLFE: You're arguing with the witness
9 now. It's very obvious. He said what he has done. Do
10 not argue with the witness.

11 BY MR. SCOTT:

12 Q How many people did you have counting these
13 structures?

14 MR. RASKIN: Objection. This is beyond the
15 scope of the Board's questioning.

16 MR. SCOTT: I don't think so. We're talking
17 about visibility and ... on that photograph.

18 MR. RASKIN: I withdraw the objection.

19 THE WITNESS: Shall I answer?

20 MR. SCOTT: He has withdrawn the objection.

21 THE WITNESS: There was myself and one other
22 person.

23 BY MR. SCOTT:

24 Q Does that one other person reside in Atlanta?

25 A No, sir.

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Q Who was the other person?

A One of our employees here in Houston.

Q Name?

A Ms. Wendy Kilpatrick.

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1 BY MR. SCOTT:

2 Q Remember yesterday that I showed you a
3 Rice Center study that you said you were not familiar
4 with.

5 A I was not familiar with the two pages you
6 showed me, sir.

7 Q Are you familiar with the study done by the
8 Houston-Galveston Area Council for the Section 208
9 Federal Water Pollution Act program in approximately 1978?

10 MR. RASKIN: Objection.

11 Unrelated to Board questioning.

12 JUDGE WOLFE: Sustained.

13 MR. SCOTT: Mr. Cheatum -- Dr. Cheatum
14 specifically inquired as to whether or not he was
15 familiar with a different Rice Center study than the one
16 that had been discussed throughout the hearing.

17 So, it seems to me I am right on the question.

18 JUDGE CHEATUM: My question has been answered,
19 Mr. Scott.

20 MR. SCOTT: I'm following up on it. That's
21 what recross on Board questions is.

22 JUDGE CHEATUM: He said that he was not
23 familiar with that study that I referred to.

24 JUDGE WOLFE: So, it does not shoe horn your
25 question, Mr. Scott.

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MR. SCOTT: It does not what?

JUDGE WOLFE: Judge Cheatum's question does not make an allowance for your question. There is no "shoe horn" in which to insert your question.

MR. SCOTT: Even though we're talking about the same study?

(Bench Conference)

JUDGE WOLFE: It was not the same study, Mr. Scott.

And, if it is then the question has been asked-and-answered. So, in either event the Board makes an absolute ruling.

Objection sustained.

BY MR. SCOTT:

Q Maybe I'll rephrase the question.

Did you talk with the Houston-Galveston Area Council any in your preparing your testimony for this contention?

A No.

Q Did you talk to the Texas Water Development Board any?

A No.

MR. RASKIN: I'm sorry. I'll withdraw the objection, but I am going to object to any other questions

4-3 1 along this line for the same reason that I objected before.

c. 2 MR. SCOTT: Well, I don't know what that means
3 there's been a lot of objections.

4 MR. RASKIN: That means it is beyond the scope
5 of the Board's questions.

6 MR. DOHERTY: I have a question.

7 How can there be an "I'm going to object"
8 until there's something to object to.

9 It seems to me that is kind of a covert
10 threat, do some kind of jump on people.

11 That's what he said. I think that should
12 be discouraged.

13 MR. RASKIN: Okay. Should I respond to that?

14 JUDGE WOLFE: You may.

15 MR. RASKIN: My response is that I objected
16 to any further questions along this line because they
17 were beyond the scope of the Board's cross-examination.

18 and, I think that's an absolutely permissible
19 objection.

20 MR. SCOTT: I don't object to Applicant's
21 objection as being improper, but I object to a claim that
22 I'm not following up Dr. Cheatum's question exactly.

23 It turns out that I happen to be heavily
24 involved with that work with the Houston-Galveston Area
25 Council during that time frame and I'm familiar with the

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work that was done and the changes instituted by the political powers that be and all of that.

So, --

JUDGE CHEATUM: But, Mr. Scott, the witness has said that he is not acquainted with that study. He did not use that study in relation to his testimony here; and as far as I'm concerned the question is answered.

The question -- The witness does not know about that study and you're continuing to ask him about the study or about the HGAC council's hiring perhaps of Rice Institute to do a particular study for them. He has said he doesn't know anything about it --

MR. SCOTT: No. Maybe, that's the confusion.

I think that's the confusion.

I was not talking about the study done by Rice Institute or Rice Center, by the way they are two very different operations.

I was talking about a study done by the Houston-Galveston Area Council for Section 208 --

JUDGE CHEATUM: But, that isn't my question. It wasn't the question I asked.

JUDGE WOLFE: Well, proceed with your questions and see where we go.

BY MR. SCOTT:

Q As I remember the Applicant's attorney,

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1 Mr. Copeland, testified that you had been shown a study,
2 a 1978 study, referred to by Mr. Bishop.

3 Did you say that that was wrong? That you had
4 never seen that study?

5 A The only study that I have seen has a
6 published date on it of 1980, produced by the Rice Center.

7 Okay?

8 Q Okay. But how about the study?

9 A But, what that study was used for -- whether
10 it was 208 or whatever, I don't know about its uses by
11 HGAC.

12 Q Okay.

13 I'm talking about the study done by HGAC
14 itself.

15 Do you -- You have not ever seen one of those
16 studies?

17 MR. RASKIN: I object, Mr. Chairman, on the
18 same grounds that it has -- Dr. Cheatum explained and then
19 you explained, it is not related to the Board's question.
20 You can't "shoe horn" this. He's trying to get into other
21 studies and get information beyond the scope of the
22 Board's cross-examination.

23 JUDGE WOLFE: I'll sustain that.

24 BY MR. SCOTT:

25 Q One other question. You've, I think,

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1 testified that you've done a lot of various population
2 studies. So has the Houston-Galveston Area Council.

3 In the Section 208 study that I made reference
4 to, the demographers that did the study came up with
5 certain results and the political powers that be said,
6 "My God we can't do that, it is taking people out of the
7 city limits of Houston and we want them in. You must
8 redo your study." And, within a couple of weeks it was
9 redone.

10 Have you ever had that experience happen to you
11 before?

12 MR. RASKING: Objection, Mr. Chairman.

13 First of all, it's beyond the scope of the
14 Board's cross-examination.

15 Second of all, he's testifying into the
16 record he has no basis for that statement.

17 Third of all, I think it is badgering the
18 witness.

19 MR. SCOTT: Well, I think, considering what
20 we've heard about the number of studies and the studies
21 not seen and forgotten and everything, it's a worthwhile
22 question to ask whether or not he has ever had to
23 redo his results after they were, least ways, preliminarily
24 released due to pressures beyond his own technical
25 expertise.

(Bench Conference)

JUDGE WOLFE: I'll sustain the objection.

It's beyond the scope of Board questioning.

MR. SCOTT: Thank you.

No further questions.

JUDGE WOLFE: Is there redirect, Mr. Raskin?

MR. RASKIN: No redirect.

MR. DOHERTY: Sir?

JUDGE WOLFE: Yes.

MR. DOHERTY: I have a couple of questions.

JUDGE WOLFE: You would like -- I'm sorry.

MR. DOHERTY: There's probably been so much talking this morning, it is easy --

JUDGE WOLFE: You're right, Mr. Doherty.

Your next in line.

MR. DOHERTY: All right. I had a couple of questions.

BY MR. DOHERTY:

Q In the zero to ten mile charts that you have Figures 5 through 9, the figures -- the population figures all come out ten.

In other words, they all end in zero, and yet the other factors have been at various multipliers and so forth.

What did you do to -- It looks like you

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1 rounded off, but what was your round off procedure for
2 conservatism?

3 A Okay.

4 Within five miles of the site, I consistently
5 rounded upward to the nearest tenth.

6 Q Okay.

7 Now, would that be the standard sort of thing
8 if more than four round up to the next highest ten?

9 A No, sir.

10 I had to accommodate that to deal with the
11 engineers at the Nuclear Regulatory Commission.

12 Q Uh-huh.

13 A You see, if there are two or three people in
14 one of these sectors within five miles of the site and I
15 in good demographic practice round to the nearest tenth,
16 I would round to zero and that upset the gentlemen.

17 So, I have since learned that one rounds
18 upward to the nearest ten within five miles, and beyond
19 five miles I follow the standard rounding procedure.

20 Q Okay.

21 Now, on this persons per dwelling problem,
22 I think you testified earlier that a lot of the increased
23 projected population would be in migration.

24 A Yes.

25 Q Now, would in migrants be likely to be of

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1 child-bearing age.

2 A. If I remember correctly, sir, I was not able
3 to give a definitive answer on that same question
4 yesterday.

5 They may or may not be. It depends on the age
6 and the traditional age of most migrants is somewhere
7 between the ages of 20 and 55.

8 Q Did this factoring done in these projections
9 take into account the average age of people who live in
10 Houston?

11 MR. RASKING: I'm going to object to this line
12 of questioning.

13 It is unrelated to any Board question.

14 MR. DOHERTY: Well, I think the persons per
15 dwelling issue came up in the Board question from Dr.
16 Linenberger, and I think it would be of value to
17 establish whether he has considered this city typical
18 with regard to age or atypical.

19 JUDGE WOLFE: I'll sustain that objection.

20 MR. DOHERTY: Okay.

21 I could tell that before you said it, there
22 were three waving heads.

23 (Laughter)

24 No further.

25 JUDGE WOLFE: Maybe I can save myself the

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1 energy of voicing or ruling, you can just watch the heads.
2 But, I'll keep on.

3 All right. Redirect, Mr. Raskin?

4 REDIRECT EXAMINATION

5 BY MR. RASKIN:

6 Q I've got one question to ask.

7 Despite any difficulties that may occur in
8 reading the and taking population projections off of maps
9 such as the one behind you, Dr. White, do you believe that
10 it's more accurate than taking the projections from a
11 study? From a demographic study?

12 A I feel that using the aerial photography is
13 the most accurate approach of giving a population
14 distribution other than an actual house-to-house census
15 in which you locate the houses on here and actually visit
16 them.

17 Q Thank you --

18 A Most censuses give it to you in a political
19 subdivision and this is definitely more accurate than that.

20 MR. RASKIN: Thank you.

21 No more questions.

22 JUDGE WOLFE: Is the witness to be permanently
23 excused?

24 MR. RASKIN: Yes, sir.

25 JUDGE WOLFE: The witness is permanently

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1 excused. We will recess until 11:30 a.m.

2 (Whereupon, the witness was permanently
3 excused.)

4 (A brief recess was taken.)

5
6 JUDGE WOLFE: All right. The hearing is
7 resumed.

8 JUDGE CHEATUM: Mr. Doggett have you advised
9 the Board whether you expect to reply to Dr. Hamilton's
10 affidavit on the Summary Disposition Motion on Full-Level
11 Radiation?

12 MR. DOGGETT: Dr. Cheatum, as soon as I
13 received Dr. Hamilton's supplemental affidavit, I sent
14 a copy of it to Dr. Bross with a request that he advise
15 me whether or not he would be able to prepare a response.
16 And, I have not heard from him yet.

17 As soon as I hear from him, I will advise the
18 Board as to whether or not he will file a response to Dr.
19 Hamilton's affidavit.

20 JUDGE WOLFE: Well, it is my understanding that
21 -- my recollection that the Board requested that within
22 five days you were to advise the Board one way or the
23 other wasn't that what we requested you to do?

24 MR. DOGGETT: Your recollection is probably
25 better than mine, but I assume that that is accurate.

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1 Let me do this. I felt like he had to have a
2 .copy of Dr. Hamilton's affidavit before he could tell me
3 what to do and that already is in the mail to him and I
4 assume he probably has already gotten it.

5 I will attempt to call him at the first
6 opportunity and find out if he has received my affidavit --
7 Dr. Hamilton's affidavit and to tell me on the phone
8 whether or not he intends to submit a response.

9 JUDGE WOLFE: Well, all right.

10 We'll await your advice then.

11 All right.

12 Mr. Raskin, your next witness is?

13 MR. RASKIN: Mr. Hussey.

14 JUDGE WOLFE: Mr. Hussey, on TexPirg Contention
15 1, is that correct?

16 MR. RASKIN: We would like to -- We've got --
17 He's got two pieces of testimony and we'd asked the Board
18 last week whether we could have him cross-examined on
19 both pieces of testimony at one time, so that we didn't
20 have to bring him back twice.

21 I'm not -- I don't precisely recollect
22 whether the Board had stated that that was okay.

23 JUDGE WOLFE: Oh, I think we stated that
24 it was okay that he would testify first and be
25 cross-examined on TexPirg Contention 1. And, then,

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1 he would be -- his direct testimony would be presented
2 and he would be cross-examined on the barge-slip matter.

3 Also, we will consider them discretely, in
4 other words; but he will testify as to both while he is
5 on the stand.

6 MR. RASKIN: May I make a suggestion that we
7 proceed with the barge-slip testimony first since that
8 is the testimony that contains the witnesses qualifications
9 and I believe it would be easier to proceed in that manner
10 rather than having to refer to testimony that's not yet
11 placed into the record.

12 We will proceed to put them both in at one time
13 if you'd prefer to do that also.

14 MR. DOGGETT: I would prefer that we go first
15 with the barge-slip, so I certainly have no objection to
16 that suggestion.

17 MR. SCOTT: Well, Mr. Chairman, I think we'll
18 all be in agreement here, it seems to me like we should
19 go with the barge-slip first and, it seems to me like the
20 record would just read a little smoother for everybody if
21 he makes two separate presentations of the evidence so
22 that the written testimony is encompassed with the nearby
23 cross-examination and then later on, maybe a day or two
24 later on --

25 JUDGE WOLFE: Well, first let's proceed with

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1 the barge-slip testimony. All right.

2 MR. RASKIN: Thank you.

3 MR. COPELAND: Mr. Chairman, I'm going to put
4 Mr. Hussey on on that piece of testimony.

5 JUDGE WOLFE: All right.

6 MR. COPELAND: I would ask that the witness
7 be sworn.

8 Whereupon,

9 JAMES R. HUSSEY

10 a witness herein, having been duly sworn and cautioned
11 to testify the truth, the whole truth and nothing but the
12 truth, was examined and did testify upon his oath as
13 follows:

14 DIRECT EXAMINATION

15 BY MR. COPELAND:

16 Q Mr. Hussey, do you have in front of you a ten
17 page document entitled Direct Testimony of James R.
18 Hussey on Behalf of Houston Lighting & Power Company,
19 RE: TexPirg Additional Contention 1/Barge Slip?

20 A I do.

21 Q Was this prepared by you or under your
22 supervision?

23 A That is correct.

24 Q Is it true and correct to the best of your
25 knowledge and belief?

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A Yes.

Q Do you adopt this as your testimony in this proceeding?

A I do.

MR. COPELAND: Your Honor, I would move at this time for the incorporation of Mr. Hussey's testimony into the record as though read.

MR. SCOTT: Mr. Chairman, there will be some Voir Dire, I believe.

JUDGE WOLFE: Is there an attachment to this?

MR. COPELAND: Yes, sir.

I can go ahead and identify the attachment and move for its admission now, if you wish.

JUDGE WOLFE: Well, that's also to be incorporated into the record as if read?

MR. COPELAND: Well, this particular document, I think, we would mark as a separate exhibit.

It's a little too bulky just to bind into the records.

JUDGE WOLFE: Well, all right.

Proceed, then, Mr. Copeland.

BY MR. COPELAND:

Q Do you have in front of you a document entitled Applicant's Exhibit No. JRH-1, which is a report by Dames & Moore on the environmental assessment and

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1 responses to NRC questions Transportation of the Reactor
2 Pressure Vessel, Allens Creek Nuclear Generating Station
3 for Houston Lighting & Power Company, dated March, 1980?

4 A Yes, I do.

5 Q And, is this the report that is referred to
6 in your testimony?

7 A That is correct.

8 MR. COPELAND: Your Honor, I would also ask
9 that this exhibit be marked as Applicant's Exhibit No 16,
10 since we've withdrawn the last exhibit marked 16, and move
11 this into evidence.

12 JUDGE WOLFE: The Dames & Moore report referred
13 to by Mr. Hussey in his written direct testimony is
14 marked for identification as Applicant's Exhibit 16.

15 (The document referred to was marked
16 for identification as Applicant's
17 Exhibit 16.)

18 All right.

19 Any objections to the incorporation into the
20 record of Mr. Hussey's testimony or Voir Dire?

21 MR. DOHERTY: Yes, sir.

22 There is Voir Dire, and we prefer to do it
23 alphabetically with Mr. Doggett first.

24 JUDGE WOLFE: All right.

25 Mr. Doggett.

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1 BY MR. DOGGETT:

2 Q Mr. Hussey, on page 2 of your testimony
3 concerning the barge slip, you list a number of projects
4 that you have been involved in, many of these in the
5 country of Iran.

6 At the top of page 2, lines 3, 4 and 5, you
7 discussed having been involved in several petroleum
8 industry projects in Iran including the evaluation and
9 monitoring of preloading of a tank farm for LPG facilities.

10 A foundation investigation for a refinery
11 and an investigation for a tank farm and associated
12 jetties in the Persian Gulf area.

13 Are those all of the petroleum industry
14 projects that you were involved in in the country of Iran?

15 A No.

16 Q What other petroleum industry projects were
17 you involved in?

18 Are they listed further on in your testimony
19 or did you not list them?

20 A They are not listed.

21 I've been involved in pipeline studies, and
22 other activities of a smaller nature. Some refinery
23 activities.

24 Q What company were you working for?

25 Were you working for the Iranian government?

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A Principally, IOOC, which is the Iranian Oil Operating Companies. It is no longer in existence.

Q Were -- For those three facilities or three projects which you listed at the beginning, were you required to do any environmental impact studies?

A Not for those projects.

Q So, that was strictly just an engineering type activity?

A Principally.

Q Were those three projects actually built and operated?

A Yes.

Q Now, on to lines 9 and 10 -- or 8, 9 and 10 where you mention you have been a project manager on several alternative sites for petroleum handling facilities in the northeast United States.

What companies were you working for then?

Or what companies did you perform those studies for?

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4-19 1 A Primarily, for Gulf Interstate Engineering
c. 2 Company, or one or two other subsidiaries of that company.

3 Q Is that a part of Gulf Oil Corporation?

4 A No, it is not.

5 Q What were the nature of those -- the work you
6 did; or what was the nature of the work you did for those
7 specific facilities?

8 A Again, I was principally involved in the
9 geotechnical engineering.

10 However, on one of the projects we were
11 involved in some licensing with the Environmental
12 Protection Agency in the State of Pennsylvania.

13 Q Were facilities actually built and operated
14 as a result of your studies?

15 A Yes.

16 Q Partially as a result of your studies?

17 A Yes, sir.

18 Q Up to now, have any of the studies or
19 engineering studies or work that you have done on the
20 facilities in Iran and these facilities in the northeast,
21 was any of that work beneficial to you in preparing the
22 Dames & Moore study on the barge slip?

23 MR. COPELAND: I'm going to object to that
24 question, Your Honor.

25 It seems to me that that is answered in the

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1 direct testimony. He's explaining that his background
2 as a project manager for doing these types of assessments.

3 And, it is clear to me that his testimony
4 directly states that all of these things give him a broad
5 background in project management and doing the kinds of
6 overall environmental assessments that -- you know, this
7 barge slip analysis is one part of the whole environmental
8 report analysis done by Dames & Moore.

9 MR. SCOTT: Mr. Chairman?

10 JUDGE WOLFE: Let the cross-examiner or the
11 person taking part here answer first.

12 Yes, Mr. Doggett.

13 MR. DOGETT: Well, he does list all of these
14 projects, but I don't think he -- I assume it is
15 implied that these things were of assistance to him but he
16 never comes out and says it.

17 I am trying to establish whether or not his
18 experience --

19 JUDGE WOLFE: All right.

20 I'll overrule the objection.

21 THE WITNESS: With respect to technical
22 application, I would say not.

23 They were of a geotechnical nature, and in
24 some regard, however, my testimony on the barge slip
25 involves dredging and so on, which is of a geotechnical

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1 nature.

2 So, in that case I would say they do.

3 Q Okay.

4 Do you have any training of any kind in the
5 field of biology?

6 A I don't have any academic training in biology.

7 Q Okay.

8 Would it be fair to say that your experience
9 in biology comes as a result of working with other persons
10 who are trained in that field?

11 A That's correct.

12 Q What about the subject -- Is the same answer
13 true for the subject of geology?

14 A No.

15 Q You have had specific training in geology?

16 A Yes.

17 Q What about the subject of land-use?

18 A No academic training.

19 Q What about the subject of demography?

20 A I have not.

21 MR. COPELAND: I'm going to object -- He
22 answered the question.

23 BY MR. DOGGETT:

24 Q And hydrology?

25 A No academic training.

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Q On page 2, line 17, 18, 19, 20, 21 and 22, you mention that you were involved in the study involving a proposed nuclear power plant in Iran.

Was that facility actually constructed?

A For the most part, I think, the Iran, Iraq war took care of continuing construction on that facility. To my knowledge, the first unit was completed.

Q It is, apparently, not in operation because of the thing you just mentioned?

A I'm sure it is not in operation.

Q Does that facility involve any construction of barge slips?

A Yes.

Q And, where were the barge slips going to be built?

A For off-loading equipment for the contractor Bieuchere, which is a location of the nuclear units.

Q This is off what body of water?

A The Persian Gulf.

MR. DOGGETT: I pass the witness on Voir Dire.

JUDGE WOLFE: Mr. Doherty?

BY MR. DOHERTY:

Q Mr. Hussey, you say you are a partner with Dames & Moore. Does that mean you are a part owner?

A Yes, sir.

4-23 1 Q Do you have a position with Dames & Moore,
C. 2 also?

3 A Yes.

4 Q By title? What's that?

5 A I'm the technical manager of the Houston office
6 And, I'm a senior engineer and I'm a project manager.

7 Q Okay.

8 When did you get your B.S. degree from
9 Berkeley?

10 A Pardon me?

11 Q Class of what?

12 A 1964.

13 Q And, how much later did you get the Master
14 of Science?

15 A 1966

16 Okay.

17 Have you published in any journals of
18 these societies that you belong to or professional
19 organizations that you belong to rather?

20 A No, I haven't.

21 Q Have you published in any journals, quarterlies
22 or anything like that?

23 A Pardon me? I didn't understand that.

24 Q Have you published in any journals, or
25 quarterlies or types of periodical literature?

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1 A Not outside Dames & Moore's internal
2 publication.

3 Q It seems -- I want to ask you this, although
4 it may be an obvious question, but it's still a doubt.

5 What is a foundation in this sort of thing --
6 type of engineering you've done?

7 A This building sits probably on mass or piles
8 or something, those structures are the foundation for the
9 building.

10 Q I see. As I expected.

11 The Environmental Report for a crude oil
12 loading system you mentioned on page 2, how large was that
13 report?

14 A Would you refer to the cite, please?

15 Q Page 2, line 13.

16 A Several hundred million dollars, the one in
17 Indonesia.

18 Q Okay.

19 Now, but your environmental report how large
20 was that?

21 A We did not prepare an environmental report
22 for that facility.

23 Q Well, you've stated here starting on line 12,
24 "I have overseen the preparation of an environmental
25 report . . .".

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- 1 A Oh! Excuse me.
- 2 I --
- 3 Q Yes. That's what I was referring to --
- 4 A I was referring to the facility in Indonesia.
- 5 Q Uh-Hmm.
- 6 Well, then there was an environmental report
- 7 for sure?
- 8 A May I read what I think you're asking?
- 9 Q Sure.
- 10 A I have overseen the preparation of an
- 11 environmental report for an offshore crude oil unloading
- 12 system, etc. Is that what you are referring to?
- 13 Q Yes.
- 14 A That is the Seadock facility.
- 15 Q Now, how large was the environmental report
- 16 that came out from doing that, do you recall? Can you give
- 17 us an estimate?
- 18 A Probably a foot and a half in thickness.
- 19 Q Okay.
- 20 And, have you been involved in the development
- 21 of any types of unloading facilities on -- well, that
- 22 would be for natural gas or any kind of thing like that,
- 23 where it was on a river?
- 24 A Would you, please, clarify what you mean by
- 25 unloading facility?

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1 Q Well, you had mentioned crude oil unloading
2 system here and that you had also been involved in
3 loading of large equipment which might even include a
4 reactor vessel from the Persian Gulf.

5 And, those strike me as probably not fresh
6 water bodies, so I'm wondering -- well, rivers. They are
7 not rivers.

8 So, I'm wondering if you have done any kinds
9 of assessments that involve rivers?

10 A Several kinds of investigations associated
11 with docks on rivers, on other seawater projects that I
12 can think of.

13 Q These were fresh water rivers?

14 A Um-Hmm.

15 Q Okay.

16 MR. DOGGETT: I guess that's all the questions
17 I have, Your Honor.

18 Mr. Scott may have some.

19 JUDGE WOLFE: Excuse me, Mr. Black. Did you
20 have -- Did you wish to conduct Voir Dire at all?

21 MR. BLACK: No, Your Honor.

22 JUDGE WOLFE: Mr. Scott.

23 BY MR. SCOTT:

24 Q Mr. Hussey, what have you had in the way of
25 any formal education in environmental affairs?

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1 A I haven't had any formally.

2 Q What did you consider this study report of your
3 testimony to be involved in?

4 MR. COPELAND: I'm going to object to that
5 question, Your Honor.

6 I don't believe that that relates to the
7 witness' qualifications.

8 JUDGE WOLFE: Well, in any event -- in
9 addition to that I think the question is much too broad.

10 So, I'll sustain the objection on Applicant's
11 grounds and the Board's.

12 BY MR. SCOTT:

13 Q Okay.

14 You've had no formal training in environmental
15 things, what work have you done that resulted in the
16 publishing, I'm talking about work that you did as opposed
17 to work you supervised, that resulted in the publication
18 of any environmental -- let's say a publication that took
19 place in an environmental journal?

20 A That I did personally?

21 Q Yes.

22 A Well, I believe I have answered that.

23 I have not published in an environmental
24 journal.

25 Q What seminars or speeches -- well, let's say

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1 have you as far as seminars of an environmental nature have
2 you given -- presented any papers?

3 A I haven't.

4 Q Are you a member of any environmental
5 organizations?

6 A I am a member of the Sierra Club.

7 Q You going to the meeting tonight?

8 A I hadn't planned to.

9 Q Okay.

10 Have you been to a meeting in the last three
11 years of the Sierra Club?

12 MR. COPELAND: I'm going to object to the
13 relevance.

14 MR. SCOTT: I think it is very relevant.

15 MR. COPELAND: No, it's not.

16 MR. SCOTT: You can't say he's a member of an
17 organization, you know, get by paying his ten dollars
18 and claim any credit for that.

19 JUDGE WOLFE: Well, that goes to education
20 and experience and training in environmental matters.

21 I'll overrule the objection.

22 THE WITNESS: I don't recall.

23 BY MR. SCOTT:

24 Q Does that mean you don't recall ever attending
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1 or you don't know if it was between a hundred and two
2 hundred?

3 A I don't recall attending a meeting.

4 Q Okay.

5 Are you sure that your dues are still paid up?

6 A If I'm not mistaken, I think they are due
7 about this time and I'm not sure whether I've paid that
8 yet or not.

9 Q Okay.

10 Did you visit the site on the San Bernard
11 River?

12 A Yes, sir.

13 Q When.

14 A I don't recall the exact date, exactly, it was
15 in early 1980.

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1 BY MR. SCOTT:

2 Q Did you take part in any surveying of the
3 cross sections of the river?

4 A Not personally.

5 Q Okay.

6 Q Did you take part personally in any field
7 surveys in the area?

8 A Yes, sir.

9 Q How many trips down there did you take to do
10 that?

11 A I believe I have been to the site twice on one
12 trip. Dr. Alan Smith, an associate of mine, and I reviewed
13 the area of the site and the surrounding vicinity and the
14 entire route.

15 Q Okay.

16 Is that one trip?

17 A That was on one trip.

18 Q How about the other time you were there?

19 A Just a reconnaissance.

20 Q What do you do on a reconnaissance?

21 A Observe and ...

22 Q Okay. The point I'm getting at: Did it take
23 you five minutes to walk across this? Is that your
24 reconnaissance, or did you spend three days there? Camp
25 out and listen to the whippoorwills or whatever?

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1 A A reconnaissance consists of getting out and
2 walking around the site and looking at the area up and
3 down the river and doing the same things at the Varner
4 Creek crossing and at other locations between the ACNGS
5 site and the offloading facility.

6 Q Do you know whether or not there's any whip-
7 poorwills in that part of Texas?

8 MR. COPELAND: Objection, Your Honor. That
9 does not relate to Mr. Hussey's qualifications.

10 MR. SCOTT: Sure, it does.

11 JUDGE WOLFE: Objection overruled.

12 MR. SCOTT: That wasn't that surprising.

13 THE WITNESS: Would you repeat the question,
14 please?

15 BY MR. SCOTT:

16 Q I say do you know whether or not there are any
17 whippoorwills in that part of Texas?

18 A Not from my personal knowledge, no.

19 Q Okay.

20 Let's go a little bit more into detail and
21 exactly what you did, personally, yourself, in the gather-
22 ing of the technical data to put this report together?
23 Could you expound upon that?

24 A Could you be more specific, please?

25 Q Okay. What date did you first become aware

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1 that your firm was going to be working on this project?
2 By "this project," I mean this particular report on the
3 transportation of the reactor vessel up the San Bernard
4 River.

5 A I'm not sure of the specific date. But I'll
6 review my activities, if that's what you --

7 Q Could you say approximately what date?

8 A Late 1979.

9 Q Was it after the Board here had specified
10 that such a study should be done?

11 A I believe that's correct.

12 Q Okay.

13 Go ahead then and relate the part that you have
14 done personally.

15 A My role as the project manager is to select
16 principal investigators that are qualified in specific
17 areas of expertise needed for environmental studies, as
18 an example.

19 Q Do you consider that as being part of your
20 personal work, of selecting someone else to do it?

21 A Both as a project manager and as the technical
22 manager of the Houston office, yes, I do.

23 Q Go ahead.

24 A In this project with individuals whom I
25 consider experts in certain areas, I formulated the scope

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1 of the activities, participated in some of the investiga-
2 tions that they undertook under my direct supervision,
3 and then reviewed the products that we eventually pro-
4 duced.

5 Q Okay.

6 So far I haven't heard anything that you per-
7 sonally did in the way of personally gathering the data.

8 A Much of the information regarding the pro-
9 posed nature of construction involved dredging the barge
10 slip. I obtained information regarding the methods to be
11 used to conduct that activity.

12 Q You obtained information. Does that mean that
13 you asked HL&P how they wanted to do it?

14 A Not exactly, no.

15 Q Expound upon that a little bit. If it wasn't
16 exactly that, what really was it?

17 A There are contractors that would be hired to do
18 this activity. They proposed certain methods to do it.
19 I review with them what methods they would be using, then
20 assess the impacts of those methods on the particular land
21 that we're evaluating.

22 Q Did this occur after they had bid on a contract
23 to do the job?

24 A I'm not aware of that.

25 Q Has a contract to do the job even been let

5-5

1 yet?

2 A That's not part of my knowledge.

3 Q Do you know whether or not these contractors
4 had even visited the site before they were telling you how
5 they proposed to do the job?

6 MR. COPELAND: Objection. It does not relate
7 to Mr. Hussey's qualifications.

8 MR. SCOTT: Well, I think it does relate.
9 If the gentleman has decided that what his job is ... is
10 to accept the proposals of third parties that have not
11 even visited the site, there's really no need to him even
12 to be involved in the project. You could just let the
13 contractors write this report.

14 MR. COPELAND: That's the most ridiculous
15 argument I've heard yet.

16 That means that Houston Lighting & Power
17 Company cannot hire an independent consulting firm to do
18 an environmental analysis for a nuclear plant because
19 Houston Lighting & Power Company has selected the nuclear
20 plant.

21 JUDGE WOLFE: Say no more.

22 Objection sustained.

23 BY MR. SCOTT:

24 Q Okay. Now was it damp and rainy the day you
25 visited the site?

5-6

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1 A No, sir.

2 Q Did you spend any time walking around in the
3 water anyway?

4 A Walking around in the water?

5 Q Uh-huh.

6 A What water?

7 Q That's what I'm trying to find out, if you
8 were actually at the site or not.

9 A I did not go into the river.

10 Q Uh-huh.

11 Is that your understanding, that the only water
12 on that site is in the river?

13 A That's not what I said.

14 Q That's why I asked you if you walked around
15 in the water any.

16 MR. COPELAND: What water, Mr. Scott?

17 MR. SCOTT: Anywhere. He said it wasn't in
18 the river. Now I'm asking if he walked around in the
19 water outside the river.

20 MR. COPELAND: Well, I'm going to object to
21 this line of questions, Your Honor, for two reasons.
22 First of all, it has not been established, as a matter of
23 fact, that there is any sort of water to walk around in,
24 other than in the river.

25 And, secondly, it has absolutely nothing to do

5-7

1 with Mr. Hussey's qualifications.

2 He has stated that he was on the site and
3 went down there.

4 And now this is just badgering the witness.

5 MR. SCOTT: And I'm working on impeaching that
6 statement that he has ever visited the site.

7 (Bench conference.)

8 JUDGE WOLFE: Well, I find it objectionable
9 that you're just talking about water. If you will ask
10 him -- ask him to identify what waters there are in that
11 area, I have no problem. But when you ask general
12 questions that way, it's much too vague.

13 Ask him a specific question, Mr. Scott, as to
14 what bodies of water are in the area of the site. I have
15 no problem with that.

16 MR. SCOTT: Okay.

17 BY MR. SCOTT:

18 Q Do you know what a wetland is?

19 A Yes, sir.

20 Q Are there wetlands at this site?

21 A They're denoted as wetlands on Figure 2 of
22 our drawing.

23 Q That's not the question.

24 A I believe in our document we categorize these
25 as not wetlands as defined by the Environmental Protection

1 Association.

2 Q Okay. Let me put it this way. When you were
3 at the site, did you see any wetlands?

4 A There was some water, but it was not as wet
5 as when our biologists did a detailed survey of this
6 site.

7 Q Were you with the biologist when he did this
8 detailed survey?

9 A In my first trip I was with our senior
10 ecologist, as I mentioned, Dr. Alan Smith. A more de-
11 tailed site mapping study was subsequently conducted by
12 Ms. Georgia Henderson.

13 I did not go to the site with Ms. Henderson.

14 Q How long were you there with Dr. Smith?

15 A Four or five hours.

16 Q -- on the site. I'm not talking about the
17 trip up and down the highways.

18 A Including the dock across the river and looking
19 at the adjacent facilities, probably three or four hours.

20 Q Did you climb upon any structures on the
21 site?

22 MR. COPELAND: I'm going to object to the
23 relevance, Your Honor. This is just going nowhere.

24 MR. SCOTT: We're trying to decide if he was
25 at the site, and if so, how long.

1 MR. COPELAND: He has answered how long he
2 was there, and he has answered that he was at the site.

3 MR. SCOTT: Yes. And I'm trying to impeach
4 that.

5 JUDGE WOLFE: The question is what structures
6 did he --

7 MR. SCOTT: Climb on while he was at the
8 site.

9 JUDGE WOLFE: How does this bear on question-
10 ing -- or discrediting his expertise?

11 MR. SCOTT: Well, it's my belief that what
12 we've got here is a high company official -- in fact,
13 literally a partner in the company -- who has accepted
14 the work done by other people ... I'm assuming they're
15 within his company.

16 And he's coming down here to testify as an
17 expert. One does not become an expert by having experts
18 work for them, because there's no way you can know
19 whether or not they're an expert, unless you're an
20 expert.

21 There's no way you can know whether or not
22 their conclusions are valid or not.

23 And so far I have not seen any indication
24 that this gentleman has got any right to be coming in and
25 saying he's personally aware of these things, and he

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1 personally knows that they're correct.

2 And so far I've seen no indication that he's
3 an expert on environmental affairs. And this is an en-
4 vironmental hearing. His reports concern strictly
5 environmental conditions.

6 And I propose that HL&P be allowed to submit
7 some people who have done the detailed technical work, if,
8 in fact, it was ever done.

9 MR. COPELAND: Your Honor, I didn't hear any-
10 where in that whole explanation a statement as to why it's
11 important as to what structure he had climbed up on.

12 MR. SCOTT: Well, the point is --

13 MR. COPELAND: I would move to strike the
14 whole statement.

15 MR. SCOTT: The point is if he was not even at
16 the site enough to know about what structure I'm talking
17 about, he certainly wasn't there enough to personally do
18 any significant amount of work.

19 MR. COPELAND: I don't believe you've ever
20 identified the structure you're talking about.

21 MR. SCOTT: I'm going to let him do that.

22 JUDGE WOLFE: I'll overrule the objection.

23 All right.

24 THE WITNESS: The question was --

25 JUDGE WOLFE: What, if any, structures did you

5-11

1 climb on at the site?

2 THE WITNESS: I don't recall climbing on any
3 structures.

4 BY MR. SCOTT:

5 Q Did you see any structures on the site that you
6 could have climbed on?

7 A On the physical property?

8 Q Yes.

9 A Trees.

10 Q I'll include trees.

11 A Yes, certainly.

12 Q Any metallic structures?

13 A I don't recall.

14 Q Uh-huh.

15 Did you see any across the river?

16 A Yes.

17 Q Describe that.

18 A It was a fairly new dock constructed for
19 Phillips to offload --

20 Q A what?

21 A Dock, barge offloading dock.

22 There was also an abandoned -- it looked like
23 a quarry -- gravel ... where gravel would have been
24 dumped to offload into trucks, a facility like that.

25 MR. SCOTT: Well, I believe he has been at the

5-12

1 site at least once anyway.

2 JUDGE WOLFE: Mr. Scott, I have warned you,
3 and I have warned other counsel about commenting on the
4 testimony of witnesses testifying -- particularly of
5 witnesses.

6 This adds nothing to the record. And I would
7 advise that these sort of comments and/or statements or
8 attempted testimony by representatives or by counsel does
9 not form, and will not form, a proper part of any
10 proposed findings.

11 So it's really wasted on the Board for you to
12 do it, and we find it objectionable in any event.

13 So all are advised. Stop it. All right.

14 MR. SCOTT: Okay. I meant that to be
15 actually helpful to him.

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1 BY MR. SCOTT:

2 Q I want to pin down a little more closely now
3 what you did during that four to five hours that you were
4 at the site that first time.

5 You did testify you were at the site for four
6 to five hours. Is that correct?

7 A I believe I said three to four hours.

8 Q Three to four.

9 And you did what?

10 A We looked at the --

11 Q I want to know what you did.

12 A With Dr. Al Smith, we were together.

13 We looked at the area upstream and downstream
14 of the proposed barge slip area, investigated the site
15 area, looked at the dock across the river and climbed up
16 the facility that was used for unloading sand, inspected
17 the bridge which is immediately upstream of the site,
18 and the condition of the roads at that bridge and the power
19 lines that run across that area.

20 Q How long did it take to do that?

21 A I believe three to four hours.

22 Q Did you leave out a lot of sitting time?

23 MR. COPELAND: Your Honor, I'm going to object
24 to that question.

25 JUDGE WOLFE: I didn't catch it. What sort of

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1 time?

2 MR. SCOTT: Sitting.

3 JUDGE WOLFE: Sitting time?

4 MR. SCOTT: Yes.

5 MR. COPELAND: This has really gone far beyond
6 anything that's necessary to probe the basis of this man's
7 expertise ... qualifications to do these types of
8 analyses and to appear here as a witness.

9 MR. SCOTT: Mr. Chairman, he has claimed some
10 three to four hours he was not only at the site, but also
11 across the river from the site.

12 And the diagrams will show that all of that is
13 within a matter of a few hundred yards of each other.

14 And so far I've heard a description of things
15 that could be accomplished in approximately 15 or 20
16 minutes. And so I'm wanting him to describe what else
17 he did, or did he spend a lot of time sitting.

18 JUDGE WOLFE: Well, actually when we get right
19 down to it -- and this objection has not been made in a
20 specific fashion -- but aren't you really engaging now in
21 cross-examination rather than voir dire?

22 Voir dire goes to establishing the competency
23 of the witness to testify at all. What you're doing is
24 seeking to discredit the bases for anything that the
25 witness will testify to.

5-15

1 So I think you are departing from the proper
2 procedures upon voir dire.

3 And on its own motion, the Board will now
4 call a halt to this line of cross-examination improperly
5 on voir dire.

6 You may continue on voir dire to question
7 the expertise of this witness.

8 MR. SCOTT: Okay.

9 BY MR. SCOTT:

10 Q While you were there that three to four hours,
11 do you have with you any data that you collected concern-
12 ing, say --

13 JUDGE WOLFE: Obviously, I didn't make myself
14 clear. This is cross-examination you're attempting to
15 engage in.

16 You may go to the witness' qualifications, his
17 background, his training and his experience. But you may
18 not go into the nuts and bolts of what he did do in the
19 preparation of his present testimony, in writing up his
20 report or whatever. This you do on cross-examination.

21 MR. SCOTT: As a matter of clarification, Mr.
22 Chairman -- Maybe I misunderstand you.

23 But my understanding is that you're saying
24 that we could -- let's talk about a hypothetical situation
25 where we have got an admitted expert by training and

5-16

1 education ... just the best in the country --

2 JUDGE WOLFE: Is that the case we have here?

3 MR. SCOTT: No.

4 JUDGE WOLFE: Then why are we talking about
5 it?

6 MR. SCOTT: To understand the scope of my
7 continued voir dire.

8 The thing I'm hung up on is I presume that
9 if I can show that the world's best expert on a particular
10 subject did not spend any time working on that subject,
11 then he's still not qualified to testify on that subject
12 in this hearing.

13 MR. COPELAND: That's wrong.

14 MR. SCOTT: You're saying just by virtue
15 of being an expert in general, that all of a sudden you
16 then can be an expert in a particular subject ... in a
17 particular project, a particular location.

18 I think that would be wrong --

19 JUDGE WOLFE: Well, you may have problems with
20 the Board's ruling. But the Board has ruled, and you will
21 follow what we've ruled.

22 We're not precluding you from cross-
23 examining this witness at the time of cross-examination.
24 You can bring up all of the matters that may serve to
25 discredit him.

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1 But at this point we're merely examining the
2 competency of this witness, his background and training
3 to qualify him as a witness.

4 MR. SCOTT: Okay.

5 JUDGE WOLFE: If he has no training, nothing
6 at all in his background, then, obviously, his testimony
7 doesn't go in; and you have no occasion to cross-examine.

8 MR. SCOTT: Well, that point has already been
9 conceded. So I guess I would move that this testimony
10 not be allowed in because the witness has already ad-
11 mitted that he has no environmental training.

12 MR. COPELAND: Is that the basis for the --

13 MR. SCOTT: Yes.

14 JUDGE WOLFE: In other words, you object to
15 the incorporation into the record of the witness' testi-
16 mony?

17 MR. SCOTT: For the very reason I understood
18 you to just give, the fact that he has no ... no training
19 in the subject matter of the testimony.

20 JUDGE WOLFE: All right.

21 MR. COPELAND: Is that your motion, Mr.
22 Scott?

23 MR. SCOTT: That's the first motion.

24 MR. COPELAND: Your first motion?

25 MR. SCOTT: The present motion. I'm not

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1 through with voir dire yet. But there may not be any need
2 to continue it, if that motion is upheld.

3 JUDGE WOLFE: Well, I suggest you complete
4 your voir dire, and then voice your objection and we can
5 rule upon anything that you bring out in your voir
6 dire.

7 I don't want to segmentize the voir dire.

8 MR. SCOTT: I'll end my voir dire then and
9 I'd like to have that motion --

10 JUDGE WOLFE: All right. It's an objection;
11 it's not a motion.

12 MR. SCOTT: Well, I mean it to be --

13 JUDGE WOLFE: You object to the incorporation
14 into the record as if read. That was the request of
15 Applicant's counsel.

16 All right. Your objection has been made.

17 MR. COPELAND: Well, I would just respond,
18 first of all, Your Honor, that that motion is premised
19 on the statement by Mr. Scott that there's nothing in the
20 record to establish that Mr. Hussey has any training with
21 respect to environmental assessments.

22 To the contrary his statement of qualifica-
23 tions demonstrates that he has had broad experience in
24 actual conduct of environmental assessments.

25 The only thing he stated was that he did not

5-19

1 have formal education in that matter.

2 I think the question before the Board with
3 respect to any witness is whether the witness has any
4 scientific, technical or other specialized knowledge which
5 will assist the trier of fact to understand the evidence
6 or to determine a fact in issue; and that a witness can be
7 qualified as an expert by virtue of his knowledge, skill,
8 experience, training or education. It's not limited
9 solely to formal education.

10 I think Mr. Hussey is -- The precedent for
11 someone like Mr. Hussey to testify in this proceeding is
12 clearly established.

13 For example, Mr. Schoenberger did exactly the
14 same kind of work that Mr. Hussey has done. He served as
15 project manager for a -- both of them served as project
16 managers for studies that were done by a diversity of
17 people.

18 I think it's obvious that through Mr. Hussey's
19 training and experience in actually conducting these
20 assessments, he has a background -- a very broad back-
21 ground in doing these kinds of assessments.

22 I might add that you've got to consider the
23 kind of assessment that has been done here. This is not
24 a very big issue, obviously.

25 The question of the environmental effects of

5-20 1 this barge slip and the terms of the overall environmental
2 impacts of the project is demonstrably small --

3 MR. DOHERTY: Your Honor, I object to this
4 characterization. I think it's prejudicial.

5 MR. COPELAND: Mr. Hussey was the project
6 manager involved for the entire environmental assessment
7 for the Allens Creek project, as the project manager of
8 the Houston office.

9 So it's clear that he has a very, very broad
10 and in-depth background of these kinds of assessments.
11 He has established that he's familiar with the site. And
12 I think it's clear that he has sufficient training and
13 personal knowledge of this matter to be of assistance to
14 the Board in addressing this contention.

15 JUDGE WOLFE: You have something to say,
16 Mr. Doherty?

17 MR. DOHERTY: Yes.

18 I object to counsel stating that this con-
19 tention is just a small potato and not really very
20 important. It's almost as if it isn't worth the Board's
21 trouble.

22 And ... you know, I think that's not proper
23 here. I think the contention is -- It has been admitted;
24 it's considered proper and deserves fair judgment.

25 JUDGE WOLFE: It will be given a fair judgment.

5-21

1 MR. DOHERTY: This type of characterization
2 should --

3 JUDGE WOLFE: We just listen to argument here
4 as pure argument. And we've asked for this to be looked
5 into, so it's obvious that we think it's important. So we
6 will give it that importance.

7 Anything else to be said for or against
8 incorporation of this testimony into the record?

9 MR. SCOTT: Yes, Mr. Chairman.

10 I'd like to state that the record clearly
11 shows that Mr. Hussey stated both ... that he had no
12 formal education in environmental affairs; and number two,
13 he had no environmental training.

14 I wrote the words down when he said them.

15 So as to education, whether in school or off
16 the school, he is stated as having none.

17 Now in addition to that, it has become quite
18 clear to me that this gentleman has made a very cursory
19 examination -- I think you'd call it a walk-through
20 if you're in the business -- of the site and the transporta
21 tion route, no doubt at the direction of some attorney to
22 try to meet some sort of minimum requirements.

23 And that just should not be allowed. You
24 should have the people here who have the -- who actually
25 did the work, who can answer questions with something

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1 other than "I don't know," or "So-and-so-else did that."

2 It prejudices the Intervenors considerably
3 to have someone else's work presented through essentially
4 their boss, especially when the boss has not shown that
5 they independently have got the ability to know whether or
6 not their employees are right or wrong.

7 It's just a very basic question of whether
8 or not just because you're the boss -- or in this case
9 also the owner of the company -- you can ... you somehow
10 lend credibility by virtue of your position.

11 I realize that's a fairly common tactic in
12 presenting expert testimony. But I just believe that
13 it's contrary to the rules of evidence and contrary to
14 the showing necessary to show expertise.

15 Thank you.

16 MR. BLACK: The Staff would merely note for
17 the record that we fully endorse Applicant's response;
18 and we think that Mr. Hussey has amply demonstrated by
19 reason of education, training and experience that he can
20 qualify as an expert witness to sponsor this testimony.

21 MR. SCOTT: Let me just say this --

22 JUDGE WOLFE: Anything else by other parties
23 who haven't had an opportunity?

24 MR. DOGGETT: Nothing from me.

25 (Bench conference.)

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c.

JUDGE WOLFE: As with other witnesses, you

know, as with some other witnesses, the instant witness may not have the training or educational background, say here as in the field of environmental sciences, we've heard enough here as with other witnesses to conclude that the witness by virtue of job performance over the years has knowledge and has experience. Accordingly, we do overrule -- any objections and incorporate the written testimony of this witness into the record as if read.

Again, as with some of the other witnesses whose testimonies we have incorporated into the record, we will hear cross-examination and we will, thereafter, in writing our decision consider the weight to be given to this testimony. All right. Now, we next --

(See Attached written Direct Testimony of James R. Hussey.)

MR. COPELAND: We, also, -- I have moved for the admission of Exhibit No. 16.

JUDGE WOLFE: Yes.

Any objection to the admissibility of Applicant's Exhibit 16, marked for identification?

MR. SCOTT: I would like to ask the witness if he prepared this exhibit as part of his preparation for this testimony or if this was something that someone else prepared and he's within the firm and he's just

DIRECT TESTIMONY OF

JAMES R. HUSSEY

ON BEHALF OF

HOUSTON LIGHTING & POWER COMPANY

RE TEX PIRG ADDITIONAL CONTENTION 1/BARGE SLIP

DIRECT TESTIMONY OF
JAMES R. HUSSEY
RE BARGE SLIP

1 Q. Please state your name and position.

2 A. My name is James R. Hussey. I am a partner in
3 Dames & Moore.

4 Q. Please describe your educational background.

5 A. I have B.S. and M.S. degrees in Civil Engineering
6 from the University of California at Berkeley.

7 Q. Are you a Registered Professional Engineer?

8 A. Yes. I am a Professional Engineer registered in
9 the States of California and Texas.

10 Q. Are you a member of any professional organiza-
11 tions?

12 A. I am a member of the American Society of Civil
13 Engineers, the International Society of Soil Mechanics and
14 Foundation Engineers, and the Atomic Industrial Forum.

15 Q. What role has Dames & Moore taken in the licensing
16 of the Allens Creek project?

17 A. Dames & Moore has been primarily responsible for
18 the evaluation of the Allens Creek site from the standpoint
19 of environmental and site suitability factors. I am the
20 Senior Representative of Dames & Moore in charge of this
21 continuing responsibility.

22 Q. Please describe your areas of specialization at
23 Dames & Moore.

24 A. I have been employed by Dames & Moore since 1964,

1 and have specialized in the fields of geotechnical engineer-
2 ing and project management. In the latter capacity I have
3 served as Project Manager for several petroleum industry
4 projects in Iran including the evaluation and monitoring of
5 preloading of a tank farm for LPG facilities, a foundation
6 investigation for a refinery and an investigation for a tank
7 farm and associated jetties in the Persian Gulf area. I
8 have been Project Manager of studies on several alternative
9 sites for petroleum handling facilities in the northeastern
10 United States. I have been the Project Manager for founda-
11 tion investigations for a fertilizer complex in Indonesia
12 and a petrochemical complex in Louisiana. I have overseen
13 the preparation of an environmental report for an offshore
14 crude oil unloading system which included supervision of a
15 multi-disciplinary team of investigators in the fields
16 of biology, geology, land use, demography and hydrology. I
17 was Project Manager for the assessment of site character-
18 istics for a nuclear power plant proposed in Iran which
19 included detailed site evaluations and comprehensive geo-
20 technical and hydrological studies, including the coordina-
21 tion of activities of over 100 professionals working from
22 several offices in different counties. I was the Project
23 Manager for evaluation of geotechnical and hydrological
24 problems related to development of a large manufacturing/

1 community complex in Iran. I have participated in two major
2 studies pertaining to the development of tidelands in the
3 San Francisco Bay area. I have been involved in the compre-
4 hensive site evaluation for the Allens Creek plant which
5 included directing and coordinating the efforts of a multi-
6 disciplinary project team including specialists in engineer-
7 ing geology, seismology, foundation engineering, hydrology,
8 meteorology, demography, and land use. I also managed the
9 preparation of the biological and radiological monitoring
10 programs for the Final Environmental Report and the environ-
11 mental technical specifications for the South Texas Project
12 nuclear plant.

13 Q. What is the purpose of your testimony?

14 A. The purpose of my testimony is to respond to
15 TexPirg Additional Contention 1 which states:

16 S.4.5.1(3) on P9S. 4-14 of the Final Supplement to
17 the Final Environmental Impact Statement (FSFEIS) does
18 not adequately disclose and analyze the alternatives
19 chosen for the transport of construction related
20 components to the site. In particular, the Applicant
21 has not clearly determined whether waterway barge
22 transit will be used for transportation of large re-
23 actor components to the site.

24 Such a transportation scheme would require dredg-
ing and channelizing of sections of the San Bernard
River or Brazos River. Such activity would disrupt
marine life in that river, create excessive turbidity
and clouding of the water, destroy river bottom life,
require environmental destruction during spoil disposal
and initiate secondary impact in the form of increased
industrial uses of the rivers. Petitioner contends

1 that Applicant's commitment to transportation of the
2 reactor vessel should be expressed more specifically
3 and that the Board should either deny the license
4 wholly or require the alternative site action sought by
5 TexPirg in Contention 1 of the 'Stipulation between
6 TexPirg and the NRC Staff', if the dredging and channel-
7 izing is necessary.

8 The final EIS does not specify how the reactor
9 vessel will be transported to the construction site and
10 what means have to be taken to effect this transporta-
11 tion. The probability that this transportation will
12 have an environmental impact necessitates its coverage
13 in a final EIS construction. For example, dredging,
14 widening or otherwise altering the Brazos River to
15 bring the vessel to the site by barge would have an
16 environmental effect.

17 It is requested that the construction permit not
18 be issued until the reactor vessel transportation is
19 sufficiently addressed.

20 In the process of addressing the contention I will also ad-
21 dress the questions presented in the Atomic Safety and
22 Licensing Board's order of March 30, 1979.

23 Q. Looking first at paragraph 1 of the contention, is
24 is true that Applicant has not selected the means whereby
25 the reactor vessel will be delivered to the site?

26 A. No. The determination has been made that the
27 reactor pressure vessel (RPV) will be delivered by barge to
28 an offloading point and then transported overland to the site.

29 Q. Please describe the transportation route.

30 A. The RPV will be fabricated at the Chicago Bridge
31 and Iron Nuclear (CBIN) facility located on the Mississippi
32 River in Memphis, Tennessee. The vessel will be loaded on

1 to a barge at the CBIN facility, and will be unloaded at a
2 dock to be constructed on the San Bernard River and then
3 transported overland to the site. The offloading area will
4 be located at approximately River Mile 26 of the San Bernard
5 River in Brazoria County. A barge slip will be excavated
6 into an area of about 3.5 acres in an 8-acre strip of land
7 situated between the river and Farm-to-Market Road (RM) 522.
8 The proposed offloading facility will be a temporary facility
9 to dock and offload the RPV from the barge. The facility
10 will consist of a barge slip, a work area, a storage area
11 for excavated materials, and an access road. It will be
12 constructed prior to arrival of the barge, and will be
13 removed and the land area restored after offloading is
14 completed.

15 The RPV will be moved from the barge to the plant site
16 on two multi-tired pneumatic trailers--one located under
17 each end of the vessel. Lowboy trailers will be used to
18 transport the closure head and other pieces of equipment
19 from the barge overland to the plant site.

20 Q. Turning to the second paragraph of the contention,
21 will this transportation scheme require channelization of
22 the San Bernard River?

23 A. No. The San Bernard River channel is a navigation
24 project maintained by the U. S. Corps of Engineers. The

1 channel is approximately 100 feet wide and 9 feet deep and
2 extends from the confluence of the San Bernard River and the
3 Gulf Intracoastal Waterway to River Mile 26. The proposed
4 off loading site is slightly downstream of River Mile 26.
5 It is anticipated that the barge which will be used to
6 transport the vessel will be approximately 200 feet long and
7 either 50 or 54 feet wide, depending on the actual barge
8 selected. Fully loaded with the reactor pressure vessel,
9 closure head and other pieces of equipment, the barge will
10 draft between 7 feet 2 inches and 7 feet 5 inches, again
11 depending on the barge selected. Barges, approximately 200
12 feet long, 50 feet wide, and drafting 7 feet 7 inches, have
13 made at least three trips up the river to the Phillips
14 Loading Dock, located across and slightly upstream of the
15 San Bernard River from the proposed barge slip. These
16 barges encountered no difficulty on the San Bernard River en
17 route to the Phillips Dock. Thus, no channelization of the
18 San Bernard River will be required in order to transport the
19 reactor pressure vessel to the barge unloading site. Accord-
20 ingly, there should be no demonstrable environmental effects
21 associated with transporting the RPV to the offloading site.

22 Q. Has Dames & Moore done an evaluation of the environ-
23 mental impacts associated with transportation of the RPV?

24 A. Yes. Dames & Moore prepared a report in March,

1 1980, assessing the environmental impact of constructing the
2 offloading site and the overland transport of the RPV to the
3 site. That report is submitted herewith as App. Exh. ____
4 (JRH-1). The report demonstrates that there will be no
5 significant environmental impacts associated with these two
6 activities. The report also discusses the alternative
7 transportation routes and demonstrates that the chosen route
8 is the most desirable.

9 Q. Please describe the excavation required for con- *
10 struction of the barge slip.

11 A. Construction of the slip will involve the excava-
12 tion and dredging of approximately 15,000 cubic yards of
13 clay and silty sand. The bulk of this excavation will take
14 place in the "dry" behind the existing riverbank, which will
15 be left temporarily as a construction dike. A backhoe,
16 clamshell, dragline and/or suction dredge will be used at
17 the contractor's option for this phase of the excavation.
18 After excavation of the inland portion of the slip has been
19 completed, the construction dike will be removed using a
20 clamshell and possibly a suction dredge. A minor amount of
21 dredging of the riverbed will also be required to connect
22 the barge slip with the river channel. This will be ac-
23 complished using a clamshell and/or suction dredge working
24 continuously to minimize the duration of increased turbidity

1 levels in the water.

2 It is presently planned for all excavated materials to
3 be stored at the site adjacent to the barge slip. Dry
4 materials excavated from above the water table will be used
5 to construct dikes to form sedimentation ponds, which will
6 be used for storage of all saturated materials. Water
7 removed from the slip area during construction or restora-
8 tion will not be allowed to flow directly into the river,
9 but will be pumped into a sediment pond. This sediment
10 pond, incorporating an appropriate wier structure, will be
11 used to achieve removal of most suspended solids.

12 Q. What is the impact of this construction activity?

13 A. The construction of the barge slip and restoration
14 of this area will cause a temporary localized increase in
15 the turbidity of the San Bernard River at this location.
16 Some turbidity will occur during dredging at the entrance of
17 the barge slip, to a lesser degree during construction of
18 the slip, and later when the slip is restored by the replace-
19 ment of fill soils. At the time of initial excavation, the
20 duration of increased turbidity will be minimized by main-
21 taining a dike at the riverbank, between onland excavation
22 and the river. Increased turbidity in the river would only
23 occur during the latter stages of excavation when the dike
24 is removed and the channel is dredged between the barge slip

1 and the river channel.

2 The area to be excavated for the barge slip is a zone
3 of deposition. Consequently, the combination of deposited
4 materials and reduced river current could make this a de-
5 sirable habitat for spawning of some fish and nursery for
6 other juvenile fishes. A small portion of this habitat
7 would be temporarily removed by dredging the barge channel
8 to the existing navigation channel. The length of river
9 directly affected is expected to be about 200 to 300 feet on
10 one side, or less than 0.10 percent of the estimated 50 to
11 75 miles of similar habitat. When compared to the total
12 habitat of the San Bernard River, the impact is insignif-
13 ican. Moreover, the area should rehabilitate naturally
14 within 3 to 5 years after abandonment. Thus, the overall
15 impact of the excavation will be minimal.

16 Q. Please describe the impacts associated with over-
17 land transport of the RPV.

18 A. Overland transport of the reactor vessel will also
19 have an insignificant impact. Traversing the overland
20 portion of the route will involve crossing a number of
21 creeks. Most of the bridges or culverts which presently
22 span these creeks can be matted and/or shored and used to
23 support the loaded transporter. However, the concrete
24 bridge on State Highway 36 which crosses Varner Creek cannot

1 be satisfactorily shored and consequently must be bypassed.
2 This will require the construction of a short, temporary
3 bypass road and culvert beside the existing bridge.

4 The bypass required at the Varner Creek bridge on
5 Highway 36 will result in a temporary disturbance of ap-
6 proximately 0.9 acres of land. An additional area of ap-
7 proximately 0.4 acres may be disturbed as work space adja-
8 cent to the temporary road bed. These areas will be restored
9 after passage of the RPV. The impact of crossing Varner
10 Creek is both temporary and insignificant.

11 Q. Would you please state your opinion about the
12 overall environmental impact of transporting the RPV to the
13 site?

14 A. Based upon the study which we have performed, which
15 has been submitted with this testimony as Exhibit JRH-1, it
16 is clear that the construction of the barge slip will have
17 only an insignificant impact. Construction activities are
18 temporary in nature and disturbed areas will be restored
19 after use. Whatever minor impacts may result from such
20 construction are easily mitigated.

21 Q. Does that complete your testimony?

22 A. Yes.
23
24

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1 attached it?

2 MR. COPELAND: Your Honor, that doesn't go to
3 the admissibility of the document.

4 The witness has identified the document as
5 being the document he's referring to in his testimony
6 and establishes the authenticity of the document. And, it
7 is clearly relevant.

8 MR. SCOTT: I don't believe that just making
9 reference to a document makes it authentic.

10 JUDGE WOLFE: You may put your question to the
11 witness.

12 You may answer the question, Mr. Hussey.

13 THE WITNESS: As I mentioned before, I
14 supervised directly the performance of all the work that
15 went into the preparation of this document.

16 As such, I worked with principal investigators
17 on the job to define the scope of work, develop an outline
18 for this report, reviewed every figure and every table
19 with them, edited the report and oversaw its production.

20 MR. SCOTT: In that regard, give me some idea
21 for the basis for this report. Were you told --

22 MR. COPELAND: Your Honor --

23 JUDGE WOLFE: He hasn't finished yet.

24 MR. SCOTT: -- were you told how much effort
25 or time you could put into this report. How much money

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1 "you had to spend". How deep you could study this
2 subject matter.

3 JUDGE WOLFE: I don't think this goes to
4 admissibility, Mr. Scott.

5 I'll have to stop that question.

6 Any other questions that are proper, may be
7 directed to the admissibility of this document.

8 MR. DOHERTY: I have one question.

9 JUDGE WOLFE: Well, Mr. Scott hasn't finished.

10 MR. DOHERTY: Oh! I'm sorry.

11 MR. SCOTT: Did you actually travel the route
12 of the proposed route of travel for the reactor vessel?

13 MR. COPELAND: Objection, Your Honor. It
14 does not relate to the admissibility of the document.

15 JUDGE WOLFE: I must agree, Mr. Scott.

16 Please pull this in on the exhibit itself,
17 and ask your questions accordingly.

18 MR. SCOTT: Well, Figure 1 in that document
19 describes the route and maybe I'm just plumb wrong, but --

20 JUDGE WOLFE: This will go to his credibility
21 after the exhibit is in, you can cross-examine all you
22 want on this.

23 But, what we're trying to establish is what
24 participation he had in the preparation of this exhibit.

25 And, I think you've covered that. If you're

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1 satisfied with it and don't want to go into that anymore,
2 why, then, all right, we'll rule on the admissibility of
3 this.

4 MR. SCOTT: I thought that's exactly what I
5 was asking the degree that he participated.

6 JUDGE WOLFE: No. You were asking did he
7 travel certain routes.

8 MR. SCOTT: Well, that's a matter of the degree
9 he participated.

10 MR. COPELAND: It has nothing to do with the
11 admissibility of the document, Your Honor.

12 MR. SCOTT: Well, as I've tried to state,
13 maybe I'm just wrong, but my understanding is that a
14 document cannot be admitted through a particular witness
15 unless it is shown that somehow the information in it is
16 reliable through that witness.

17 JUDGE WOLFE: Well, you can ask him that on
18 cross-examination.

19 I think -- We'll permit you to do as much as
20 you want as what, did he assist or in the preparation of
21 this document, what did he do in the preparation of this
22 document. We'll permit all sorts of questions on that.

23 Now, once it is in, then you may ask him in
24 an attempt to draw away from the thrust and weight of the
25 document that some diagram in here indicates certain routes

6-5 1 were taken. Did you actually trace those routes. Did you
c1 2 do this and did you do that. And, that will serve to
3 denigrate or take away from the weight to be given to the
4 document.

5 Did he prepare it? What part did he have in
6 preparation of it. If he had no part in it then get to
7 that and we wouldn't admit the document.

8 MR. SCOTT: We have here some, approximately,
9 some 50 pages in this document.

10 Which pages of it did you personally prepare?

11 MR. COPELAND: Your Honor, the witness has
12 explained already his role in preparing the document.
13 That he edited the entire report, and I don't think that
14 that question is relevant to the admissibility of the
15 document.

16 The question is whether the witness has
17 personal knowledge that this is the document that he
18 referred to in his testimony, and is it an authentic
19 copy of that document. And, it is; and he said that and
20 I don't think that these questions go to admissibility.

21 I think they go to the weight to be given to
22 the document itself.

23 MR. SCOTT: Mr. Chairman, Intervenors have
24 tried numerous times to get much more authentic documents
25 into the record than this; and have been denied.

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1 Just because he can point to something and say, "Yes, there
2 is a document and that's the one I was talking about."
3 I mean, if that was the case, if that was all that was
4 required, a whole lot more information would be in this
5 record than now is.

6 JUDGE WOLFE: Objection overruled.

7 MR. SCOTT: Okay. That's all.

8 JUDGE WOLFE: What do you mean that's all.

9 I overruled --

10 MR. SCOTT: Oh! Okay.

11 I was so surprised.

12 Thank you.

13 That was my fault.

14 JUDGE WOLFE: All right.

15 You had an outstanding question to that you
16 were speaking to him to go through to look at a certain
17 page. Well, you're allowed to do it.

18 Go ahead.

19 MR. SCOTT: Which pages did you prepare
20 personally?

21 THE WITNESS: I think I could answer you
22 question better if you could define prepare personally
23 better for me. I had something to do with --

24 MR. SCOTT: Let's say -- Let's define it
25 this way. You wrote down the words either by typing it

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1 yourself or transcribing it into some sort of transcription
2 machine or wrote it out in handwriting and let some
3 secretary type it and then you proofread it.

4 We're talking about literally writing the
5 words yourself.

6 THE WITNESS: I don't recall which paragraphs
7 specifically. I wrote several paragraphs that are entered
8 into this document --

9 MR. SCOTT: Can you point to any of them?

10 THE WITNESS: -- I reviewed all the work.
11 I edited every paragraph in the document,
12 and saw that it got published in the manner that I
13 judged professionally sound.

14 MR. SCOTT: Okay.

15 Can you point to any of the paragraphs that
16 you wrote by yourself?

17 MR. COPELAND: Asked-and-answered.

18 MR. SCOTT: No. He said several.

19 He didn't say which ones.

20 JUDGE WOLFE: Objection overruled.

21 THE WITNESS: I can't refer to a specific
22 paragraph at this time.

23 MR. SCOTT: Okay.

24 Let's put the question this way.

25 How many total hours did you spend in your

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1 review of this document?

2 THE WITNESS: I don't recall right now.

3 MR. SCOTT: Can you point to any specific
4 changes that you required to be made?

5 THE WITNESS: I would have to have a draft of
6 the report to do that.

7 MR. SCOTT: Well, wasn't this probably done a
8 few months ago.

9 THE WITNESS: I think you will see that it is
10 a year old.

11 MR. SCOTT: Okay.

12 I believe you're right.

13 Still, only 12 months ago.

14 How many other projects and reports did you
15 review during this past year?

16 MR. COPELAND: Your Honor, that does not go
17 to the admissibility of this document.

18 JUDGE WOLFE: Objection sustained.

19 MR. SCOTT: Let me ask you this.

20 You say that you have some expertise and
21 training in soils, I guess is a good generalized way of
22 saying it. Wouldn't that be correct?

23 MR. COPELAND: That does not go to the
24 admissibility of this document, and I object.

25 I really think we're wasting time, Your Honor.

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1 The witness has established enough to admit
2 this document into evidence.

3 MR. SCOTT: I'm not going to ask any further
4 questions.

5 I would just like to say that the witness
6 has, so far as I can tell, has said nothing that would
7 show he has had anything to do with this document other
8 than he used the words he reviewed it.

9 But, when asked how much time he spent, any
10 changes he made, any impact on it, he has said both none
11 and he cannot remember.

12 So, I would say there's no evidence period
13 that this man even knows what's in the document.

14 JUDGE WOLFE: Any other examination upon the
15 admissibility of this document?

16 Any final words, Mr. Copeland?

17 MR. COPELAND: Well, he's obviously wrong,
18 Your Honor, because the witness has stated he knows what's
19 in the document.

20 He stated that this is the document that is
21 referred to in his testimony as the Dames & Moore
22 Environmental Assessment. He's authenticated the
23 document, he has established that he is familiar with it.
24 He had a big hand in writing the document. It is a matter
25 of his own personal knowledge that this is the document.

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1 You know, it is just a pat situation that this
2 document is admissible.

3 JUDGE WOLFE: All right.

4 Applicant's Exhibit Number 16, marked for
5 identification, being the Dames & Moore Report and which
6 is further identified on the cover page by the tab
7 Applicant Exhibit No. - (JRH-1), is admitted into
8 evidence.

9 It appears that the witness has authenticated
10 the document.

11 He wrote at least some portions of the
12 document and he did review the document in the course of
13 its being drafted in his capacity as the project manager
14 and technical manager of his company.

15 All right.

16 Let's see, I've forgotten. I did incorporate
17 Mr. Hussey's -- this witness' testimony into the record.

18 MR. COPELAND: Yes, sir.

19 JUDGE WOLFE: All right.

20 (Applicant's Exhibit No. 16, having
21 been previously marked for
22 identification, was received into
23 evidence.)

24 We will proceed, then, with cross-examination
25 after the noon lunch.

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We will recess untill 2:00 p.m.

(Whereupon, the hearing recessed at
12:45 p.m., to reconvene at 2:00 p.m. in
the same place.)

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AFTERNOON SESSION

2:03 p.m.

JUDGE WOLFE: The hearing is resumed.

In attendance this afternoon at 2:03 p.m.
are Messrs. Copeland and Raskin, Mr. Black, Mr. Doherty,
Mr. Doggett and Mr. Scott.

We will proceed with the cross-examination by
Mr. Black.

CROSS-EXAMINATION

BY MR. BLACK:

Q Yes. I'd like to pursue one line of
questioning.

Mr. Hussey, referring to Applicant's Exhibit
16, page 26, I believe in your testimony this morning on
voir dire that you mentioned that there was a dock con-
structed by the Phillips Oil Company on the west bank of
the San Bernard River just south of the FM-522 concrete
bridge.

Would that be almost opposite of the proposed
barge offloading facility?

A. Close to being opposite, yes.

Q You mention on page 26 of Applicant's Exhibit
16 that use of that Phillips facility was considered,
but that such use of that would necessitate reinforcing
the concrete bridge over the San Bernard River. And then

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1 you mentioned that the Texas Department of Highways and
2 Public Transportation would not approve such action due
3 to the extent of structural reinforcement required.

4 Can you give me an idea of the amount of
5 structural reinforcement that would be required, either in
6 terms of width of structural reinforcement, type of rein-
7 forcement and the money involved ... engineering money
8 involved?

9 A I've only had preliminary conversations with
10 the rigging contractor. You would have to refer to him
11 for those estimates. I'm not personally aware of that.

12 Q Has the Applicant ever considered or --
13 Strike that.

14 Could the Applicant restructure that bridge on
15 its own account, rather than seeking either -- other than --
16 in lieu of the State Department doing so?

17 A With the permission of the State, I believe
18 they could, yes.

19 Q But it's this testimony that the State has
20 denied that permission?

21 A That's correct.

22 Q Referring to Figure 1 of Applicant's Exhibit
23 16, if that Phillips barge facility could be used, did
24 Dames & Moore give any consideration of using a route
25 that would not necessitate using that bridge over the San

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1 Bernard River on FM-522?

2 A Would you state that question again, please?

3 Q Did Dames & Moore consider using the Phillips
4 barge unloading facility and using a transportation route
5 that would not necessitate going over the San Bernard
6 River over FM-522?

7 A Yes.

8 Q Could you indicate what transportation route
9 or routes were considered, going along, I believe, on the
10 west side of the San Bernard River?

11 A That would be the problem. The river would hav
12 to be crossed for any alternative overland route. The
13 best location was deemed to be immediately upstream from
14 the facility itself; and that's what necessitated the
15 evaluation of that bridge.

16 Q Was any consideration given to transporting
17 the reactor vessel westward and then picking up on what is
18 depicted on Figure 1 as the Colorado River route?

19 A Not really, because that would necessitate
20 another barge slip offloading and unloading the vessel
21 again into the Colorado River.

22 Q Well, I'm speaking of offloading the vessel
23 at the San Bernard River at the Phillips facility,
24 transporting it overland westward to where it would pick
25 up what is depicted on Figure 1 as the Colorado River

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1 route. And I believe that Colorado River route directly
2 west of the proposed barge offloading facility is not a
3 route that is using the Colorado River at that point.

4 A You're speaking of entering into the overland
5 portion of the Colorado River route?

6 Q That's correct.

7 A We did not evaluate that alternative
8 specifically.

9 Q Would it be safe to say, though, that if that
10 route was considered, that it would have the same bene-
11 fits or detriments as the Colorado River route that is
12 set forth on pages 24 and 25 of Applicant Exhibit 16?

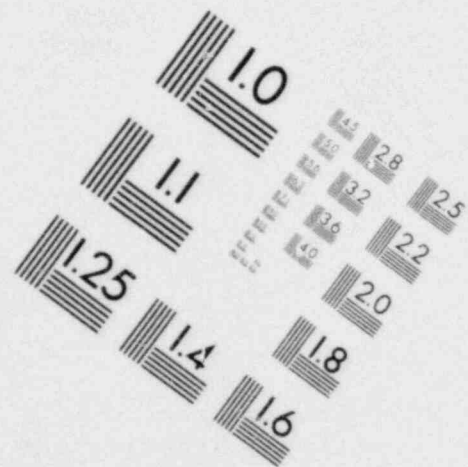
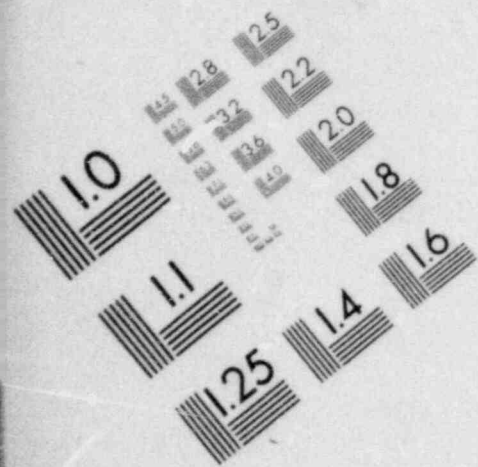
13 A I believe that's correct.

14 Q So, in other words, on page 25, the second
15 full paragraph there indicates some problems with using
16 the Colorado River route, in terms of concrete bridges
17 that would have some problems, bypasses that would be
18 required and the problem with constructing bypasses along
19 certain portions of the Middle and West Bernard River.

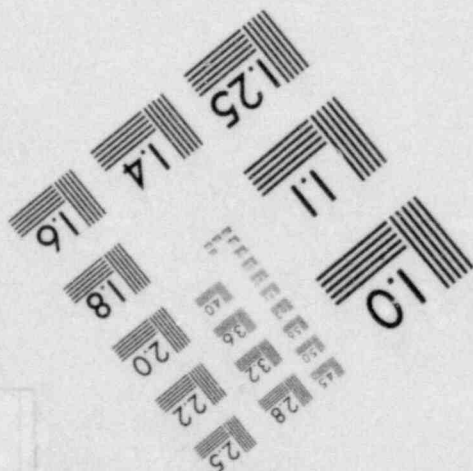
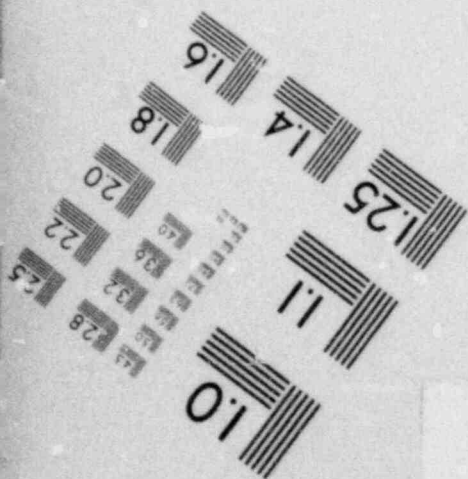
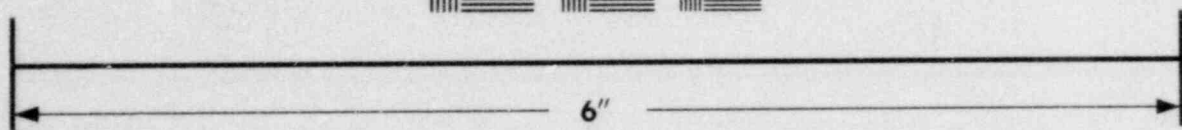
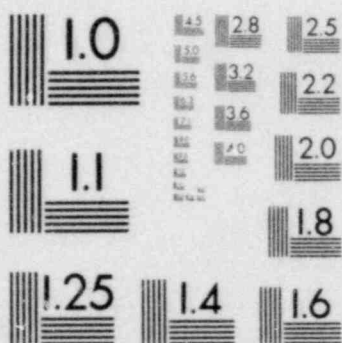
20 Would those types of problems be encountered
21 along that route as well?

22 A That's correct.

23 Q Did Dames & Moore give any consideration to
24 using a route, other than the Colorado River overland
25 route, that would go along the west side of the San



**IMAGE EVALUATION
TEST TARGET (MT-3)**



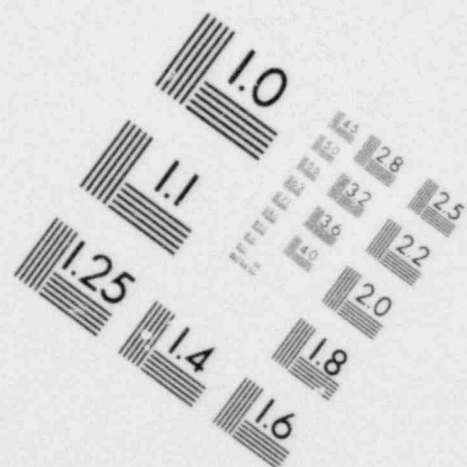
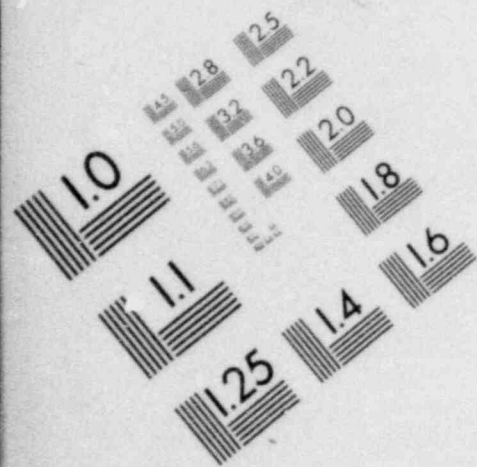
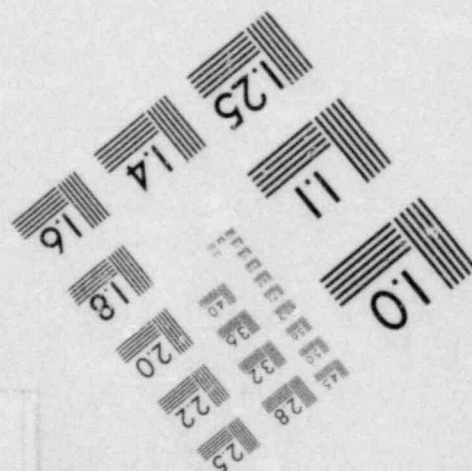
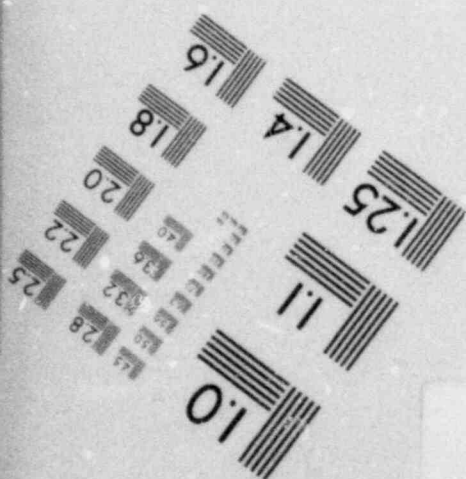
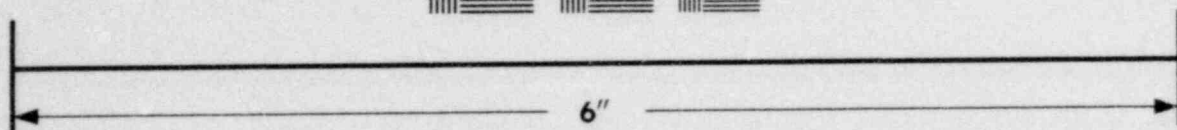


IMAGE EVALUATION
TEST TARGET (MT-3)



7-5

1 Bernard River, but not use the specific highways that
2 are -- that were considered along the Colorado River
3 route?

4 A No.

5 Q So I might refer you to Figure 1 again of
6 Applicant's Exhibit 16, wherein there is a highway that
7 is between the Brazos River route and the Colorado River
8 route -- and my map, obviously, is too small a scale to
9 figure out what route that is, but it looks like it's a
10 fairly well used route that goes along the west side of the
11 San Bernard River and goes northward, and then goes east-
12 ward into -- to the north of Wharton.

13 Was any consideration given to using that
14 route, whatever that route may be?

15 A Are you referring to a route between the
16 Colorado River route and the proposed route?

17 Q That's correct.

18 There's a highway there.

19 A Yes.

20 No.

21 Q Are you aware of what that highway is?

22 A Yes, we travelled the highway. It's --
23 That route, in cursory judgment, is not near as adequate
24 as the selected route.

25 Q Why would that be?

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1 A I don't believe it's -- As I said, we did not
2 analyze that in detail. It was not one of the alternatives
3 addressed here.

4 The road is not kept as well as the selected
5 route, to stand the loads to be transported.

6 Q But obviously that route still would have to
7 cross the San Bernard River at some point?

8 A That's correct.

9 Q And I believe that there is -- correct me if
10 I'm wrong -- there's a problem crossing the San Bernard
11 River on U. S. 59 by reason of vertical height, I
12 believe, of the overpass.

13 A That's correct.

14 MR. SCOTT: What was that question again?

15 MR. BLACK: I said it was my perception that --
16 my recollection that there was an obstacle of crossing the
17 San Bernard River along U. S. 59 by reason of a vertical
18 obstruction or vertical clearance.

19 And he answered that that was correct.

20 MR. SCOTT: I'd like for the record to be--
21 to give the witness a chance to see if he wants to change
22 that answer.

23 MR. BLACK: Well, you can do so when it becomes
24 your turn to cross-examine, Mr. Scott.

25 JUDGE WOLFE: That's right, Mr. Scott.

1 BY MR. BLACK:

2 Q So it is your testimony that by reason of the
3 problems of overland transport to the proposed site, that
4 the existing Phillips barge facility would not be a
5 reasonable alternative to the proposed offloading facility?

6 A Because of the attendant overland routes
7 associated with using the facility, that is correct.

8 Q Is it also your recollection that that existing
9 Phillips facility has the size and the dimensions that
10 would be necessary to accommodate the reactor vessel
11 barge?

12 A The engineers reported to me that it is
13 adequate to support the barge.

14 Q What about surrounding structures and
15 facilities? Are they adequate to accommodate such a barge
16 and the offloading of that barge?

17 A This hasn't been analyzed; I'll speculate
18 somewhat.

19 There would have to be some earthwork
20 construction to remove the facility from that area that
21 was used and so on.

22 Q Are you aware of whether there is adequate
23 space alongside the barge facility to accommodate a crane
24 or a lowbed?

25 A I believe there is.

1 MR. BLACK: I have no further questions.

2 JUDGE WOLFE: We'll begin the cross-examination
3 by the intervening parties.

4 Have the Intervenor's agreed on an order of
5 cross-examination?

6 MR. DOGGETT: We will proceed alphabetically,
7 Mr. Chairman.

8 JUDGE WOLFE: All right, Mr. Doggett.

9 CROSS-EXAMINATION

10 BY MR. DOGGETT:

11 Q Mr. Hussey, you just testified about there
12 being a vertical clearance problem somewhere on the San
13 Bernard or on Highway 59. I wasn't real clear on what
14 you were referring to.

15 Could you refer me to exactly where that's
16 discussed in your testimony?

17 A Please refer to page 25, the last sentence
18 in the second paragraph.

19 Q That's in Exhibit 16?

20 A That is correct.

21 Q You're referring to traffic lights and
22 utility lines as the vertical clearance problem?

23 A No, I didn't refer to that.

24 Q Well, what specifically are you saying is a
25 vertical clearance problem?

7-9

1 A I don't recall.

2 Q Well, is there or is there not a vertical
3 clearance problem that you were talking to Mr. Black
4 about?

5 MR. COPELAND: I'm going to object --

6 THE WITNESS: It's stated here that there is
7 a vertical clearance problem.

8 BY MR. DOGGETT:

9 Q And what specifically are you referring to as
10 causing that problem?

11 MR. COPELAND: I'm going to object that the
12 report speaks for itself, and that it is the overpass that
13 has a vertical clearance of only 16' 9", considerably
14 less than the 30 to 35 feet required by the RPV.

15 It couldn't be any more clearly stated there.
16 It has been asked and answered.

17 MR. DOGGETT: Well, I don't understand why
18 the witness can't tell me that instead of the counsel.

19 JUDGE WOLFE: Well, counsel is pointing out
20 that this is in the exhibit.

21 Is there some problem now?

22 MR. DOGGETT: Well, the problem was --
23 Frankly, I didn't see where it was on the page; and he
24 wouldn't answer my question, so I couldn't see what he was
25 talking about. That was my problem.

7-10

1 JUDGE WOLFE: I see.

2 MR. SCOTT: There's a much more major problem.
3 I don't know whether to bring it up now, or wait until my
4 cross-examination.

5 JUDGE WOLFE: Well, if it is a cross-
6 examination question, it should be reserved until your
7 cross-examination.

8 MR. SCOTT: Okay.

9 JUDGE WOLFE: Yo.. 've found the portion now,
10 Mr. Doggett; and it is on that page 25 of Applicant's
11 Exhibit 16?

12 MR. DOGGETT: Yes.

13 JUDGE WOLFE: If you have any other questions
14 now, direct him to that.

15 BY MR. DOGGETT:

16 Q Mr. Hussey, will the construction of the
17 proposed barge slip disrupt marine life in the San Bernard
18 River?

19 MR. COPELAND: I'm going to object to that
20 question, Your Honor, as being essentially answered in
21 his testimony and in the report.

22 His testimony describes -- beginning at page
23 eight -- the amount of turbidity that will be increased
24 in the -- caused by the construction activity within the
25 river.

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1 And that testimony is again repeated in the
2 report itself. I think that the question is too broad,
3 in light of that testimony and needs to be much more
4 specific.

5 MR. DOGGETT: I'll let the question stand.

6 I --

7 JUDGE WOLFE: I think the answer does appear
8 in the written testimony.

9 However, I'll allow a little grace here so
10 that we can proceed.

11 Answer the question, please.

12 THE WITNESS: Would you repeat the question,
13 please?

14 BY MR. DOGGETT:

15 Q Will the construction of the proposed barge
16 slip disrupt marine life in the San Bernard River?

17 A Yes, it will to a limited extent.

18 Q All right.

19 Who determined this? Did you personally
20 determine this? Or did someone that you consulted deter-
21 mine this?

22 A Two members of my staff determined this.

23 Q All right.

24 What members of your staff made that deter-
25 mination?

7-12

1 A Ms. Georgia Henderson and Dr. Alan Smith.

2 Q Are those the only two?

3 A Yes, sir.

4 Q Now what are Georgia Henderson's qualifica-
5 tions?

6 A To what extent would you like me to address
7 that? I have a resume from Ms. Henderson.

8 Q Is that attached to any of the testimony or
9 to Exhibit 16?

10 A No, it is not.

11 Q All right.

12 What educational background has she had relating
13 to marine biology?

14 A Her expertise is in plant ecology, terrestrial
15 and aquatic biology.

16 She is presently getting a Ph.D. in biology.

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1 BY MR. DOGGETT:

2 Q In biology?

3 A Yes.

4 Q What specific area of biology?

5 A Excuse me. Her Ph.D. will be in plant
6 ecology.

7 Q What degrees does she presently possess?

8 A A B.A. in biology and geology from Rice
9 University, 1972; an M.A. in ecology from Rice University
10 in 1975.

11 Q Does the resume that you possess tell you
12 specifically what education she may have had in the field
13 of marine biology?

14 A To some degree.

15 Q What does it state?

16 A Some of the experience, plant researcher
17 in plant population dynamics and production of a brackish
18 marsh in Chambers County, Texas.

19 Q She did some research on that?

20 A While at Rice, that is correct.

21 Q What was the nature of that research?

22 A I'm not familiar with that.

23 Q Other than what is listed there, do you per-
24 sonally know of any education she has received in the
25 field of marine biology?

7-14

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1 A No.

2 Q Other than that one study that you referred
3 to -- or research that she had done, does that document
4 list any experience that she has had in the field of
5 marine biology?

6 A It doesn't, but she has worked for me and she
7 is presently working for me now on two other studies
8 related to impacts associated with aquatic biology.

9 Q And did these also concern freshwater rivers?

10 A Yes.

11 Q And what rivers are those?

12 A There are many rivers. One involves the
13 siting study for the entire state of Mississippi. The
14 other involves a study for siting a transmission line
15 that crosses two fairly substantial streams between
16 Mississippi and Alabama.

17 Q All right.

18 Other than these two ongoing studies, has she
19 previously ever completed a study or any research for
20 you?

21 A Not for me personally.

22 Q For anyone in your company?

23 A Yes.

24 Q What were the nature of those studies?

25 A They're of a similar nature. I'm not -- I

7-15

1 have not acted as the project manager on those studies.
2 I can't cite the specifics of them.

3 Q Is Ms. Henderson -- Does she work in-
4 dependently under your supervision, or does she work
5 under Dr. Alan Smith?

6 A Principal investigators in our office in
7 Dames & Moore are assigned to projects and to project
8 managers or principals in the firm as a function of the
9 nature of the project. This could vary from time to
10 time.

11 She is not assigned specifically on a project-
12 sense to anyone unless she's working on a project. As
13 technical manager of the office, however, I have overall
14 responsibility for her activities.

15 Q So she was the field investigator in this
16 particular evaluation?

17 A That's correct.

18 Q Did she have anyone to assist her in actually
19 conducting the field investigation?

20 A She was not assisted by anyone. Her work was
21 reviewed by Dr. Smith and by myself.

22 Q Did she -- How many times did she actually
23 visit the site?

24 A There is more than one site. She did investi-
25 gation of the barge slip area and the Varner Creek

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7-16

1 bypass.

2 I believe she visited them twice.

3 Q And when was that?

4 A It's indicated in the document, Exhibit No.
5 16. The major study was done in February 1980.

6 Q She made her site visit in February 1980?

7 A Yes.

8 Q And you believe she made two site visits
9 during that month?

10 A It's my recollection that she re-visited the
11 area, but I don't -- cannot attest to that categorically
12 at this time.

13 Q Do you know how much time she spent during
14 her site visit?

15 A Roughly.

16 Q And how much time did she spend?

17 A I believe it was a total of two days.

18 Q Did she actually stay in a motel or something
19 somewhere near the site?

20 A I don't recall.

21 Q Well, was it one day, two days or three
22 days?

23 A I believe I said that I thought it was two
24 days.

25 Q Okay. Excuse me. I thought you said a few

7-17

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1 days as opposed to two days.

2 A I meant to say two days.

3 Q Do you know whether she -- how much time she
4 spent looking at the Varner crossing as opposed to looking
5 at the proposed slip site?

6 A Not in absolute terms. Certainly she spent
7 more time looking at the barge slip area.

8 Q Okay. Do you know whether or not she gathered
9 any samples of plants or soil or water or anything like
10 that?

11 A Yes.

12 Q What samples did she take?

13 A She took some plant samples and some soil
14 samples.

15 Q And who-- I assume that some type of
16 analysis or examination was made of these samples. Who
17 performed that examination or analysis?

18 A She did.

19 Q Was she also responsible for making contact
20 with the Texas Department of Parks and Wildlife?

21 A I believe both she and Dr. Smith made con-
22 tact with that, but I'd have to check my records to verify
23 that.

24 Q Who is Al Smith?

25 A Dr. Smith is the senior ecologist at the

7-18

1 Houston office of Dames & Moore.

2 Q And what does he have to do with this site
3 study?

4 A Well, as the senior representative of our
5 biological staff, he is often called upon to overview
6 activities of the more junior members of the staff.

7 He reviewed this work. He participated in
8 the scoping of this activity, and he assisted Ms. Hender-
9 son in her work.

10 Q Did he ever visit the site with her?

11 A Not with her, no; not to my knowledge.

12 Q Did he ever visit the proposed site with any-
13 one?

14 MR. COPELAND: Asked and answered.

15 JUDGE WOLFE: I don't recall that it was.
16 I will allow the question.

17 THE WITNESS: Dr. Smith and I visited the
18 site.

19 MR. DOGGETT: Oh, okay.

20 BY MR. DOGGETT:

21 Q Al Smith is the same person as Alan Smith?
22 Is that correct?

23 A Dr. Alan L. Smith.

24 Q Just for clarification on the record, I drew
25 the name Al Smith from the address of a letter from

7-19

1 the Texas Parks and Wildlife to that person. So,
2 apparently there was some confusion as to the spelling of
3 his name.

4 And that's out of one of the exhibits in
5 Exhibit 16.

6 Did Georgia Henderson have any contact with
7 anyone from American Rigging and Construction Company,
8 Inc.?

9 A I don't believe so.

10 Q Referring again to the letter from -- which
11 is enclosed in Exhibit 16, Texas Parks and Wildlife De-
12 partment, dated March 7, 1980, addressed to Dr. Al
13 Smith, did Georgia Henderson perform a comprehensive on-
14 site evaluation of this site, in your opinion?

15 A Yes, she did.

16 Q Did she take into account the factors men-
17 tioned in this Texas Parks and Wildlife Department
18 letter that determination of the actual presence of
19 species in a given project area depends on a number of
20 variables, such as seasonal and daily activity cycles,
21 environmental activity cues, preferred habitat,
22 transiency and population density, both wildlife and
23 human?

24 A I believe she did.

25 Q Well, if she visited the site over a two-day

7-20

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1 period in one particular month, how could she accurately
2 take into account seasonal cycles for these various
3 species?

4 A She obviously could not take into account
5 seasonal cycles just in February.

6 Q Do you know whether or not she visited the
7 proposed slip site after daylight hours?

8 A I'm not aware that she did or did not.

9 Q If she did not, then she obviously could not
10 have considered the species which might have made their
11 appearance -- the nocturnal species that might have only
12 been seen at night. Is that a fair statement?

13 A That's a fair statement. I do not know
14 whether she visited the site at night or not. I could
15 check my records to define that.

16 Q You say you could check your records to deter-
17 mine that?

18 A Yes.

19 Q Do you have those records with you?

20 A No, I don't.

21 Q In your opinion, is a one-day site visit
22 adequate to determine whether or not a particular species
23 is present at a particular site?

24 MR. COPELAND: I'm going to object to any
25 further questions along this line. The report itself is

7-11
1 fairly clear, Your Honor, in stating that there was no
2 absolute, accurate, precise assessment as to whether there
3 was a spawning or nursery ground in the vicinity of the
4 site.

5 That's a specific statement on page six. And
6 it's obvious from that statement that Dames & Moore con-
7 cluded that there was a paucity of data on the question of
8 spawning grounds in this area. That's a given in the
9 report.

10 (Pause.)

11 JUDGE WOLFE: Mr. Doggett, are you going to
12 address that?

13 MR. DOGGETT: I think he made an objection to
14 my question on the grounds that it's already answered in
15 the testimony. That's -- I'll let my question stand.

16 JUDGE WOLFE: Objection overruled.

17 THE WITNESS: The question -- Would you
18 please repeat it?

19 BY MR. DOGGETT:

20 Q Do you feel that simply visiting the proposed
21 site for one day is adequate to determine whether or not
22 some of these species of ... particularly animals are
23 present or not?

24 A I feel that it's adequate for the size of the
25 site, in view of the investigation that she made regarding

7-22

1 the habitat of these species, yes.

2 Q And what is your basis for that opinion?

3 A Discussion with my colleagues.

4 Q And what colleagues are you referring to?

5 A As I mentioned earlier, Dr. Smith reviewed
6 her work. And I relied on him to do that to insure that
7 her work was adequate.

8 Q All right.

9 Referring again to Exhibit 16 and the March 7th
10 letter from Texas Parks and Wildlife Department, are the
11 list of species of animals and plants following that
12 letter -- were those attached to the original March 7
13 letter?

14 A To the best of my knowledge, they were.

15 Q All right.

16 MR. SCOTT: Mr. Chairman, as you know, I
17 earlier raised questions about whether or not this witness
18 should even be allowed to testify.

19 I've sat here some 41 minutes listening re-
20 peatedly to this witness say that someone else did the
21 work and he can't answer, and that he got the notes and
22 whatever.

23 And I'd like to make a motion that the Board
24 order -- subpoena the one person that actually did this
25 work, and possibly her immediate supervisor, to come supply

1 the testimony in this case.

2 I don't see how we can build a record with the
3 kind of answers we're getting.

4 I was confident this was going to happen
5 earlier, but it clearly has happened, that we're not
6 getting direct answers to these questions.

7 I just think it would be a help to the Board --
8 and I know it would be a help to me -- to have the people
9 who are actually familiar with what happened here to pro-
10 vide the answers; if not instead of, at least in addition
11 to this testimony.

12 MR. COPELAND: Well, Your Honor, I submit that
13 the time for trial subpoenas to have gone out --

14 JUDGE WOLFE: I'm sorry, Mr. Copeland.

15 MR. COPELAND: The time for Mr. Scott to have
16 filed his trial subpoenas has long since passed. If he
17 wanted to subpoena a witness himself to come up here and
18 testify, he should have done that as part of his initial
19 filing in this case.

20 And ... you know, that's the way lawyers do
21 their business. If they think there's a witness that
22 ought to be in this case, they file motions for trial
23 subpoenas.

24 And I ... you know, all he has done is answer
25 the questions that Mr. Doggett has asked him. I think he

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1 has answered them truthfully. I think that the record is
2 being made quite complete here. The study is in; the
3 testimony is in; the study speaks for itself that ...
4 you know, as far as I'm concerned -- and I've said this
5 before and I'll say it again -- this is not a significant
6 issue in this case.

7 I think that Mr. Hussey is fully competent
8 to provide the Board with enough information to reach a
9 conclusion on this issue. And I think Mr. Scott's state-
10 ments are just further argument; that he's unhappy with
11 the fact that the testimony was admitted; and he's just
12 continuing to argue about that.

13 MR. SCOTT: Mr. Chairman, in response to
14 that, I don't know of anything that prevents the Board from
15 issuing a subpoena at this time.

16 And particularly --

17 JUDGE WOLFE: We wouldn't have to go to that
18 extent, in any event, Mr. Scott. We could request that
19 additional witnesses appear --

20 MR. SCOTT: Okay.

21 JUDGE WOLFE: -- at the Board's request. I'm
22 certain, if we found it necessary, that any party pre-
23 senting witnesses would comply with the Board's request.

24 Had you finished now on your --

25 MR. SCOTT: Well, not quite.

7-25

1 I would like to point out that in this parti-
2 cular case, the two people I had in mind are located only
3 minutes away from the hearing room. So there would be no
4 great problem with having them to be here, either today or
5 tomorrow.

6 JUDGE WOLFE: You're speaking to Ms. Henderson
7 and Dr. Smith?

8 MR. SCOTT: Yes.

9 (Bench conference.)

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1 JUDGE WOLFE: The Board has consulted at all
2 times, we're carefully judging the testimony, the
3 witness' demeanor, and if we feel that additional
4 testimony is required, or supplemental testimony by a
5 witness, we will do it on our own or at the request of
6 adverse counsel.

7 We have not made such a judgment, nor or
8 we in a position to make such a judgment on the bases
9 of cross-examination today.

10 So, we deny the motion at this time.

11 All right. Proceed, Mr. Doggett.

12 BY MR. DOGGETT:

13 Q Mr. Hussey, again, referring to the
14 attachments to the March 7, Texas Department of Parks
15 and Wildlife letter, do you know whether any of the
16 species listed on the first attachment following that
17 letter concerning endangered species is a seasonal
18 species?

19 A The birds are migratory.

20 Q What about some of the other?

21 A No. I don't believe so.

22 Q One question.

23 Who made the handwritten additions to that
24 document and the following documents?

25 A The Texas Parks and Wildlife Department.

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1 Q Do you know whether or not Ms. Henderson
2 was able to confirm any of the species which are listed
3 on those attachments as confirmed Brazoria County?

4 A She investigated the site area.
5 Not the entire county.

6 Q No.

7 Did she see any of the plants or animals
8 on this specific site which the Texas Parks and Wildlife
9 Department lists as confirmed for Brazoria County?

10 A No, she did not.

11 Q Now, when you and Dr. Alan Smith -- is it
12 Al L. Smith? Is that the correct?

13 A (No immediate response.)

14 Q All right.

15 When you and Dr. Smith visited the site, did
16 he take any samples of plants, or soil or water?

17 A No.

18 We took photographs. No samples.

19 Q Did you consider the possibility of
20 reproducing any of those photographs in your Exhibit 16?

21 A Yes.

22 Q And, why was that not done?

23 A We didn't think it would lend anything in
24 particular to the report.

25 Q Was cost a factor in that decision?

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A No.

Q Do you know when the actual decision was made to use the method of RPV transportation which is addressed in your report?

A No.

Q In your direct testimony, I believe, you give an estimate of, I believe, correct me if I'm wrong, three to five years for complete restoration of the slip site. Perhaps, that's in Exhibit 16.

I would refer you to it, but I don't have it in front of me.

MR. COPELAND: It's in his testimony, counsel, page 9.

(Pause for witness to look through document.)

BY MR. DOGGETT:

Q In any event, have you found it Mr. Hussey?

A No.

I haven't. Could you refer me to the page, please.

Are you talking about my testimony?

Or the Exhibit?

Q Well, I think Mr. Copeland found it.

MR. COPELAND: Page 9, line 13, Mr. Hussey.

MR. DOGGETT: In your testimony.

THE WITNESS: Um-Hmm.

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1 BY MR. DOGGETT:

2 Q Who provided you with that estimate?

3 A Ms. Henderson and Dr. Smith.

4 Q Did you consider the possibility of simply
5 leaving the -- Once the slip site had been built and used
6 did you consider the possibility of just leaving it there?

7 A Rather than restoring it?

8 Q Yes.

9 A Yes.

10 Q And, I am assuming that you decided against
11 that.

12 What were the reasons for deciding against
13 that?

14 A First, let me make it clear it is not our
15 decision as consultants to decide the disposition of the
16 property.

17 We can simply recommend relative to impacts.

18 Our opinion was that it would be restored to
19 a more natural state by filling it back in with the
20 materials excavated from the slip.

21 Q Did you address that anywhere in your
22 testimony?

23 I don't believe you did, but if I'm wrong
24 would you correct me?

25 MR. COPELAND: I'm going to object to that as

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1 being impermissibly vague.

2 Addressed what, Mr. Doggett?

3 MR. DOGGETT: Leaving the site there, rather
4 than restoring it back to its natural state.

5 THE WITNESS: I don't believe we did.

6 JUDGE LINENBERGER: Excuse me, Mr. Doggett.

7 Partly because I may not have been able to
8 hear you and partly because of, perhaps, what you said,
9 I did not understand your comment, Mr. Hussey, with
10 respect to "it's not our decision", regarding whether or
11 not to restore the barge slip.

12 Now, could you explain that comment. I didn't
13 -- I think I just didn't hear everything you said.

14 THE WITNESS: Mr. Doggett asked me if it was
15 our decision to restore it in that manner.

16 My comment was addressed to the fact that we,
17 the company, certainly do not own that land and are not
18 responsible for its disposition in that fashion.

19 I'm saying that I don't believe that
20 Dames & Moore can make that decision.

21 JUDGE LINENBERGER: All right, sir.

22 Was it Dames & Moore's decision to recommend
23 that it be restored?

24 THE WITNESS: Yes.

25 JUDGE LINENBERGER: Thank you.

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1 BY MR. DOGGETT:

2 Q What was the reason that you recommended that
3 the site be restored to the natural conditions?

4 A I believe I just answered that.

5 MR. COPELAND: He did, Your Honor.

6 So, I'm going to object to any further
7 questioning as being asked-and-answered.

8 JUDGE WOLFE: Well, I've had occasion to
9 advise witnesses before, and I wish counsel would advise
10 their witnesses when they take the stand, that if a
11 question is put to them that has been asked before that
12 they themselves are not to comment that they have answered
13 it before.

14 The proper way is for counsel having the
15 witness to object that the question has been
16 asked-and-answered.

17 I thought I had made that clear to counsel
18 before.

19 MR. COPELAND: You did, Your Honor. And, I
20 suppose it is a natural tendency on the part of a witness
21 to be saying, "I thought I explained that before" and
22 I am sure that that was what Mr. Hussey was unclear as
23 to what he didn't understand in that.

24 JUDGE WOLFE: Well, in any event I would
25 prefer witnesses to wait for their counsel to raise that

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1 as an objection and not state in any sense or in any way,
2 that they for any reason had testified or explained before.

3 This not having been done, I will allow the
4 question.

5 THE WITNESS: The reason that we thought it
6 should be restored is that that would create the riverbank
7 back to its natural condition which would not otherwise
8 maintain that the barge slip was left in its excavated
9 condition.

10 BY MR. DOGGETT:

11 Q Well, what harm would it cause the river, or
12 the plants or animals in the river if the bank was not
13 restored?

14 MR. COPELAND: Well, Your Honor, I'm going to
15 object to any further questions along this line.

16 It just seems to me to be wasting a great deal
17 of time here in this proceeding over an issue that really
18 is -- The question of whether to restore the bank or not
19 restore the bank just doesn't seem to me to be something
20 that this Board ought to be concerned about.

21 The witness has testified that that was
22 a recommendation that it be done and that would be a
23 better way to minimize the impacts of building the barge
24 slip there.

25 Nobody has contended that we ought to leave

8-8

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1 the barge slip there once it is built.

2 So, I don't understand why we're pursuing
3 this line of questions.

4 (Bench Conference)

5 JUDGE LINENBERGER: Mr. Copeland, perhaps,
6 I can and, indeed, shall speak for the Board here
7 with respect to our interest in this line of questioning
8 of the cross-examiner.

9 Our Board's frequently are exposed to
10 possible environmental insults to a number of extremes
11 throughout various parts of the country.

12 Sometimes these are significant and sometimes
13 they are not; but we try not to let our own judgments
14 determine that decision, other than to exercise them
15 on what evidence is in the record.

16 Now, then, one way of looking at this
17 particular situation is that to install or construct the
18 barge slip in the first place involves a first insult to
19 this stream of some sort.

20 Make no judgment about how serious that
21 insult is at this point.

22 It is conceivable, however, that having made
23 that first insult it might be desirable to go away and
24 let the river recover, rather than subject it to a second
25 insult and try to put it back to the way it was in the

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1 first place.

2 Now, I won't speak for Dr. Cheatum here; but
3 to me that is a reasonable thing to be interested in.

4 And, I didn't really hear the witness answer
5 Mr. Doggett's question in the context that I have just
6 put -- expressed our interest.

7 That's all I have to say.

8 MR. COPELAND: I didn't either, Your Honor,
9 and I didn't hear it going in that direction.

10 I don't have any quarrel with what you just
11 said; but it just seemed to me that we're, you know, we're
12 never getting anywhere in the way the questioning was
13 going.

14 I withdraw my objection.

15 THE WITNESS: I will try to answer this as
16 best I can.

17 If you'll refer to Figure 2, Exhibit 16, it
18 might be of some assistance.

19 First, I would like to point out a few things
20 that would have to be maintained should the barge slip
21 be left in place.

22 The excavation itself will be riprapped
23 there will be erosion protection in that form; and the
24 area will be cleared -- the work area.

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1 The material from that excavation will be
2 stock-piled and the excavation material stored in the
3 upper righthand portion of the figure.

4 If the barge slip was left in that condition,
5 these areas would have to be maintained or there would
6 be subsequent erosion, the area would not be in the
7 natural state that it is in now.

8 Additionally, as with most rivers in the
9 coastal plain, they are somewhat dynamic with respect to
10 erosion and deposition.

11 It is unlikely that if the riprap was not
12 maintained along the slopes of that barge slip that it
13 would stay in its condition as left immediately after
14 offloading the barge.

15 To restore it to a natural condition would
16 allow the river to return to its normal deposition on an
17 erosional pattern.

18 BY MR. DOGGETT:

19 Q Well, is it your opinion, then, that
20 restoration and the related environmental impacts will be
21 less than those impacts of simply leaving the area as is?

22 A That is my opinion.

23 Q And, did Georgia Henderson and Dr. Smith
24 both, did either or both of them express an opinion on
25 this particular question to you?

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A Yes.

Q Which one might express the opinion?

A Dr. Smith.

Q All right.

Referring to Exhibit 16, page 9, the last paragraph you stated that, "All work will be performed in compliance with . . . industrial safety requirements of the State of Texas."

What industrial safety requirements are you referring to?

A I'm not personally aware of those requirements, specifically.

Q Okay.

Who told you that there were such requirements?

A The contractor proposed to conduct the construction.

Q And that's American Rigging & Construction, Inc.?

A That's correct.

Q Is that same contractor going to be responsible for restoring the site?

A I think you should address that question to HL&P.

I'm not sure of the answer to that.

8-12

1 Q You have no idea whether or not that particular
2 contractor has any experience in restoring land such as
3 this particular site that will have to be restored do you?

4 A I'm aware that they do have experience in
5 restoring land.

6 Not specifically, but I'm aware of their
7 experience in general.

8 Q Okay.

9 They do have such experience?

10 A Yes.

11 Q Are you asked by -- Have you been asked or
12 do you anticipate being asked by HL&P to recommend a
13 contractor to perform the restoration work?

14 A I have not been asked by HL&P to recommend
15 a contractor and I do not anticipate being asked by HL&P
16 to recommend a contractor.

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*8-13 1 Q Did you recommend this particular contractor
ci 2 in the first place?

3 A No, sir.

4 JUDGE LINENBERGER: Following on from that
5 question, Mr. Hussey, can you say how it came about that
6 there was correspondence between that particular contractor
7 and Dames & Moore?

8 THE WITNESS: Sir, the contractor had been
9 identified prior to our being contacted to evaluate the
10 environmental impact of this site.

11 We were brought together by the Applicant.

12 JUDGE LINENBERGER: Thank you.

13 BY MR. DOGGETT:

14 Q On page 14 of Exhibit 16, the second full
15 paragraph, you discuss the fact that the present plan is
16 not to segregate the soils when they are removed.

17 They will be all mixed together, then dumped
18 back in.

19 Will the fact that these soils will not be
20 segregated have a greater environmental impact than if
21 they were segregated?

22 A No.

23 Q And, how do you know that?

24 A Because of our general experience in
25 reclamation.

8-14

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1 Q Well, what is your experience in reclamation?

2 A I said ours, Dames & Moore's in particular.

3 Dr. Smith has participated in lignite mining
4 evaluations with respect to soils reclamation projects, to
5 address this specifically. The clays and the soils
6 mentioned are not particularly different to the depth of
7 the excavation itself.

8 Q There is a statement at the end of that
9 paragraph that the change in the soils will probably not
10 effect groundwater recharge capabilities.

11 Do you anticipate that it would have any
12 effect on what type of plants it might be able to sustain
13 or anything of that nature?

14 A That would depend on how it is replaced.

15 Q Do you anticipate actually replanting plants
16 on this material, or do you intend to let nature take
17 its course?

18 A We haven't addressed that to my knowledge.

19 Q If this soil is not seeded or does not have
20 plants placed on it after its put back into the slip, do
21 you foresee erosion problems?

22 A Was your question related to erosion?

23 Q This question is.

24 A The plan would be to seed the slopes to
25 prevent erosion after the area is restored.

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1 Q Who in your company did you consult concerning
2 the possible effects on the roadways of moving an object
3 this heavy?

4 Did you do this analysis yourself or did you
5 consult someone else in your company?

6 A The structural effects on roadways were
7 evaluated by American Rigging, not by Dames & Moore.

8 Q What experience, if any, is your understanding
9 that they have in evaluating such effects?

10 A I believe they have just recently completed a
11 contract moving similar vessels in the State of
12 Washington, but Dames & Moore did not work with them on
13 that to my knowledge so I cannot speak to that any further.

14 Q Then, you do not know whether or not they
15 performed the road analysis in that particular --

16 A I have been informed that they performed
17 analysis such as these.

18 I am familiar with their representative.

19 I have confidence that he is qualified to do
20 that.

21 Q What type of -- Who is their representative?

22 A Our contact has been with a Mr. Gerald
23 McClellan, whom I believe you will see referenced in the
24 document.

25 Q And what did he discuss with you, or did you

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ask him about his qualifications for making such an
analysis?

A Yes.

Q And, what did he say?

A I cannot recall exactly.

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1 BY MR. DOGGETT:

2 Q Are the prime movers that will be attached
3 to the front and rear of the RVP vehicle tracked or
4 tired vehicles?

5 A They're tired. It's pneumatic.

6 Q Okay.

7 How do they compare in size to, say, your
8 usual 18-wheeled tractor puller?

9 A They're significantly larger.

10 MR. SCOTT: Mr. Chairman, I would like a
11 clarification if possible. Are we talking about the
12 tires or the vehicles, when we're talking about them being
13 significantly larger?

14 JUDGE WOLFE: To whom are you directing that?

15 MR. SCOTT: The witness.

16 MR. DOGGETT: I'll ask the question.

17 BY MR. DOGGETT:

18 Q Are you referring to the tires or the whole
19 vehicle or both?

20 A Not the tires, the horizontal dimensions of
21 the vehicle.

22 Q When you calculated the weight of this group
23 of vehicles and transporters, did you include the weight
24 of those movers?

25 A Dames & Moore did not calculate the weight for

1 the vehicle.

2 Q Did American Rigging perform that calculation?

3 A I believe that's correct.

4 Q Do you know whether or not they included the
5 weight of the prime movers?

6 MR. COPELAND: For what purpose, Mr. Doggett?

7 MR. DOGGETT: I'm trying to determine the
8 likelihood of damage to roads and how that was calculated.

9 MR. COPELAND: Thank you.

10 THE WITNESS: Sir, I'm not sure whether they
11 calculated it. But as you'll see, the total weight --
12 Please refer to page one of Exhibit No. 16, if you would.

13 The last full paragraph on the page indicates a
14 weight of 1190 tons with a total weight when mounted on
15 the overland trailer.

16 That indicates that the trailer weight is
17 included in the weight of the vessel. And that indicates
18 the weight of the trailer per se would be a small part
19 of the weight of the vessel.

20 BY MR. DOGGETT:

21 Q Apparently -- Well, you can't tell whether
22 that actually includes the weight of the movers itself?

23 A No.

24 Q Do you have any idea what those vehicles will
25 weigh?

1 A I suspect it will be a small -- a very small
2 and insignificant proportion of the weight of the
3 vessel.

4 Q On page 16 of Exhibit 16 towards the end of the
5 first full paragraph, there's a statement that rest stops
6 will be planned at 10- to 15-mile intervals. Do you have
7 any idea what the purpose of those rest stops would be?

8 A The logistics of the moving operation would be
9 handled by American Rigging. The purpose of the rest
10 stops, to the best of my understanding, is to facilitate
11 planking and construction for the next day's activities,
12 things of that nature, to avoid moving through certain
13 areas during the night time hours where it would be some-
14 what dangerous.

15 Q Somewhere I believe in Exhibit 16, and prob-
16 ably in your testimony, the statement is made that the
17 choice of the overland -- one of the factors in the choice
18 of the overland route was to avoid as many towns as
19 possible.

20 Is that a fair characterization of the testi-
21 mony?

22 A That's true.

23 Q Did American Rigging, or did Dames & Moore
24 do any traffic load analysis of any of these roadways?

25 A Dames & Moore did not obtain any state

9-4

1 statistics on traffic counts.

2 I am aware that American Rigging has had many
3 discussions with the State Highway Department regarding
4 the feasibility of these alternative routes. However, I
5 do not know whether they got specific traffic counts.

6 Most of these roads, you understand, are quite
7 rural; and the traffic counts are very low.

8 Q Did American Rigging tell you specifically how
9 many prepared rest stops they felt they would have to
10 construct?

11 A I believe that will be decided as a function
12 of weather conditions and other factors at the time of the
13 move.

14 Q What is entailed in preparing a rest stop
15 site?

16 A I'm afraid I can't answer that.

17 Q Do you have any idea whether these prepared
18 rest stop sites might have any type of environmental
19 impacts?

20 A Not of significance. They're generally pre-
21 planned areas providing sufficient width off the shoulder
22 of the highway to cover the area occupied by the equip-
23 ment.

24 They're not expecting to construct or place
25 fill, I don't believe, to facilitate use of shoulder

9-5

1 areas and so on.

2 Q Did American Rigging discuss with you the
3 possible pitfalls or dangers of just pulling off the road
4 somewhere? I would assume there could be some real
5 problems there.

6 A It was discussed. Their intent is certainly
7 not to pull off the road just anywhere. They would plan
8 their stops in advance and everything would be co-
9 ordinated with state and local officials.

10 Q Have you done any studies or looked at any
11 reports of similar overland moves of reactor pressure
12 vessels?

13 A Not of reactor pressure vessels, no, sir.

14 JUDGE LINENBERGER: What about other kinds of
15 equipment of comparable weight?

16 THE WITNESS: I was involved in a study that
17 Dames & Moore did some years ago to transport a chemical
18 vessel -- a pressure vessel at a location in Indonesia.
19 We had to build up -- recommend building up bridges and
20 roadways to transport that vessel.

21 JUDGE LINENBERGER: Thank you.

22 BY MR. DOGGETT:

23 Q Now referring to one of the exhibits contained
24 in Exhibit 16, a Texas Highway Department letter dated
25 August 30, 1974, addressed to American Rigging and

9-6

1 Construction Company, Inc., attention: Mr. Paul Storm --
2 Do you have that?

3 A Yes, sir.

4 Q On page two of that letter -- well, actually
5 at the bottom of page one of that letter, requirement five
6 states that the base of all roads must be dry.

7 How has American Rigging taken into considera-
8 tion the dangers of heavy rains, possibly holding up
9 this transportation?

10 A You'll have to ask them, sir.

11 Q On page two of that letter, in item six, the
12 Highway Department apparently lays down the requirement
13 that once the move has begun, it should not stop. That
14 seems to be somewhat of a contradiction between the other
15 materials we've talked about.

16 Can you-- Have you discussed that with
17 American Rigging?

18 A No, I have not.

19 Q Do you know whether or not the Texas Highway
20 Department has ever issued a permit for an object of this
21 size and weight to be moved over the highways?

22 A I don't have any personal knowledge of that.
23 But I would certainly assume so.

24 Q I believe that no permit application has been
25 made to the Texas Highway Department as of this date. Is

1 that correct?

2 A I'm not aware of that.

3 Q On pages 16 and 17 of Exhibit 16, there is a
4 differentiation made between light vehicle traffic and
5 heavy vehicle traffic; the apparent difference being that
6 the detours for heavier vehicles will probably be longer
7 than for the light vehicles.

8 Did American Rigging do any kind of analysis
9 as to the amount of heavy vehicle traffic along the pro-
10 posed route?

11 A I'm not aware of their detailed studies, or any
12 studies in that regard.

13 Q Are you aware that there's quite a bit of
14 heavy oilfield equipment moved on these roads?

15 MR. COPELAND: I'm going to object to that
16 unless you specify which road you're speaking of, Mr.
17 Doggett.

18 MR. DOGGETT: The roads of the proposed
19 route.

20 THE WITNESS: I'm not aware that there's a
21 lot of heavy oilfield equipment moved on those roads.

22 BY MR. DOGGETT:

23 Q On page 26 of Exhibit 16 you discuss the
24 alternative of building a temporary bridge across the
25 San Bernard River. And you state that this alternative

9-8

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1 was not chosen because of the many uncertainties and
2 complications associated with the possible acquisition
3 of land and the construction and removal of the bridge.

4 Do you have any idea who owns the lands in
5 question?

6 A No.

7 Q Do you have any idea whether anyone with your
8 company or anyone with HL&P made any effort to determine
9 whether or not they could acquire that land?

10 A No one from Dames & Moore made any inquiries
11 in that regard. Personnel from American Rigging, or their
12 client, I believe, did make such inquiries.

13 Q What was the problem in acquiring the land?

14 A I don't believe the problem is simply one
15 of acquisition of the land, but going from the land surface
16 to the water and so on, there are many different land
17 owners.

18 It was also Dames & Moore's opinion that the
19 impacts associated with that type of construction would
20 be more significant than those of the barge slip itself.

21 Q Could you be more specific as to what impacts
22 would be greater for the construction of a temporary
23 bridge, as opposed to the slip?

24 A We did not analyze the specific method of
25 construction, so I could only postulate about methods for

9-9

1 constructing a bridge.

2 It would involve driving piling in the river,
3 excavation along the river bank for abutments. This would
4 cause some disturbance to the aquatic environment.

5 It would not take place over a short period
6 of time either. It would extend for some period of time.

7 Q Is there any method that you're aware of to
8 build a temporary bridge other than the things you've
9 talked about?

10 A I suspect that there are.

11 Q What types of methods would those be?

12 A I can only guess, and I'm not sure that they
13 would be adequate to support a vessel such as this.

14 Q Could you give us some idea of what some of
15 those other methods might be?

16 A Pontoons.

17 Q Any others?

18 A I'm afraid not.

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9-10

1 BY MR. DOGGETT:

2 Q Did Ms. Henderson visit the site where this
3 possible temporary bridge would be constructed?

4 A We have indicated that the thought given to
5 the construction of a temporary bridge would be at a
6 location immediately downstream, or just downstream of the
7 existing bridge, so it would be in the site area itself.

8 And having visited the site, I can feel con-
9 fident that she did see the area of the river at that
10 location, yes.

11 Q Well, did she tell you that she visited that
12 particular place?

13 A No.

14 Q Did she ever discuss that with you?

15 A No.

16 Q Did she ever discuss with you what the probable
17 environmental impacts would be of putting a temporary
18 bridge there?

19 A No.

20 Q Referring to Figure 2 in Exhibit 16, right
21 behind the proposed slip is an area with little plants
22 drawn, and it says "Cyperus wetland." What types of
23 plants are growing in that Cyperus wetland?

24 A Excuse me. I'm going to have to refer to
25 the next.

9-11

(Pause.)

A If I could refer you to page five, we indicate that palmetto occurs throughout the site, but is more common in depressions.

And subsequently, that the areas of the depressions are dominated by sedges (Cyperus, C-y-p-e-r-u-s, s-p) around the margins.

Q Well, what my concern was that there were cypress trees there and there was just a misspelling. There are no cypress trees there?

A Not to my knowledge, sir.

Q Okay.

On page 36 of Exhibit 16 -- excuse me, 34 of Exhibit 16, in response to question seven, the statement is made that borings will be drilled at the site to evaluate engineering characteristics of the soil.

And this is done to determine whether or not the spoil can be classified as hazardous under the Resource Conservation and Recovery Act of 1976.

Have any borings been done at this site yet?

A Yes, sir.

Q And have they been analyzed?

A They have been analyzed for geotechnical characteristics. They have been examined to determine whether any tests should be made for toxic characteristics.

9-12

1 No tests were performed on these samples for
2 toxic characteristics. They were judged to be innocuous.

3 Q Are you saying no further tests were performed
4 because they were innocuous, or that the tests haven't
5 been performed yet?

6 A Forgive me. I overanswered your question.
7 The only tests performed were for soil
8 properties. There were no tests performed relative to
9 chemical constituents, to my knowledge.

10 Q Okay.

11 Do you have any idea why this wasn't done
12 when you had the soil samples available?

13 A Examination of the soil samples indicated
14 that they were indicative of natural deposits in the
15 area, and that there were no foreign substances in those
16 soils.

17 Q Do you anticipate having any chemical analysis
18 performed just to be on the safe side?

19 A No.

20 MR. DOGGETT: I pass the witness, and I would
21 like to be excused at this time.

22 JUDGE WOLFE: All right, Mr. Doggett, you're
23 excused.

24 We'll recess until five minutes till 4:00.

25 (A short recess was taken.)

9-13

1 JUDGE WOLFE: On the record.

2 Mr. Copeland, the Board has been conferring.
3 It has been our inclination ... our decision to request
4 that Ms. Georgia Henderson and Dr. Alan Smith be called
5 as a panel, together with Mr. Hussey; if possible, to be
6 called tomorrow morning the first thing, so that we can
7 have their input on the environmental ecological impacts
8 that are addressed in the report and testimony, parti-
9 cularly in the report attached to Mr. Hussey's testimony.

10 Would this be possible?

11 MR. COPELAND: I don't know. We'll just have
12 to check.

13 JUDGE WOLFE: All right.

14 In the mean time, so that we do not waste
15 the balance of the afternoon, Mr. Doherty and Mr. Scott,
16 we will restrict -- you will restrict your cross-
17 examination to Mr. Hussey upon the engineering matters
18 covered in his testimony, and also on any matters -- or
19 aspects of the delivery plan for the reactor pressure
20 vessel.

21 MR. COPELAND: Your Honor, I really object
22 to that procedure. If we're going to have Mr. Smith and
23 Ms. Henderson here, I would ask that all three witnesses
24 be on as a panel together, because -- I ... you know, I
25 think Mr. Hussey is competent and qualified to testify

9-14

1 about some of the environmental matters in this report.

2 And I suggest that if we're going to try to
3 save time, that we proceed and put in his testimony on the
4 agricultural impacts and go ahead with the cross-
5 examination on that piece of testimony; and we'll take
6 back up with the barge slip when the other two witnesses
7 are here.

8 (Bench conference.)

9 MR. SCOTT: Mr. Chairman --

10 JUDGE WOLFE: Yes.

11 MR. SCOTT: If I understood what just hap-
12 pened, the Board suggested that we should restrict --
13 for the balance of the afternoon -- our questioning to
14 engineering things, non-environmental things, in a rough
15 way; and then that tomorrow, all three witnesses would be
16 on and all three could be questioned on -- It wasn't
17 clear to me if it meant everything in the testimony or
18 all environmental things.

19 But if I understood Mr. Copeland's objection,
20 it was something like this witness was competent to talk
21 about environmental things. And if he can talk about
22 them tomorrow, I don't see how there's any delay, or
23 anything caused by your earlier suggestion.

24 I don't know why he objected.

25 MR. COPELAND: It's a waste of time, Your

9-15
1 Honor. It's pretty obvious that if we're going to have
2 two other people brought in here, all of whom are going
3 to provide cumulative testimony, that we might as well
4 have them all three here at the same time and let whoever --
5 which one of the three of them wants to answer the
6 question answer the question.

7 JUDGE WOLFE: Well, it's getting late in the
8 afternoon. We're not ready to proceed with the other
9 portion -- other testimony of Mr. Hussey.

10 It is our conclusion that for the balance of
11 the afternoon, we will hear the limited cross-
12 examination by counsel directed to this witness, solely
13 on engineering matters covered in his testimony and re-
14 port and -- as to the engineering matters and as to the
15 delivery plan.

16 I think this will forward our progress in the
17 case. And tomorrow Mr. Hussey may remain as a member of
18 the panel. And if there are -- and we will have them
19 cross-examined as a panel, and not as individual
20 members, because it's obvious that there has been input
21 certainly by Ms. Henderson and Dr. Smith into this
22 report.

23 So we will have them aboard tomorrow -- all
24 three people, all three witnesses. And we will hear
25 then the cross-examination on ecology and environmental

1 impacts.

2 We will proceed now.

3 MR. SCOTT: Mr. Chairman, there's one additional
4 issue that has come up. Mr. Doggett just asked to be
5 dismissed. I guess he meant for the duration of the
6 testimony of this witness ... before this new thing came
7 up.

8 Now I would like to be able to go to the
9 library where he's at now working, to determine if he
10 needs -- would like to come back and sit out the rest of
11 the afternoon, so he could cross-examine tomorrow or --

12 JUDGE WOLFE: We'll give you five minutes to
13 check with him.

14 You're excused. We'll have a recess in place
15 for five minutes.

16 MR. SCOTT: Okay.

17 And another alternative which the Board might
18 be willing to consider is that if Mr. Doggett could just
19 come back in the morning and not cross-examine this
20 gentleman any more, but the other two people.

21 JUDGE WOLFE: Well, let Mr. Doggett come back
22 and speak for himself.

23 MR. SCOTT: Thank you.

24 JUDGE WOLFE: We'll have a recess for five
25 minutes in place.

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(A short recess was taken.)

JUDGE WOLFE: Back on the record.

Did you contact Mr. Doggett, and why didn't he come back?

MR. SCOTT: Yes, I contacted Mr. Doggett. He's down in the library reading the record. And he said thanks for giving him the chance, but he has to be in court -- in trial tomorrow morning.

So he can't accomplish anything by being here for the last hour of today.

JUDGE WOLFE: All right.

What do you have to report, Mr. Copeland?

MR. COPELAND: Ms. Henderson is in town. Mr. Smith is not.

Mr. Hussey will just have to try tonight to get in touch with Mr. Smith. And if he's here, I guess he'll just show up here tomorrow. I don't know what else we can do, unless the Board is willing to go forward with just Ms. Henderson.

JUDGE WOLFE: Well, at least for this afternoon we'll proceed on the limited cross-examination of Mr. Hussey.

If Dr. Smith is not available tomorrow morning, then we'll just have to set over cross-examination of the panel consisting of Mr. Hussey, Dr. Smith and Ms.

9-18

1 Henderson until some later date when all three are
2 available.

3 All right. We'll proceed through the balance
4 of the afternoon then on the cross-examination on the
5 limited basis that the Board has prescribed.

6 You may now proceed, Mr. Doherty.

7 MR. DOHERTY: Okay.

8 CROSS-EXAMINATION

9 BY MR. DOHERTY:

10 Q Mr. Hussey, how close will the barge -- well,
11 the bottom of the barge be to the river bottom through
12 the transit?

13 MR. COPELAND: Asked and answered in his
14 direct testimony, Your Honor. It explains the dimensions
15 of the barge, and it explains the depth of the channel.

16 JUDGE WOLFE: Isn't that so?

17 MR. DOHERTY: Well, knowing the dimensions
18 of the barge won't tell me how far the barge will sink
19 down.

20 JUDGE WOLFE: It says, I think, at page one
21 of the report that the barge will draft about eight feet
22 when loaded.

23 MR. COPELAND: And it tells on page six
24 fully loaded what it will draft.

25 MR. SCOTT: Mr. Chairman, I can't argue and

9-19

1 don't argue that that statement is not in there, but I
2 do know there is a whole lot more to it than that.

3 JUDGE WOLFE: Well, there may be a lot more
4 to it than that. But I'm waiting -- But the question
5 that Mr. Doherty put has been asked.

6 Now with that, I will sustain the objection.
7 But you may proceed from there, Mr. Doherty, to develop
8 whatever your area of concern is.

9 BY MR. DOHERTY:

10 Q How is it possible to calculate the displace-
11 ment of the barge without knowing the weight of the
12 reactor vessel?

13 A It's not.

14 Q Do you know the weight of the reactor vessel?

15 A I don't personally know it. It's in our
16 data.

17 Q I see.

18 Mr. Hussey, are you familiar with the Draft
19 Supplement to the Final Environmental Statement related
20 to the construction of Allens Creek Nuclear Generating
21 Station, Unit No. 1?

22 A Yes, sir.

23 Q Do you have it with you?

24 A Yes, sir.

25 Q Yes, I think that's it.

9-20

1 Would you turn to page 3-4, please.

2 Do you see there in the second paragraph --
3 well, the first complete paragraph on that page --

4 A Yes.

5 Q All right.

6 Does that give what your understanding is of
7 the reactor pressure vessel's weight?

8 A Yes, sir.

9 Q 1052 short tons.

10 A That's shipping weight.

11 Q All right.

12 Would you expect there to be a difference
13 between the shipping weight and the weight when loaded
14 on the barge?

15 A There are rigs attached to it, it's my under-
16 standing, so the weight could vary.

17 Q I see.

18 Now in your testimony on page one of Exhibit
19 16 -- I'm sorry, I may have misled you there.

20 The total weight when mounted on the overland
21 rig of the reactor pressure vessel will be 1190 tons.
22 Are those short tons?

23 A Yes, sir.

24 Q I see.

25 Now, would there be anything incorrect in

1 subtracting the tonnage given on page 3-4 of the Draft
2 Supplement from this 1190 tons?

3 A I can't attest to that, not having supplied
4 the data for the Supplement myself.

5 Q Well, you testified a while ago that you
6 thought the weight of the prime mover was small compared
7 to the weight of the reactor vessel. Do you still believe
8 that's true?

9 A Yes.

10 Q Is small in your mind more than ten percent?

11 A No.

12 Q Is it more than five percent?

13 A I can't estimate the -- I believe I tried to
14 answer this -- I can't estimate the weight of the
15 trailers that move this. I don't know that I can
16 quantify what I mean by "small."

17 Q Uh-huh. Well, what would be wrong with simply
18 concluding that they weigh 132 short tons?

19 A Because I don't believe that's correct.

20 Q All right.

21 Tell me why you think that's incorrect,
22 please.

23 A If you will refer to page one of Applicant's
24 Exhibit 16, it says the RPV will be mounted and shipped
25 on a lifting and upending rig.

9-22

1 Now, in addition to the trailers, the weight
2 of that lifting and upending rig contributes weight to the
3 total weight of the vessel when shipped overland.

4 Q The lifting and upending rig?

5 A That's my understanding.

6 Q Do they go on the shipment the whole 50 miles,
7 or are they removed?

8 A That's, I believe, what it says. I believe
9 that's correct.

10 Q All right.

11 To what is it that you refer to that you
12 believe is correct?

13 A That the lifting and upending rig is attached
14 to and associated with the RPV vessel.

15 Q And moves with it on the trip overland?

16 A Yes.

17 Q Okay.

18 You state at the bottom of page one that the
19 barge will draft about eight feet when loaded, and that it
20 will go 26 miles.

21 Are you familiar with the hydrographic bul-
22 letins put out by the Department of the Army, Galveston
23 District Corps of Engineers with regard to channel
24 depths in various rivers in Texas?

25 A Generally.

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Q I see.

MR. DOHERTY: May I approach the witness, Your
Honor?

JUDGE WOLFE: Certainly.

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(Document is shown to the witness.)

BY MR. DOGGETT:

Q Mr. Hussey, did I just show you a hydro-graphic bulletin which gives channel depths of the San Bernard River channel from Mile 0 to Mile 26?

A I believe so.

Q All right.

Do you recall what the Corps of Engineers gives as the feet and widths of the dredged channel?

MR. COPELAND: I'm going to object, Your Honor. The witness has not identified the document.

All that Mr. Doherty has done is say that he did show him the document. He hadn't demonstrated that the witness is familiar with the document, that he knows what the document is, or that it indeed says what Mr. Doherty says it does.

JUDGE WOLFE: Yes, Mr. Doherty, back up and lay your foundation.

MR. DOHERTY: Yes.

BY MR. DOHERTY:

Q Mr. Hussey, are you familiar with this type of information?

A Yes --

MR. COPELAND: I'm going to -- Your Honor, the question is not type of information. The question is

10-2 1 whether he's familiar with that specific document.

2 JUDGE WOLFE: Identify the document first,
3 Mr. Doherty. Then proceed with your questioning.

4 MR. DOHERTY: All right.

5 The specific document is called "The Hydro-
6 graphic Bulletin" put out by the Department of the Army,
7 Galveston District, Corps of Engineers, Post Office Box --
8 well, I don't think I need to read all of that.

9 But the Corps of Engineers from Galveston.

10 JUDGE WOLFE: The date?

11 MR. DOHERTY: 1 January 1981.

12 JUDGE WOLFE: All right.

13 MR. DOHERTY: Subtitle: "Report of the
14 Depths Available for Navigation in the Federal Project
15 Waterways of the Galveston District."

16 BY MR. DOHERTY:

17 Q Are you familiar with that document, sir?

18 A Not that document specifically, until you just
19 showed it to me.

20 Q Are you familiar with hydrographic bulletins
21 of the channel depths of the San Bernard River that's
22 put out by the Corps of Engineers in Galveston?

23 A We have reviewed such information, yes.

24 Q I see.

25 Now what did your reviews show, sir?

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A That the Corps maintains the channel 100 feet wide and 9 feet deep up to River Mile 26/27, in that vicinity.

Q All right.

MR. DOHERTY: May I approach the witness again?

JUDGE WOLFE: Yes.

BY MR. DOHERTY:

Q What is the approximate width of the Brazos River at its narrowest point in the 26 miles from the Mile 0 to the offloading site, please?

MR. COPELAND: You said Brazos.

MR. DOHERTY: I meant to say San Bernard.

THE WITNESS: Would you repeat the question, please?

BY MR. DOHERTY:

Q All right.

What is the narrowest width, to your knowledge, of the San Bernard River from Mile 0 to the proposed landing place?

A I don't have information on the narrowest width. The information that I'm familiar with is that they maintain the dredged channel 100 feet in width.

That's certainly not the total width of the river, which is much larger.

10-4

1 Q Do you know of any point on the river that's
2 narrower than 100 feet between those two points?

3 A No, I don't.

4 Q All right.

5 Did I not just show you a document a moment
6 ago which shows that the depths in the middle half of the
7 channel are less than nine feet?

8 MR. COPELAND: I'm going to object, Your
9 Honor. The witness has stated that he is not familiar
10 with that document. Therefore, the document is not ad-
11 missible in evidence; and I object to any further
12 questions on that document.

13 MR. DOHERTY: The gentleman was shown the
14 document a moment ago. So he's familiar with it now.

15 I'm asking him about a column of numbers,
16 which is ... six numbers.

17 I'm asking him if any of those were indeed
18 less than nine feet.

19 MR. COPELAND: Your Honor, there's no evidence
20 in this record to authenticate that document, to establish
21 that it is in fact a document published by the Corps of
22 Engineers or that the truth of the matter contained
23 therein is true.

24 JUDGE WOLFE: You are challenging then the
25 authenticity of this document?

10-5

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1 MR. COPELAND: I certainly am. Yes, sir.

2 MR. DOHERTY: Your Honor, the document has
3 the seal -- Well, on page three of the document it gives
4 dredged dimensions for several bayous and a single river
5 channel.

6 The dates correspond -- 1 January '81.

7 It looks like you're in conference, so I'll
8 stop a minute.

9 (Bench conference.)

10 JUDGE LINENBERGER: While we're in a pause
11 here, Mr. Doherty, is that an excerpt from the document or
12 a complete document?

13 MR. DOHERTY: No, it's an incomplete docu-
14 ment.

15 JUDGE LINENBERGER: It's an incomplete docu-
16 ment?

17 MR. DOHERTY: Yes, sir.

18 JUDGE WOLFE: May we see the document, Mr.
19 Doherty?

20 (Document is handed to Judge Wolfe.)

21 JUDGE WOLFE: Thank you.

22 The numbers appearing on this document that
23 you wish to refer to and bring to the attention of the
24 witness, do they differ from the numbers appearing in
25 the witness' testimony and attached report, as well as

10-6

1 differ from those numbers which appear in the Draft
2 Supplement to the Staff's Final Environmental Statement?

3 MR. DOHERTY: I'm not sure about the Draft
4 Supplement. But to my knowledge, they differ from the
5 testimony just heard, which was that nine feet was the
6 depth through the channel.

7 JUDGE WOLFE: All right. And this document,
8 you say, reflects what? For the channel?

9 MR. DOHERTY: Through the center, which I
10 would believe would be the most significant statistic,
11 I asked him if there were not measurements of seven and
12 eight feet.

13 JUDGE WOLFE: Seven or eight feet?

14 MR. DOHERTY: Yes.

15 MR. COPELAND: Your Honor, the trouble with
16 that document is that there's no indication on there of
17 what the tide level is in the river, whether there's a
18 variance in the tide levels from month to month.

19 That's the problem with not having the entire
20 document here. That's the problem ... that's the whole
21 reason the Rules of Evidence don't allow in documents
22 that aren't self-authenticating or that can't be identi-
23 fied through a witness.

24 I would point out that there is a letter in
25 Exhibit 16 from the Department of Army Corps of Engineers

10-7

1 dated August 30, 1974 that contradicts the information
2 that is in that particular excerpt, from whatever document
3 it is that we're talking about here.

4 So I think it's really introducing evidence
5 into the record that is not good evidence, because it's
6 not clear where it came from, what other information may
7 be in the document, and what the circumstances are --

8 JUDGE WOLFE: You're referring to what --

9 MR. COPELAND: There's a letter dated
10 August 30, 1974.

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1 MR. DOHERTY: Is this the letter to American
2 Rigging, counsel?

3 MR. COPELAND: Yes.

4 MR. BLACK: Judge Wolfe, I would indicate that,
5 at least, it is my opinion that hydrological bulletins are
6 records that are kept in the normal course of business
7 by the Army Corps of Engineers.

8 It is an official government publication.

9 As such, I believe the Board can take
10 judicial notice of such documents.

11 However, I have a reservation with respect to
12 the document before you in that it shows a limited portion
13 of a hydrological bulletin in which case definitions of
14 minimum depths, for instance, may not be explained.

15 The dredging depth of nine feet may not be
16 explained, whether that is at mean-low tide or whether it
17 is average depth or what have you.

18 In which case we may not get a complete
19 explanation of the terms that are in that excerpt before
20 you.

21 If such a document is wished to be brought
22 in, I think the complete document should be brought in
23 and then the Board can take judicial notice of it.

24 But, I think it is improper of the Board to
25 take judicial notice of an excerpt from a government

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1 document without having the complete document before it.

2 JUDGE WOLFE: Do you have the complete
3 document at your disposal, either at your office or home
4 or wherever?

5 Is there one accessible to you?

6 MR. DOHERTY: Well, the document that --

7 JUDGE WOLFE: One that you can show the Board
8 tomorrow?

9 MR. DOHERTY: The document was given me by
10 Dr. Marrack.

11 My best guess is that I believe the University
12 of Houston library is likely to have the complete
13 document.

14 They are open, I believe, this evening for
15 a few hours past our usual work time.

16 That would be my only shot at getting hold
17 of it, and I would do that in order to authenticate it or
18 meet these requirements.

19 I don't think I could leave the hearing for
20 it right now.

21 I don't think you'd desire that.

22 (Bench Conference)

23 MR. SCOTT: Mr. Chairman?

24 JUDGE WOLFE: Mr. Scott.

25 MR. SCOTT: I don't have the document in front

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1 of me right now but I have looked at it before and the
2 best I can remember there was some indication on one of
3 those two pages that indicated that tidal levels or --
4 that it was measured at.

5 I'm not a hundred percent sure of that, but
6 I think if you look closely you can infer that.

7 Secondly, I see nothing in Applicant's and
8 this witness' testimony that is any more finitive
9 specifically on page 6 it says eachunnel ". . . is
10 approximately 100 feet wide and 9 feet deep, and
11 extends from the confluence of the San Bernard River and
12 the Gulf Intracoastal Waterway to River Mile 26".

13 There's nothing about any tidal effects, low
14 tide, high tide minimum or anything else in that.

15 Although, I agree that can be of some
16 importance, although I'd think very little at this part
17 of the river some 26 miles upstream.

18 I think you'll find there's very little tidal
19 influence.

20 But, in any case I think that it is the kinds
21 of information that reasonable men could rely on and I
22 think the Board has the discretion, at least, if not
23 the obligation; at least, the discretion to admit that
24 sort of information in as it is. And, certainly, subject
25 to being confirmed with an original document at some later

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1 point.

2 (Bench Conference)

3 JUDGE WOLFE: What time does the library
4 close? The Houston Library tonight?

5 MR. DOHERTY: I believe it's -- I don't
6 really actually know.

7 I should know, but I don't.

8 I believe it does close after we will
9 probably be finished here.

10 I think it closes -- I think there's time
11 enough for me to go, is what I'm saying. At this moment
12 I believe that.

13 JUDGE WOLFE: All right.

14 MR. SCOTT: Mr. Chairman?

15 JUDGE WOLFE: Yes.

16 MR. OTT: Mr. Doherty knows as well as I
17 do this week is perhaps a little strange in that I don't
18 think the University is having classes this week, so
19 there may be some change in the normal library hours.

20 I don't know that answer.

21 JUDGE WOLFE: In any event, Mr. Copeland,
22 do you have access to a recent hydrographic bulletin?

23 MR. COPELAND: I do not.

24 JUDGE WOLFE: Does your witness?

25 THE WITNESS: I could check, Your Honor.

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1 But, I'm not sure.

2 I have to make a call to my office.

3 JUDGE WOLFE: All right.

4 We will recess now, and you'll make an effort
5 to get the complete document from the Houston Library.

6 In the meantime, Mr. Hussey, if you would
7 check your files and see if you have the January 1, 1981
8 Hydrographic Bulletin, published -- prepared and published
9 by the Department of Army, Galveston Corps of Engineers --

10 THE WITNESS: Excuse me. But it would be
11 of some assistance if I could get a Xerox copy of Mr.
12 Doherty's document to try and locate it.

13 JUDGE WOLFE: Well, you can take a look at
14 it.

15 I don't know if we'll have enough time right
16 now, but in any event we'll recess until tomorrow
17 morning at 9:00 a.m.

18 The witness will look at the page so he
19 can get the proper title.

20 And, we'll proceed tomorrow morning with
21 cross-examination, hopefully, with the full panel and
22 you may proceed with your examination, Mr. Doherty, on
23 this point.

24 That is if you have the complete copy of this
25 Bulletin.

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MR. DOHERTY: All right, sir.

JUDGE WOLFE: All right.

Recess -- Yes. Well, one other thing --
Judge Linenberger, yes.

JUDGE LINENBERGER: Well, I just wanted to make an observation here that having the full document before us may satisfy certain procedural requirements, but there's a possibility without some tidal-reach information we may not be able to resolve some technical consideration to the point of bringing this in in the first place.

So, I just offered that observation for the benefit of whoever might be addressing this matter tomorrow.

JUDGE CHEATUM: I'd like to add one more observation to that, is that there is a possibility that this kind of data produced monthly by the Corps may have a relationship as to what the maintenance problems are for the Corps that has to plan for in relation to dredging, width changes, depth changes, and so on.

And, unless the Corps itself has diminished its commitments to maintaining an operable channel on the San Bernard River to ten feet or better in depth, and a hundred feet width, then, this information is not going to give us any definitive data on what the significance

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1 of this report is to the time period when transportation
2 of the reactor vessel is scheduled.

3 So, --

4 MR. COPELAND: That was my whole problem with
5 the whole question.

6 Because it is not a self-explanatory document,
7 it doesn't do anything to contradict the testimony that
8 is in the case.

9 It is all on a wild goose chase.

10 MR. DOHERTY: Thank you, gentlemen, for that.

11 MR. SCOTT: Mr. -- Dr. Cheatum?

12 JUDGE CHEATUM: Yes.

13 MR. SCOTT: I agree with the point you have
14 just made.

15 I mean, I was aware of that, but I think it
16 at least goes to the question as to whether or not the
17 Corps really does always maintain that channel. And,
18 so at least to meet a schedule of Applicant it may be the
19 requirement of additional dredging.

20 MR. COPELAND: Well, that's just absolutely
21 false, Mr. Scott, because the Corps maintains the channel
22 that depth for everybody's purposes. In fact, Mr.
23 Hussey's testimony points out that there are barges that
24 draw as much as this barge is going to draw that come up
25 the river to the barge slip directly across the river.

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1 So, I don't see how you could possibly make
2 a statement like that.

3 MR. SCOTT: The data makes the statement.

4 JUDGE WOLFE: Well, we'll proceed in the
5 morning.

6 We're not deciding anything. There may be
7 something in this Bulletin that may be helpful. It may
8 not be.

9 We'll just have to wait and see.

10 All right.

11 We will recess until 9:00 a.m.

12 (Whereupon, at 4:50 p.m. the hearing
13 was recessed, to reconvene on
14 Wednesday, March 18, 1981, at 9:00 a.m.
15 in the same hearing room.)

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This is to certify that the attached proceedings before the

NUCLEAR REGULATORY COMMISSION

in the matter of: HOUSTON LIGHTING & POWER COMPANY

DATE of Proceedings: March 17, 1981

Docket Number: 50-466

Place of Proceedings: Houston, Texas

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

Mary L. Bagby

Official Reporter (Typed)

Mary L. Bagby

Official Reporter (Signature)