

11/2/81

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'81 NOV -5 P2:16  
*ors*

In the Matter of

APPLICATION OF TEXAS UTILITIES  
GENERATING COMPANY, ET AL. FOR AN  
OPERATING LICENSE FOR COMANCHE  
PEAK STEAM ELECTRIC STATION  
UNITS #1 AND #2 (CPSES)

Docket Nos. 50-445  
and 50-446  
OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

DOCKET NUMBER 50-445, 446  
PROD. & UTIL. FAC.

TRANSMITTAL OF ADDITIONAL INFORMATION

CASE (Citizens Association for Sound Energy) hereby files this, its transmittal of Additional Information in support of its previous motions for postponement and setting of dates for pre-hearing conference.

CASE submits herewith the October 20, 1981 Ninth Report by the Committee on Government Operations of the House of Representatives<sup>1</sup>, which states on page 8, paragraphs 1 and 2:

"...as indicated in the NRC responses to Chairman Moffett's written questions, two of those reactors (allegedly delayed) (Zimmer and Comanche Peak) have admittedly slipped additional months in construction schedules.

"In fact, the NRC believes the projected delays for Zimmer and Comanche Peak will be eliminated altogether by the utilities' forthcoming revisions in their schedules. In answer to Chairman Moffett's August 17 interrogatories, the NRC stated that its own staff predictions of completion dates for those plants shows they will suffer no delay from the licensing process." (Emphases added.)

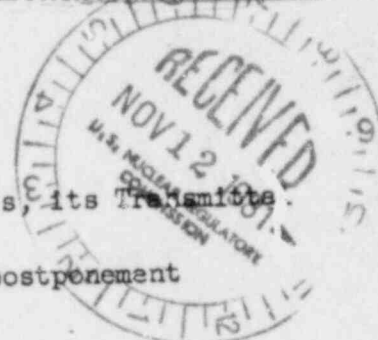
This report indicates two things which have direct bearing on these proceedings:

- (1) The NRC Staff knew on or before August 17 that, not only was the then-projected completion date of December 1981 incorrect, but the June 1982 projected date was also incorrect since it would still have resulted in

a four-month delay. It is also reasonable to assume that the Applicants

<sup>1</sup> House Report No. 97-277, Environment, Energy, and Natural Resources Subcommittee.

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also knew this.

- (2) "...the Committee found that the utilities themselves in some cases bear the responsibility for having delayed those very proceedings about which they complain. As NRC officials have had several occasions to warn industry officials, delays by the utilities themselves in resolving outstanding safety questions and the industry tendency to misstate construction completion schedules, as documented in this report, delay the NRC licensing proceeding.

"Finally, the Committee has found that the magnitude of whatever delay can be attributed to the NRC--even including the time taken to resolve significant safety issues such as seismic threat and emergency planning --is a small fraction of the delay caused by utility errors, management problems and marketplace realities such as capital acquisition."

House Report, page 41,  
paragraphs 5 and 6

4

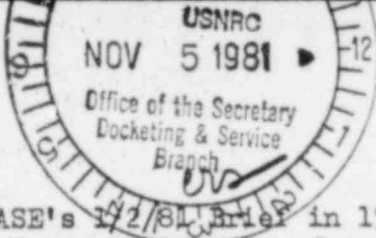
We are also attaching copies of excerpts from CASE's 1/2/81 Brief and the transcript of the cross-examination of Dallas Power & Light Co. witness Max Tanner in the Dallas and Austin 1980 DP&L rate hearings (Attachments A, B and C hereto -- see especially pages 7 through 11 of Attachment B and pages 5 and 6 of Attachment C). We realize that normally rate case information would not pertain to these proceedings; however, we are including this since it deals specifically with the NRC Caseload Forecast Panel's 10/23/80 projection for a fuel load date for Unit 1 of Comanche Peak of December 1982 (although the Applicants projected December 1981). ..

DP&L chose not to present this information regarding the Panel's projection to the regulatory authorities in the rate hearings, even though CASE deliberately provided them with the opportunity to present it.

CASE is transmitting this additional information at this time in compliance with the Board's directive that all parties keep them informed of changing circumstances bearing on these proceedings.

Respectfully submitted,

Juanita Ellis  
(Mrs.) Juanita Ellis, President  
CASE (Citizens Association for Sound Energy)  
1426 S. Polk  
Dallas, TX 75224  
214/946-9446  
214/941-1211, work, usually Tuesdays and  
Fridays only (however, I will be working  
11/2, 11/3, 11/5 and 11/6/81)



From CASE's 172/81 Brief in 1980 DP&L Rate Hearings, Docket No. 3460, Application of Dallas Power & Light Co. for a Rate Increase, Before Public Utility Commission of Texas

VII. Information which DP&L chose to omit from its testimony indicates that the Company will continue to have to rely on oil and gas, and that the realization of its primary justification for its construction program will continue to be delayed, with resultant increased costs.

On October 23, 1980, the Nuclear Regulatory Commission (NRC) Caseload Forecast Panel stated that although the owners of the Comanche Peak nuclear plant (which include DP&L) believe they will be ready to load fuel and get their operating license for Comanche Peak in December 1981, the NRC Caseload Forecast Panel thinks that it will be December 1982. In the Dallas hearings, CASE inquired as to whether or not DP&L's witnesses intended to amend their testimony to reflect that fact (Dallas transcript, pages 4, line 23, through 5, line 5). DP&L Attorney Mr. Wooldridge replied that they did not intend to amend their direct testimony (Dallas Transcript, page 5, lines 6 through 9).

Cross-examination of DP&L's witnesses revealed that the Company still believes it will meet the December 1981 fuel load date and that the first unit of Comanche Peak will go on line in 1982 (Tanner Cross-Examination, page 19, lines 17 through 20, Dallas Transcript; Dallas Transcript, pages 49, line 16, through 50, line 19; CASE Exhibit T-2; Austin Transcript, page 67, line 9, through page 68, line 16), although the NRC's projection is otherwise.

Should the NRC's projection be accurate, rather than DP&L's, it will result in another double-barrelled shot at the ratepayers: increased construction costs for Comanche Peak and continuing higher fuel costs because of continuing use of oil and gas (Dallas Transcript, Tanner cross-examination, page 19, line 13, through page 20, line 3; Dallas Transcript, Tanner cross-examination, page 54, lines 5 through 11; Austin Transcript, Tanner cross-examination, pages 41,



line 15, through 42, line 11, and pages 83, line 25, through 84, line 13).

Clearly this important piece of information should have been made available to the regulatory authorities by DP&L because of the possible impact which this might have on recommendations not be made in these proceedings. It disturbs CASE very much that DP&L not to come forward with this information in a frank and candid manner, even though CASE deliberately gave them an opening to do so (Dallas transcript, pages 4, line 23, through 5, line 5). This information should have been supplied as a supplement or at least mentioned by DP&L to the regulatory authorities rather than leaving it to this Intervenor to point it out.

In CASE's cross-examination of PUC Staff witness Mr. Child, he stated that this information would have an effect on his recommendations and/or his analyses, that his information was based on what the Company and all other sources had supplied, that he would use any available source that he felt reasonable and professional, and that such information would be considered as a matter of course in his analyses (Child cross-examination, Austin Transcript, pages 777, line 11, through page 779, line 19). And in CASE's cross-examination of PUC Staff witness Mr. Lee, he stated that he was not aware of the NRC Caseload Forecast Panel's projection, that if their projection were correct and the first unit of Comanche Peak didn't go into commercial operation as assumed by DP&L that the cost of the plant would undoubtedly go up, that he would definitely want to review information such as that; he indicated that part of his review was an analysis to see if the project is really needed, that he reviewed each project individually with regard to the dollars per kilowatt installed cost

as compared to what it might be if they generated that same amount of energy on gas or oil, to see if it's a beneficial project; that he then would make a determination yes or no; that if he made a yes determination, then those particular dollars that are included in CWIP would be evaluated by other PUC staff personnel to determine how much CWIP should be included in rate base to maintain the Company's financial integrity; that if he made a no determination, those particular projects would be excluded from CWIP and would not be considered by the other PUC staff personnel regarding the amount of CWIP to include in the rate base (Lee Cross-Examination, Austin Transcript, pages 855, line 6, through 860, line 9).

It is very obvious from the preceding that the information regarding the NRC Caseload Forecast Panel's projection is vitally important to this particular rate case. CASE is aware of the possibility that bringing out this information may actually risk having the amount of CWIP included in the rate base increased because of the increased cost of Comanche Peak and because it will be longer than anticipated before the first unit comes on line. PUC Staff witness Bruce Fairchild in the 1979 DP&L rate case (Docket 2572) actually changed his testimony in mid-stream due to a change in what he perceived the in-service date to be for Comanche Peak. We assume that DP&L is also aware of this possibility. This raises the question of why DP&L chose deliberately not to bring this vital piece of information to the attention of the regulatory authorities. CASE knows why we are willing to risk an increase in the amount of CWIP included in the rate base -- it is because, quite simply, we are more interested in bringing out the truth and facts than in making a particular point in this

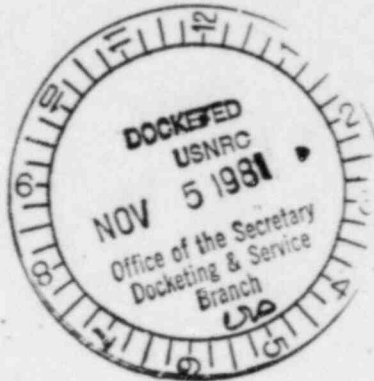
rate case. We do not know for a fact what DP&L's motives were in this matter (although we have our own opinion); we can only say for certain that they chose to deliberately not bring this to the attention of the regulatory authorities in this rate case. However, we do believe that the regulatory authorities have the right and the responsibility to ascertain exactly why DP&L chose this course; we urge that they exercise this right and responsibility and that the reasons be made part of the record in these proceedings.

If the NRC's projection is correct, and the first unit of Comanche Peak does not come on line until 1983 (rather than 1982 as the Company projects), the costs of the plant will go up, the very high costs of construction with CWIP in the rate base will continue longer than had been anticipated and will accelerate, DP&L will continue to have to rely on gas and oil with accompanying high fuel costs, and the ratepayers will be hit in the pocketbook again -- and again -- and again (see item VI, page 14, of this pleading), primarily to finance the construction of a plant which was supposed to have already been in operation according to the Company's 1974 projections and their assertions to the regulatory authorities when the Comanche Peak plant was first proposed as being absolutely necessary to supply electricity in 1980. (Could this be why DP&L chose not to advise the regulatory authorities of the NRC Caseload Forecast Panel's projection?)

DOCKET NUMBER 50-445,446  
PROD. & UTIL. FAC.

DALLAS POWER AND LIGHT COMPANY

APPLICATION FOR RATE CHANGE  
SUBMITTED TO THE CITY OF DALLAS



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DALLAS POWER AND LIGHT COMPANY

APPLICATION FOR RATE CHANGE  
SUBMITTED TO THE CITY OF DALLAS

- - -

APPEARANCES:

MR. THOMAS Z. JAMES

THE EXAMINER

DALLAS POWER AND  
LIGHT COMPANY

Mr. Al Engelland

Mr. Robert A. Wooldridge

For the Applicant

MR. GALEN M. SPARKS

Assistant City  
Attorney for the  
City of Dallas

MS. PAM O'BRIEN

Assistant to the  
Hearing Examiner

MRS. JUANITA ELLIS

President, CASE

MR. GEOFFREY GAY  
MR. ROGER JOYNER  
MS. FAITH SIMMONS

For ACORN

MS. KIM BATCHELOR

For CCEE

1  
2 TRANSCRIPT OF PROCEEDINGS HAD ON THE 24TH DAY  
3 OF NOVEMBER, A.D., 1980, IN THE DALLAS CITY HALL,  
4 ROOM 6E SOUTH, CITY OF DALLAS, COUNTY OF  
5 DALLAS, STATE OF TEXAS, AT 9:00 O'CLOCK A.M.  
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1 For the applicant.

2 MR. WOOLDRIDGE: Bob Wooldridge and Al  
3 Engelland for Dallas Power & Light Company.

4 THE EXAMINER: For ACORN;

5 MR. GAY: Geoffrey Gay, assisting me will be  
6 Faith Simmons and Roger Joyner.

7 THE EXAMINER: And for the Citizens Associa-  
8 tion for Sound Energy.

9 MRS. ELLIS: Juanita Ellis, president of  
10 CASE.

11 THE EXAMINER: There is a third intervenor  
12 group who's not represented yet, the Citizens Coalition  
13 for Economic Energy. Mrs. Ellis, I understand that  
14 Ms. Kim Batchelor will be here.

15 MS. ELLIS: Yes, uh-huh, she called yesterday  
16 and said she might be a little late.

17 THE EXAMINER: Representing the city staff.

18 MR. SPARKS: Galen Sparks, assistant city  
19 attorney.

20 THE EXAMINER: At this time I would like to  
21 entertain any motions or other information in advance  
22 of proceeding that may be appropriate to the case.

23 MRS. ELLIS: Mr. Examiner, we would like to  
24 inquire if the DP&L witnesses plan to amend their  
25 testimony to reflect the fact that on October 23, 1980,



1 the NRC case load forecast panel stated that although  
2 DP&L believes they will be ready to load fuel and have  
3 their operating license for Comanche Peak December of  
4 1981, the NRC case load forecast panel thinks that it  
5 will be December, 1982.

6 MR. WOOLDRIDGE: Mr. Examiner, we do not  
7 plan or intend to amend our direct testimony. I  
8 think that would be proper for cross-examination,  
9 however.

10 THE EXAMINER: Are there any other motions or  
11 information that may be pertinent to be considered  
12 before we proceed?

13 MR. GAY: Mr. Examiner, this isn't a motion  
14 but simply a statement of protest from ACORN that we  
15 don't consider this proceeding a PURPA proceeding,  
16 it's PURPA as has been formulated under federal law.  
17 Our conception of that statute is that sufficient  
18 public notice is to be provided for any PURPA pro-  
19 ceedings contemplated to allow the parties, prior to  
20 the proceeding or certainly right at the time of  
21 intervention, to understand the full dynamics of PURPA  
22 considerations. In particular, reference to your letter  
23 of November 11th and to the testimony filed by the  
24 company in response to that letter this previous Friday,  
25 which ACORN objects to. To us, that doesn't comply

1 this level --

2 A That looks like around '83, '84 period.

3 Q And why is it that you selected \$130 million?

4 A Well, I looked at our projections and they  
5 ranged right around that number.

6 Q Does that \$130 million contemplate construc-  
7 tion for Forest Grove, which you pick up --

8 A Yes.

9 Q If you deferred Forest Grove until 1987,  
10 does that mean that you would defer construction  
11 until 1987 or you would defer contemplating it on line?

12 A We deferred the construction.

13 Q *By B. Guy (ACORN)* On page 5, Mr. Tanner, line 9. You give the  
14 kW cost for Comanche Peak. Is that based on a 1981  
15 or a 1982 inservice date?

16 A That's based on a 1982 inservice date.

17 Q Are you familiar, Mr. Tanner, with the NRC  
18 review team's statement that Comanche Peak Unit No. 1  
19 should not come on line until 1983?

20 A I read that in the newspaper, yes.

21 Q If we could expect that to be a truism, I  
22 know it's a hypothetical for the company to assume that,  
23 but assume if you would that the plant, Comanche Peak,  
24 cannot come on line until 1983. Would you expect that  
25 delay and the rate of inflation in the next couple of

1 Q What about natural gas?

2 A Gas and oil. Well, gas units.

3 Q Natural gas units. Okay. All right.

4 In the consideration that you have given to  
5 this, has there been discussion just among the people  
6 at DP&L or has this been a Texas Utilities systemwide  
7 discussion or review or how has that come about?

8 A I've discussed it with my counterparts at  
9 the other operating companies. The fuel alternatives  
10 and their economics and their availability.

11 Q Okay. Are there any kind of studies or  
12 reports or any information at all available as to what  
13 went into these discussions and any documentation at  
14 all available on that?

15 A No.

16 Q *by J. Ellis (CASE)* Is it the current -- is it correct that the  
17 current DP&L projection is that the first unit of the  
18 Comanche Peak plant will have construction completed  
19 sufficiently to load fuel in December, 1981?

20 A That's correct.

21 Q All right. I think Mr. Gay mentioned the  
22 NRC <sup>e</sup> base load forecast panel's decision on the October  
23 23rd wherein they projected that the first unit in the  
24 Comanche Peak plant would have construction completed  
25 sufficiently to load fuel in December of 1982.

1 Did I understand from your answer that you  
2 are not really thoroughly familiar with that decision?

3 A I am not. And I don't know it's a decision  
4 on their part. I read in the paper that that was their  
5 opinion after visiting the plant.

6 Q Well, their projection, then... You have not  
7 discussed this or really looked into it any further  
8 than just reading it in the paper?

9 A I discussed with our folks who have the  
10 construction responsibility, the construction management,  
11 and they tell me that their schedule is still '81 and  
12 they have identified the items to be completed and  
13 their best estimate at the current time is 1981.

14 There are uncertainties associated with  
15 building a nuclear plant, as we are all familiar with,  
16 and it may have to be delayed, but our current schedule  
17 is 1981.

18 Q And these would be people with TUGCO?

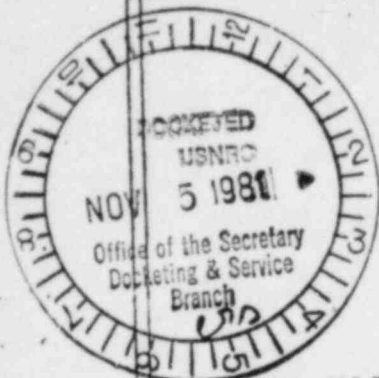
19 A That's correct.

20 Q How long after the fuel is loaded for Unit 1  
21 of the Comanche Peak plant is the unit expected to come  
22 on line?

23 A It would be producing some electricity shortly  
24 after the fuel was loaded and low power testing. We're  
25 projecting about six months after fuel load that the

TRANSCRIPT OF PROCEEDINGS

BEFORE THE  
 PUBLIC UTILITY COMMISSION OF TEXAS  
 AUSTIN, TEXAS



IN THE MATTER OF THE  
 APPLICATION OF DALLAS  
 POWER & LIGHT COMPANY  
 FOR A RATE INCREASE

X  
 X  
 X  
 X

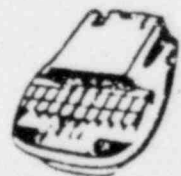
DOCKET NO. 3460

PUBLIC HEARING ON APPLICATION

BE IT REMEMBERED that at 9:30 a.m. on the 8th  
 day of December 1980, the above-entitled matter came on  
 for hearing before the PUBLIC UTILITY COMMISSION OF TEXAS  
 at the Offices of the Public Utility Commission of Texas,  
 7800 Shoal Creek Blvd., Suite 450-N, Room "A," Austin,  
 Texas, the HONORABLE ALAN HOLMAN, Hearings Examiner,  
 and the following proceedings were reported by  
 Aloma J. Kennedy, a Certified Shorthand Reporter of:

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THE RECORD NEVER FORGETS



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MR. LELAND NELSON, University Park, Texas.

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H  
K

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1 That's what the hearing is for.

2 MR. HOLMAN: Mr. Tanner, do you know which  
3 witness will speak to the matters on these pages?  
4 Are you a good starting point?

5 THE WITNESS: I'm probably a good starting  
6 point.

7 MR. HOLMAN: Go ahead, Ms. Ellis.

8 MS. ELLIS: Thank you.

9 Q In regard to this sheet, that I have just given  
10 you, again, this is from the operating license hearing.  
11 Is that correct?

12 A That's what it says up at the top there.

13 Q All right. I would like to talk with you just  
14 a moment. It states here for 1982 operation and then  
15 underneath, 1984 operation for the Comanche Peak plant.

16 Are you familiar with what has happened with  
17 the <sup>CASE</sup> CASE load forecast panel of the Nuclear Regulatory  
18 Commission which on October 23rd stated that although  
19 the company, Texas Utilities in this instance, said  
20 that they believed that the fuel would be ready to load  
21 and the operating licenses will be ready to be obtained  
22 for the first unit in December 1981, that the NRC/<sup>CASE</sup> CASE  
23 Load Forecast Panel has projected that it will be  
24 December 1982 before they are ready to load the fuel  
25 for Comanche Peak Unit 1?

1       A     The Company's current schedule, current plans,  
2     is to load fuel in late 1981. There are a lot of  
3     uncertainties in nuclear power plant construction.  
4     That is our current plan.

5             I further understand that this nuclear body  
6     visited the plant and indicated that they thought it  
7     might be different. They also said it might be  
8     possible for us to make this and they encouraged us to  
9     continue on our schedule, and that's what we are doing.

10       Q     Right. But based on their findings, they  
11     thought it would be December 1982 rather than December  
12     1981. Is that correct?

13       A     I did not read what they specifically found.  
14     I talked to our folks there. They have one opinion; we  
15     have another. They encouraged us to continue on ours  
16     and that's what we're going to do.

17       Q     All right. In regard to the capacity factor  
18     listed here for Unit 1 of Comanche Peak, it's listed as  
19     29 percent for 1982 and for 1984 it's listed as 53  
20     percent. Could you give me an estimation of what the  
21     future capacity factors would be following the operations?  
22     Are you talking about, for instance--let me back-track  
23     a little. Are you talking about on the first one, one  
24     unit having come on line?

25       A     That's correct.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
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UNITS #1 AND #2 (CPSES)

X  
Y  
Y  
Y  
Y  
Y  
Y

'81 NOV -5 P2:16

Docket Nos. 50-445 *CRS*  
and 50-446 SECRETAR  
DOCKETING & SERVICE  
BRANCH

CERTIFICATE OF SERVICE

By my signature below, I hereby certify that true and correct copies of  
CASE's Transmittal of Additional Information

have been sent to the names listed below this 2nd day of November,  
1981, by First Class mail locally and by Express Mail where indicated by \*.

- \* Administrative Judge Marshall E. Miller      David J. Preiner, Esq.  
U. S. Nuclear Regulatory Commission      Assistant Attorney General  
Atomic Safety and Licensing Board Panel      Environmental Protection Division  
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DOCKET NUMBER 50-445 446  
PROD. & UTIL. FAC.

Union Calendar No. 176

97th Congress, 1st Session

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USHRC

House Report No. 97-277

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LICENSING SPEEDUP, SAFETY DELAY:  
NRC OVERSIGHT

NINTH REPORT

BY THE

COMMITTEE ON GOVERNMENT  
OPERATIONS

together with  
ADDITIONAL VIEWS



OCTOBER 20, 1981.—Committed to the Committee of the Whole House on  
the State of the Union and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON: 1981

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## LETTER OF TRANSMITTAL

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HOUSE OF REPRESENTATIVES,  
*Washington, D.C., October 20, 1981.*

HON. THOMAS P. O'NEILL, JR.,  
*Speaker of the House of Representatives,*  
*Washington, D.C.*

DEAR MR. SPEAKER: By direction of the Committee on Government Operations, I submit herewith the committee's ninth report to the 97th Congress. The committee's report is based on a study made by its Environment, Energy, and Natural Resources Subcommittee.

JACK BROOKS, *Chairman.*

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# Union Calendar No. 176

97TH CONGRESS }  
1st Session }

HOUSE OF REPRESENTATIVES }

REPORT  
No. 97-277

## LICENSING SPEEDUP, SAFETY DELAY: NRC OVERSIGHT

OCTOBER 20, 1981.—Committed to the Committee of the Whole House on  
the State of the Union and ordered to be printed

Mr. BROOKS, from the Committee on Government Operations,  
submitted the following

### NINTH REPORT

together with  
ADDITIONAL VIEWS

BASED ON A STUDY BY THE ENVIRONMENT, ENERGY, AND NATURAL  
RESOURCES SUBCOMMITTEE

On October 7, 1981, the Committee on Government Operations approved and adopted a report entitled "Licensing Speedup, Safety Delay: NRC Oversight." The chairman was directed to transmit a copy to the Speaker of the House.

### I. INTRODUCTION

Catchwords are a key element in public policy debates. Particular words and phrases gain sudden currency with all who discuss an issue. When accurate, such shorthand, evocative words expedite discussion. When inaccurate, they distort public debate by misleading it.

For nearly a year, the most prominent catchword in the ever-vigorous national debate over nuclear power has been "delay." Utilities investing in nuclear power and their supporters have energetically marshaled fact sheets and economic analyses to support their contention that the nation's nuclear industry has been delayed needlessly by the oppressive regulations and procedures of the Nuclear Regulatory

Commission. The NRC has been specifically and repeatedly charged with delaying the operations of thirteen new nuclear plants.<sup>1</sup>

If valid, the charge of needless delay is an economically serious one. The numbers utilized in the debate have frequently shifted, but the "cost of delay" figures advanced by the nuclear industry have been consistently large and frightening to electricity consumers. As an example, an American Nuclear Energy Council report dated February 10, 1981 and submitted to the House Appropriations Subcommittee on Energy and Water Development stated:

While detailed figures are not yet available for each of the impacted plants, a conservative estimate of the average costs incurred for each of the 13 impacted plants would be in the range of \$30-40 million per plant per month. Since the impacted plants have accumulated a total delay of 90 months, the current costs of delay would be between \$2.7 and \$3.6 billion.<sup>2</sup>

In March, the widespread industry claims of delay had ballooned to 105 months, as reported by the NRC to the Congress.<sup>2a</sup> The industry campaign to convince the public and governmental authorities of this problem endured throughout the spring.<sup>3</sup> One example was a May 1, 1981 letter sent from Westinghouse Electric Corporation to Vice-President George Bush, Secretary of State Alexander Haig, Council of Economic Advisers Chairman Murray Weidenbaum and others. Westinghouse told the Vice-President that:

The NRC program for licensing nuclear power plants in the U.S. is virtually at a standstill. Only 3 full power operating licenses have been issued over the past 2 years and a total of 104 months delay is being projected by the utilities for 10 plants awaiting operating licenses, at an estimated additional \$3 billion.<sup>3a</sup>

Confronted with charges of such substantial costs to consumers, the NRC began a number of initiatives to speed the licensing of new nuclear plants. In so doing, the NRC shifted personnel and rearranged its priorities toward the licensing effort and away from other NRC programs.<sup>4</sup> Among the programs comparatively deemphasized were a number of safety-related programs that had been given greater emphasis since the Three Mile Island accident in March 1979.<sup>5</sup>

<sup>1</sup> Testimony before the House Appropriations Subcommittee on Energy and Water Development and monthly reports from the Nuclear Regulatory Commission required by that Subcommittee since November 1980 have been the primary documents indicating which plants were alleged to be delayed by the NRC in recent months. Hearings on Energy and Water Development Appropriations for 1982, Nuclear Regulatory Commission, Part 4, before the Subcommittee on Energy and Water Development of the Committee on Appropriations, 97th Congress, 1st session (hereinafter cited as Appropriations Hearings); Monthly Status Reports from the NRC to Chairman Tom Berill, November 1980 to August 1981 (hereinafter cited as Status Reports).

<sup>2</sup> Appropriations Hearings, at 135.

<sup>2a</sup> Id., at 957.

<sup>3</sup> See, e.g., *Nucleonics Week*, April 9, 1981, at 14.

<sup>3a</sup> Letter from C. G. Hurlbert, Westinghouse Electric Corporation, to Vice-President George Bush, May 1, 1981.

<sup>4</sup> Those NRC steps were detailed to the Subcommittee in public hearing on June 18, 1981. Hearings on NRC Licensing Speedup before the Subcommittee on Environment, Energy and Natural Resources of the Committee on Government Operations, 97th Congress, 1st session, at 4 (hereinafter Hearings).

<sup>5</sup> As the most significant nuclear accident in the commercial industry to date, the accident at unit 1 of the Three Mile Island facility near Harrisburg, Pennsylvania on March 28, 1979, resulted in extensive study and recommendations for new steps to insure safety at operating nuclear powerplants. See "Three Mile Island: A Report to the Commissioners and to the Public," Volume I, Nuclear Regulatory Commission Special Inquiry Group (hereinafter the Rozovim Report); Nureg-0660, "NRC Action Plan," Nuclear Regulatory Commission, April 1980 (hereinafter TMI Action Plan).

The NRC speedup of the licensing of new reactors also entailed a range of actions and proposed actions intended to curb the role of citizen-intervenors in the licensing process. Those NRC steps were taken based on the general theory, widely espoused by the nuclear industry, that intervenors are the principal cause of the alleged delay in licensing new reactors and in the overall problems afflicting today's nuclear power industry.<sup>6</sup>

#### A. HISTORY OF INVESTIGATION

These highly-publicized industry charges of delay and the resultant NRC speedup effort triggered the subcommittee inquiry which led to this report. The Subcommittee on Environment, Energy and Natural Resources, chaired by Rep. Toby Moffett (D-Conn.), first began investigating the impact on nuclear safety of the NRC licensing speedup proposals in March 1981.

While investigating a major water spill that occurred in the containment building of the Indian Point reactor near New York City, the Subcommittee discovered that the NRC's ongoing preventative inspection program was being threatened with the loss of manpower to the licensing speedup. That information greatly concerned the Subcommittee, since it came in tandem with revelations that the NRC inspection program already was in dire condition. Less than two-thirds of the NRC's routine inspection program for currently operating reactors was actually being performed. The diversion of inspection personnel to licensing could be expected to weaken an already debilitated inspection program.<sup>7</sup>

That investigation led to a June 12 report by the full Government Operations Committee. The Committee concluded, among other findings, that:

A major strengthening of the NRC inspection program should be accomplished. That strengthening furthermore should be a condition of the further licensing of nuclear reactors for commercial operation in this country.<sup>8</sup>

Given its findings about the weakness of existing NRC inspection program, the Committee in that June 12 report recommended:

That the NRC not divert manpower currently involved in the inspection and enforcement functions to the effort to expedite licensing of new plants. The Committee specifically instructs the Subcommittee on Environment, Energy and Natural Resources to continue its oversight of the NRC in this regard.<sup>9</sup>

On June 18, the Subcommittee pursued the question of the impact on nuclear safety of the licensing speedup. A public hearing was held and testimony was received from the Commissioners of the Nuclear Regulatory Commission, led by then-Chairman Joseph Hendrie.<sup>10</sup> Subse-

<sup>6</sup> Appropriations Hearings, *supra* note 1, at 135, *passim*.

<sup>7</sup> Inspecting Operating Nuclear Powerplants: Shortcomings in the Nuclear Regulatory Commission. Fourth Report of the Committee on Government Operations, H. Rept. No. 97-144, June 12, 1981, at 20-23.

<sup>8</sup> *Id.*, at 48.

<sup>9</sup> *Id.*, at 48.

<sup>10</sup> Hearings. Commissioner John Ahearne was the only member of the NRC absent at the June 18 hearing. At that time only four of the five Commission seats were filled.



quent to that hearing, the Subcommittee sought and obtained additional information from the NRC relevant to this question, including a series of written questions posed by Chairman Moffett and by Subcommittee Member Jack Hiler (R-Ind.). This report is based on the hearings before the Subcommittee and the materials submitted to the Subcommittee.<sup>11</sup>

## B. SUMMARY OF REPORT AND CONCLUSIONS

Based on the subcommittee inquiry and its own review of the record, the Committee has concluded that the claims of NRC delay of the operation of new nuclear powerplants in this country have been grossly exaggerated. Far fewer new powerplants will be delayed by the NRC's licensing proceedings than has been claimed in recent months by the industry and its supporters. The cost of any such delays will be dramatically smaller than repeatedly suggested. Moreover, to place that potential cost in perspective, any possible cost to utilities (and ultimately to their consumers) of delays in licensing will certainly not match, let alone exceed, the cost of a single major accident such as that at Three Mile Island.<sup>12</sup>

Moreover, the record indicates that where licensing "delay" has transpired in part because of the NRC's licensing proceedings and the involvement of public intervenors, there has been a countervailing public benefit. Namely, in some cases the licensing process and the consequent delay have resulted in tangible "fixes" in the plants which improve the guarantees of their safety once placed in operation.<sup>13</sup> In other cases, where the necessity for the additional measures imposed on the utilities by the NRC hearing process remains bitterly contested, it is still a matter of dispute whether the public safety has indeed been enhanced by the hearing process.<sup>14</sup> Even in those cases, however, the Committee has found that the hearing process has contributed an intangible but important benefit: an increase in public awareness and confidence in the ultimate licensing decision.

That benefit is of particular importance to the nuclear industry. The future of nuclear power depends upon the achievement of adequate public acceptance of this unique and controversial technology. NRC hearing procedures afford citizens an opportunity to raise apprehensions and have their contentions dealt with in a legal, governmentally sanctioned forum. Even where the citizen contentions are ultimately dismissed, those proceedings offer the industry its best hope that it will achieve the necessary public acceptance locally and nationally for it to survive.<sup>15</sup>

Chapter II of this report details the Committee findings about the alleged delay of nuclear plant operation by NRC proceedings. By examining the specific cases that have been represented by the industry as examples of delay, the Committee has found that those claims are in most cases inaccurate. Each of the plants at issue are discussed in Chapter II.

<sup>11</sup> *Id.*, at Appendix.

<sup>12</sup> *Id.*, at 71.

<sup>13</sup> *Infra*, chapter II.

<sup>14</sup> *Infra*, chapter II.

<sup>15</sup> *Infra*, chapter IV.

Chapter III recites in some detail the actions taken by the Nuclear Regulatory Commission under pressure from the industry and its supporters to expedite licensing. This Chapter also reviews the Committee's findings on the wisdom of many of these actions.

Chapter III also details the troubling slippage in many safety programs at the NRC. The disturbing fact is that many non-licensing programs directly related to safeguarding the public health and safety from harm from nuclear accidents have been delayed, deferred or neglected, in some cases for years. That situation has not improved while the NRC and its critics have focused on licensing delay and speedup. This Chapter also analyzes the near- and long-term safety implications of this lack of adequate NRC attention to critical safety programs.

Chapter IV presents the conclusions of the Committee.

Chapter V itemizes the Committee recommendations to the Nuclear Regulatory Commission. These recommendations are made in the Committee's capacity as the principal oversight Committee of the House of Representatives having jurisdiction over the Nuclear Regulatory Commission.

## II. NRC LICENSING "DELAY"

Persistent claims that the Nuclear Regulatory Commission is delaying licensing have fostered a broad public assumption that there are numerous plants already physically ready to go and standing idle solely because of the NRC.

No less a figure in the nation's energy affairs than Secretary of Energy James Edwards has labored under the assumption that for months now there have been a number of finished plants standing idle while awaiting licensing. He told the press in June, just prior to the subcommittee hearing, that the NRC's dilatory licensing had prevented "six or eight nuclear plants ready to go on line" from beginning operation.<sup>16</sup>

That pervasive assumption has been and remains false, as the subcommittee hearings and NRC-produced documents disclose. Throughout the time of the subcommittee investigation and consideration of this report, from June 1981 through September 1981, there has been only one new nuclear plant physically ready for initial fuel loading and operation in the entire United States that has been delayed in beginning operation by the NRC licensing process. That sole plant that has unarguably been delayed during this period is Unit 1 of the Diablo Canyon site near San Luis Obispo, California.<sup>17</sup>

The peculiar status of the Diablo Canyon site is apparent to the daily newspaper reader. At the time of the consideration of this report, that site remained one of the most controversial nuclear power

<sup>16</sup> Los Angeles Times wire service, Boston Globe, June 6, 1981, at 7. That does not appear to be the only controversial view of the Secretary regarding the difficulties confronting nuclear power. Edwards was criticized in his own home state, South Carolina, for remarks in June 1981 that attributed the opposition to nuclear power in this country to "subversive elements." Secretary Edwards suggested that "it is absolutely essential to get rid of these strident voices, somehow get rid of the roadblocks," according to the Orangeburg (S.C.) Times & Democrat, The State, June 17, 1981, at 18C; June 21, 1981, at 2B.

<sup>17</sup> Hearings, at 9.



sites in the nation's experience.<sup>18</sup> The complicated issues surrounding the delay in operating that plant clearly go far beyond arguments about the NRC's efficiency and its speed of proceeding. Those special issues are dealt with later in this chapter.

The impression that many nuclear plants already are standing idle has in part been nurtured by the monthly reports from the NRC to a House Appropriations Subcommittee. Those reports, begun in November 1980, have been submitted each month since.<sup>19</sup> Each report has included a list of potentially "impacted" plants, that is, those plants involved in contested proceedings which might be finished during 1981 or 1982 and prior to the completion of a required NRC hearing.<sup>20</sup> That monthly list has varied in composition slightly during that period, but has for most of 1981 included the following ten reactors: Diablo Canyon 1, Diablo Canyon 2, Summer 1 (in South Carolina), San Onofre 2 (in California), McGuire 1 (in North Carolina), Susquehanna 1 (in Pennsylvania), Zimmer 1 (in Ohio), Shoreham 1 (on Long Island, New York), Comanche Peak 1 (in Texas) and Waterford 3 (in Louisiana).<sup>21</sup>

To place those numbers in context, it should be noted that while the industry and the NRC were predicting in early 1981 that as many as eleven to thirteen reactors would be delayed by the NRC licensing process, a total of 80 plants were in some stage of construction during that time.<sup>22</sup> Some 33 of those plants are projected to be completed by the end of 1983. Thus the vast majority of plants nearing construction completion have not been projected to be delayed by the NRC licensing process.

The most pessimistic of those NRC monthly reports, transmitted in January 1981, indicated that the NRC anticipated as much as 79 reactor-months of delays between physical completion of eleven plants on the list and the completion of the licensing process for those plants.<sup>22</sup> Yet that total of possible delay was based only on *projected* times of completion for those plants. None of those plants was then complete or had experienced actual delay. Since last January, only Diablo Unit 1, as just noted, has been completed and has experienced actual delay in full-power licensing after completion of construction.

The use of projected completion dates, particularly those provided by the utilities themselves, has proved highly misleading, as the subsequent monthly reports have disclosed. "Slippage" in the anticipated construction dates for nuclear plants has been endemic for years. As the NRC itself noted in its May 29, 1981 status report to Congress:

The present licensing schedules for plants projected by utilities to be completed in 1981 and 1982 are given in Table 1... The potential delays between the construction completion and projected issuance of a full power license are presented based on the applicant's expected construction completion

<sup>18</sup> See, e.g., Washington Post, Sept. 16, 1981; Wall Street Journal, Sept. 16, 1981; New York Times, Sept. 16, 1981.

<sup>19</sup> Hearings, at 20-41.

<sup>20</sup> It should be noted that the Monthly Status Reports clearly indicate that a large number of new nuclear plants will be completed during 1981-83 which have not been contested by intervenors and subjected to a hearing. Those could not by definition have been delayed by the hearing process.

<sup>21</sup> See, e.g., May Status Report, in hearings, at 20-41.

<sup>22</sup> "Status of Nuclear Power Plant Units," NRC Office of Management and Program Analysis, July 31, 1981.

<sup>23</sup> January Status report.

date. The applicants' estimated completion dates have historically proven optimistic, that is, earlier than actual construction dates, and therefore their use may overstate the delay.<sup>23</sup>

That observation has been amply borne out. Slippage in the anticipated construction completion dates for the plants purportedly being delayed by the licensing process has now largely eliminated the so-called delay.<sup>24</sup> Projected delay has dropped from 104 months to 23 months or less.<sup>24a</sup>

In a March 12 letter, the NRC noted that there had been slippage in the completion dates for Zimmer and for San Onofre 2.<sup>25</sup> In its May status report, slippage on the Susquehanna completion date reduced the projected delay from a full year to two months.<sup>26</sup> In the June report, the NRC noted that the utilities applying for licenses for Shoreham and for Summer had revised their prediction about construction completion by four months and three months, respectively. That completely eliminated the projected delay for Shoreham and reduced the Summer anticipated delay to two months.<sup>27</sup>

In its July report, the NRC noted that Southern California Edison and the other utilities applying for the San Onofre 2 license had again pushed back their construction completion date, this time reducing that projected delay from eight to four months.<sup>28</sup> And the NRC confirmed what it had revealed to the subcommittee on June 18, that Duke Power Company had experienced engineering problems and had not been able to meet its projected completion date.<sup>29</sup> That reactor, once listed for 13 months of delay due to the NRC, and frequently cited in Congressional deliberations as a prime example of the problem of NRC delay, had in fact not been delayed at all by the NRC hearing process in moving to full power operation.<sup>30</sup>

In its August report, the NRC stated that the Cincinnati Gas & Electric Company, owner of the Zimmer facility, had

informed us that construction is presently several months behind schedule and, therefore the estimated delay will be less than the current projection of eight months. A revised schedule is to be supplied by the applicant in September 1981.<sup>31</sup>

That report related the same information about the Comanche Peak unit being built by Texas Utilities Generating Company.<sup>32</sup>

The August report also noted that Pacific Gas & Electric had provided information to the NRC indicating the the Diablo Canyon Unit 1 completion date had been later than previously reported to the NRC, reducing that claimed delay by three months.<sup>33</sup>

<sup>23</sup> May status report.

<sup>24</sup> The phenomenon of extensive slippage in construction schedules is not limited to those on the "delayed" list. Slippage at other units, including uncontested sites, confirms the industrywide character of the problem. Other examples in recent months include the LaSalle and Seabrook plants. See status reports.

<sup>24a</sup> August status report.

<sup>25</sup> Letter from NRC Chairman Joseph M. Headrie to subcommittee Chairmen Tom Beville, Mar. 12, 1981, at 4.

<sup>26</sup> Hearings, at 23.

<sup>27</sup> June status report, at 2.

<sup>28</sup> July status report, at 4.

<sup>29</sup> Hearings, at 9-12.

<sup>30</sup> July status report, at 8.

<sup>31</sup> August status report, at 7.

<sup>32</sup> Id., at 7-8.

<sup>33</sup> Id., at 8-9.

Primarily as a consequence of all those slippages, the August NRC report to Congress indicates a total projected delay of 42 reactor-months (down from 79) affecting eight reactors (down from eleven).<sup>34</sup> Moreover, as indicated in the NRC responses to Chairman Moffett's written questions, two of those reactors (Zimmer and Comanche Peak) have admittedly slipped additional months in construction schedules.

In fact, the NRC believes the projected delays for Zimmer and Comanche Peak will be eliminated altogether by the utilities' forthcoming revisions in their schedules. In answer to Chairman Moffett's August 17 interrogatories, the NRC stated that its own staff predictions of completion dates for those plants shows they will suffer no delay from the licensing process. That staff analysis also suggests that the anticipated delay for the Summer plant will be one month rather than the two months projected by the utility.<sup>34a</sup>

Finally, two of the remaining "delayed" reactors are at the Diablo Canyon site. Those two reactors alone account for 15 months of projected delay. The unique situation at the Diablo Canyon site has already been mentioned. If Comanche Peak, Zimmer and Diablo are removed from this list of projected delays, it is apparent that the expansive list of delayed plants touted by the industry early in 1981 dwindles to a mere four reactors with a total of only eight reactor-months of delay.<sup>35</sup>

Each of those plants with projected delays ostensibly caused by the NRC licensing process is examined in further detail in this chapter. The Committee has found that there is good reason to question the assertion that the NRC and intervenors' roles in the history of licensing those plants has been the primary cause of any delay in their beginning operations. Assuming arguendo, however, that at least four reactors will eventually be delayed by the NRC licensing process for a total of eight reactor-months, it bears noting at this juncture that that dramatic reduction in the projected delay in new nuclear licenses results in an equally dramatic reduction in the ominous consumer cost figures disseminated by utilities and industry associations earlier this year.

#### A. THE "COST" OF "DELAY"

The allegations regarding the cost of licensing holdups led the Department of Energy to begin estimating the potential cost in April 1981. Its monthly estimates became a feature of the NRC's monthly status report. The DOE figures have demonstrated two facts: first, the original cost estimates attributed by many utilities and industry groups to licensing delay were inherently inflated by the counting of capital carrying costs; second, they were exaggerated by the overstatement of the numbers of reactor-months of delay described above and by other cost assertions regularly rejected by DOE.<sup>36</sup>

The question of how to tabulate the cost of the purported licensing delay became controversial early in 1981 when NRC Commissioner Peter Bradford challenged the double counting aspects of the cost figures being relied upon by the industry and its supporters. At one

<sup>34</sup> Id., at table 1.

<sup>34a</sup> Id., at table 1.

<sup>35</sup> Id., at table 1.

<sup>36</sup> Monthly status reports, May 1981-August 1981, attachments.



point Bradford, a former state utility commissioner, angrily wrote to the Appropriations Subcommittee that it required someone "economically illiterate" to accept the industry reckoning of the cost of licensing delay.<sup>37</sup>

The gist of the argument was over whether the carrying costs of the utilities' investment in their reactors can be counted as a "cost" of delay. Secretary Edwards stated in February that such carrying costs, or "the cost to absorb the unproductive expense" can be counted as a cost of the delay.<sup>38</sup> That is, a utility with money invested in a nuclear plant must pay interest and capital costs on that investment. Edwards, the American Nuclear Energy Council and individual utilities contended that those were therefore costs of delay.<sup>39</sup> Bradford and others pointed out, however, that the utility would be paying those capital carrying costs on these major investments in any case—whether the reactors were running or not. It is of course true that an operating reactor generates additional revenues from the sale of power. Therefore commencement of operation improves the current cash-flow posture of a utility and obtaining a license are of financial importance to the utility. Attributing capital carrying costs solely to licensing delay, however, is misleading to the extent it suggests they would not have been incurred but for the delay.

The Department of Energy followed the industry cost logic in its initial April report, then quickly and repeatedly disavowed that cost accounting in its May and subsequent reports. DOE in May succinctly stated the accurate way to establish the cost of whatever licensing delay might occur:

Unlike the April report, this month's report does not include estimates of the capital carrying costs that are incurred during the delay. These costs are not considered direct losses incurred as a result of the delay... The cost of delay in issuing an operating license after a plant is physically complete is equal to:

The total costs the entire utility system (or systems, if the unit is jointly owned) would incur to satisfy its customers' energy requirement, based on the delayed licensing schedule, minus

The total costs of satisfying the same energy requirement if the license had been issued when the plant was complete.<sup>40</sup>

DOE's May cost estimate already diverged dramatically from the industry-supported figures of early 1981. Rather than a \$2-3 billion approximate cost, DOE pegged the cost, based on the then-prevailing delay projections, to be no more than \$955 million for the eleven plants with projected delays. While the industry itself had significantly curbed its earlier cost estimates, it continued to assert in May that the cost would run to nearly \$1.2 billion.<sup>41</sup>

<sup>37</sup> Appropriations hearings, at 963.

<sup>38</sup> Id., at 158-159.

<sup>39</sup> Id., at 158-159, 135.

<sup>40</sup> May status report, DOE attachment, at 1-2.

<sup>41</sup> Id.

ERRATA SHEET

Page 10, paragraph four should read:

"delay was \$608 million." 44/



Accepting the DOE analysis as more likely to be valid, subcommittee Chairman Moffett placed the DOE cost figures in perspective at the June 18 hearing:

I want to, in concluding this session, go back to the matter of cost to the consumer for all this supposed delay. We now have DOE figures coming in each month on the likely cost of all this projected delay, and you look at those figures in that May 29 report, they suggest the cost of the delay will be less than \$1 billion, \$955 million, which is less, as I understand it, than the cleanup for Three Mile Island.<sup>42</sup>

Chairman Moffett's reference to the TMI cleanup is even more apt now than it was in June. Active Congressional consideration is now being given to requests by GPU, the utility that owns TMI, for federal financial assistance to clean up and restore that damaged nuclear reactor. The cost estimates for that task have soared well over the billion-dollar mark, with no guarantee they have reached their ceiling. It is apparent that the consumers in Pennsylvania and nearby states will pay large portions of those costs, and it is possible that U.S. taxpayers will also be saddled with part of that enormous expense.<sup>43</sup> If the nuclear industry's candid concern is to protect consumers from unnecessary expense related to the nuclear generation of electricity, it would be well-advised to recognize that, when viewed in perspective, the greater economic threat to consumers is from design defects and utility errors that result in accidents—not from the comparatively minor costs of administrative delay.

Since the June hearing in which Chairman Moffett referred to the May DOE cost estimates, those estimates have necessarily gone down, reflecting the progressive admission by the utilities that their construction completion dates had been wrong and had exaggerated the delay. As a result, the August DOE cost projection for anticipated licensing delay was \$68 million.<sup>44</sup> That cost too will be further reduced in the next DOE report to reflect the announced revision in the Zimmer and Comanche Peak construction completion dates.

Once again, if the two reactors at Diablo Canyon are factored out as a special case and the previously-predicted delays for Zimmer and Comanche Peak are eliminated, current NRC projections show only eight reactor-months of delay on four reactors. Using the DOE analysis, that amounts to \$181.5 million in delay costs.<sup>45</sup> That figure is less than a tenth of the \$2 billion to \$3 billion figures widely used by the industry as a tactic throughout the early part of 1981.

Based on the NRC's experience with industry exaggeration of the length and cost of delays supposedly attributable to the NRC licensing process, the Commissioners testifying before the subcommittee warned against Congressional reliance on the validity of the public statements being made about licensing delay. An obviously exasperated Commissioner Bradford emphatically stated, with reference to the May 29 report and its table of plants projected to suffer delays:

<sup>42</sup> Hearings, at 71.

<sup>43</sup> Among the bills introduced on the question of Federal assistance for the cleanup of TMI is H.R. 2512, introduced Mar. 12, 1981, by Rep. Allen E. Ertel (D-Pa.).

<sup>44</sup> August status report, DOE attachment, at 1.

<sup>45</sup> Id., at table 2.

This is just a best estimate, as the chairman [Hendrie] has said. The numbers are written in sand and they will change. And yet it's being used as an invitation to the Congress to change legislation that will remain on the statute books and affect the licensing process for years to come, long after the numbers themselves have proven to be completely erroneous—well, not erroneous, but good faith efforts . . . To use this chart, or this type of chart, as the basis for legislation [on interim licensing authority] seems to me to be terribly fallacious. You have to understand that when we look back on this chart a year from now, it's going to be seen that the delayed plants were neither delayed nor for that matter were they plants. The costs are not costs. The months are not months. And the completion dates are not real completion dates. A year from now there will not, in any of these tables, turn out to be a single number worth relying on, a single column of numbers worth relying on, for purposes of legislation that will affect the regulatory process for years to come.<sup>46</sup>

The findings detailed above and that summary statement by Commissioner Bradford demonstrate that the overall extent and cost of NRC licensing delay has been exaggerated in the nuclear debate during the past year. The subcommittee investigation also included a case-by-case examination of those plants recurrently listed as likely to be delayed by the NRC licensing process.

Scrutiny of each of those cases casts serious doubt on the contention that it is the NRC hearing and licensing process which is to blame for those delays which continue to be projected and which might actually occur. The balance of this chapter reviews the major facts regarding the licensing timetable of these plants. Those facts suggest that the utilities themselves and problems inherent in today's marketplace have been the major source of delays in commencing operation at these nuclear powerplants.

#### B. McGUIRE

The first plant projected to be completed and to begin suffering delay from the NRC hearing and licensing process in 1981 was McGuire. Owned and operated by Duke Power Company, the McGuire station is located near Charlotte, North Carolina. The Westinghouse-designed reactor was slated to be completed in January 1981. Based on that anticipated construction completion date, the normal NRC hearing process had moved forward and Duke was issued a fuel-loading zero-power testing license for McGuire in a timely fashion, on January 23, 1981. However, the design of the McGuire plant is an atypical one that has become controversial in the wake of the Three Mile Island accident. That atypical design and the questions raised about its safety resulted in the reopening of hearings on the McGuire plant in February 1981.<sup>47</sup>

With Duke Power predicting that the reactor would be physically ready to go in January and with a new hearing just beginning, it did appear in early 1981 that substantial licensing delay would occur for

<sup>46</sup> Hearings, at 52-53.

<sup>47</sup> See, e.g., Charlotte (N.C.) Observer, Feb. 20, 1981, at 1.

McGuire. Duke Power officials wrote to Rep. Ike Andrews (D-N.C.) in February to complain about the posture of the licensing proceedings. The Duke memorandum stated:

Construction of Unit No. 1 has been completed and the NRC issued a zero-power license on January 23, 1981. The Company has completed fuel loading and testing is on-going. Nevertheless, because of the regulatory uncertainties surrounding the evolving NRC policies and because of protracted proceedings with intervenors, there is no assurance that final NRC approval will be received so that this 1180 megawatt unit can begin operation in time to meet the anticipated demand for electricity during the summer of 1981. McGuire Nuclear Station, in a matter of weeks, will be ready to produce electricity. This electricity is needed and it will be very expensive to consumers not to operate these facilities.<sup>48</sup>

Duke warned of the high cost of delay, including capital costs, and urged among other things that Members of the Appropriations Committee be lobbied, that the Reagan Administration be pressed to appoint a new NRC Commissioner and that the "immediate effectiveness" rule be reinstated to allow full power operation without Commission-level review of the licensing decision.<sup>49</sup>

The hearings that reopened in February focused primarily on two issues: the safety of the particular containment design at McGuire and the adequacy of the emergency evacuation plans to protect citizens living in Charlotte, 5 miles outside the 10-mile-radius emergency planning zone.

The containment building houses the reactor. It is the key barrier blocking the release of radioactivity into the environment in the event of an accident which permits radioactivity to escape the reactor itself. One of the crucial requirements of any nuclear plant design is guaranteeing containment building integrity during any accidents that could occur at that site.

In most containment buildings, thick concrete walls reinforced with steel are used to resist explosions and prevent radioactive releases. The atypical containment at McGuire, however, has thin steel walls only an inch thick at their thickest point.<sup>50</sup>

The central question raised by the NRC about the McGuire-type containment since the Three Mile Island accident is whether it could withstand the kind and magnitude of explosion that occurred at TMI during that March 1979 accident. TMI experienced a "hydrogen burn" of a magnitude greater than the experts had predicted would occur. That explosion created pressures on the containment walls at TMI of some 28 pounds per square inch (psi).<sup>51</sup> According to some analyses, the thin steel walls of ice containments could not withstand a hydrogen burn explosion of that magnitude.<sup>52</sup> If that were true, then an exact repeat of the TMI accident would result in an explosion

<sup>48</sup> Appropriations hearings, at 270-273.

<sup>49</sup> *Id.*, at 273.

<sup>50</sup> *Supra*, note 47; McGuire Plant Final Safety Analysis Report, chapter 3.

<sup>51</sup> See, e.g., Rogovin Report, *supra* note 5, at vol. 2, part 2, p. 499; see also, Nureg 0600, IE investigation, at 1-4-47.

<sup>52</sup> For a fuller analysis of the hydrogen burn problem in these containments, see the NRC record of the Sequoyah 1 and 2 unit licenses, NRC Docket Nos. 50-327 and 50-328.



rupturing the containment and certainly releasing radioactive contamination to the environment.

The NRC first began raising questions about the adequacy of the ice containment in the Sequoyah case. The Sequoyah reactors are located near Chattanooga, Tennessee and operated by the Tennessee Valley Authority (TVA). Both the first two units at Sequoyah have been licensed since TMI, but only after TVA studied the hydrogen burn problem and arrived at technical "fixes" which satisfied the NRC that they had adequately compensated for the comparative weakness of the ice containment to at least begin operation.<sup>53</sup>

The renewed hearings on McGuire in early 1981 heard contentions from a citizens' group in North Carolina that the technical fixes proposed by Duke to meet the problems of the ice containment were not adequate. These intervenors asserted their belief that the McGuire containment could be breached and radioactivity released.<sup>54</sup> Both the licensing board and the NRC Commissioners decided by June 1981 that the Duke solution to the hydrogen burn problem was adequate to permit operation at least for the present, just as they had decided for Sequoyah. The NRC therefore granted a low-power license in early June and authorized a full-power license on June 29, 1981.<sup>55</sup>

Nevertheless, the gravity of the Commission's concern over the hydrogen burn problem at McGuire was underscored at the subcommittee hearing by then-Chairman Hendrie and by Commissioner Victor Gilinsky in this colloquy:

Mr. DREIER. Wasn't the issue raised by intervenors [at McGuire] substantially the same as the issue raised concerning the Sequoyah plant, which is now in operation?

Mr. HENDRIE. Well, certainly to the extent that hydrogen control, the safety aspects of control of potential hydrogen in the containment was an issue in the hearing . . .

Mr. DREIER. Was it resolved, the Sequoyah plant?

Mr. HENDRIE. We allowed Unit 1 to operate . . . There is a research program that is going on in connection with the hydrogen control matter, and there is a report due from that program about the end of January.

Mr. GILINSKY. Mr. Dreier, if I could add to that. I wouldn't like to leave you with the impression that the hydrogen issue is one that is fully resolved. In the cases where we have approved operation of the plants, we have attached conditions requiring, as the chairman pointed out, further work and, for that matter, requiring that the question be brought back before the Commission next year.<sup>56</sup>

If Duke had actually met its announced timetable for being ready to generate electricity at McGuire, the intervenors' and the NRC's understandable concern over the hydrogen burn problem would have cost the utility some five months of delay in beginning operation. That would have been substantially less than the 13 months predicted by the industry in early 1981, and it is quite arguable that the mag-

<sup>53</sup> Id.

<sup>54</sup> Supra, note 47.

<sup>55</sup> July status report.

<sup>56</sup> Hearings, at 54.

nitude of the safety concern more than justified such a five-month delay to reach an acceptable solution.

However, the fact is that Duke did not meet its announced schedule. Although the Commissioners of the NRC themselves did not discover the fact until June, 1981—five months after Duke was projected to be ready to generate electricity at McGuire—Duke throughout the spring of 1981 encountered technical engineering problems which kept them from “going critical” with the reactor.” That meant that they literally could not utilize the license the NRC had granted them, as the NRC Commissioners confirmed to the subcommittee on June 18:

Mr. GILINSKY. . . . in the case of McGuire, which was one of the two remaining plants that you listed, it seems to me that that has been listed as an impacted plant incorrectly. As it turns out, the plant has run into technical problems and I don't believe it could have operated had it been licensed some months ago. So I don't think that plant—

Mr. MOFFETT. That McGuire plant is really the first plant to be completed on this so-called delay list; isn't that correct?

Mr. GILINSKY. I don't think it's ready to go at this point. The Diablo Canyon plant, as far as I know, is a plant which is completed and is standing idle. I would not put McGuire in that category. . . . We had a meeting on the McGuire plant in connection with granting authorization for low-power operation, and the report from our Office of Inspection Enforcement was that the plant, in getting ready for operation, had run into a variety of problems which have kept them occupied in clearing those up, that the plant, in fact, is not ready to go. It hasn't been ready to go over the last couple of months.

Mr. MOFFETT. But at McGuire they're hollering for an interim full power license, isn't that right?

Mr. GILINSKY. Well, we're in the process of deciding on a full power license at this point. They had requested—

Mr. MOFFETT. But my understanding is they haven't been able to effectively use the fuel loading and low-power testing license they already have; isn't that right?

Mr. GILINSKY. I'm not sure where they are today.

Mr. MOFFETT. Let me ask Chairman Hendrie what his view is on that.

Mr. HENDRIE. Back around the beginning of the year, as a product of the hearing which was going on on McGuire, the licensing board authorized fuel loading critically and zero power physics testing, that is, nuclear operation without sensible heat to any degree from the core.

The plant has not fully used that authority, as a matter of fact, and has been carrying out a series of refurbishing operations on some equipment, things they found late in the startup

<sup>10</sup> Id., at 9-10.



process. So they, indeed, have not used, so far as I know, the full authority which they already have.

Then last week, about then, in reviewing the licensing board decision on McGuire, the Commission decided that it could see no reason why their existing authority, in fact, could not be extended to include the 5-percent operation that we have used as a stepping point on all of the cases that have come through recently, so we granted that. But it didn't add much to their situation since they weren't there anyway.

Mr. MOFFETT. But this is a plant that is being held up all the time—I can say from my own experience in NRC mark-ups and so forth as a classic case of NRC delay. You know, it's sort of the Sohio pipeline of the nuclear industry, in the sense that that pipeline was always used as the example of why we needed an Energy Mobilization Board. McGuire keeps coming back at us as the example of a plant that has been stalled by NRC regulations.<sup>58</sup>

Leaving aside the question of why the NRC Commissioners were not more accurately and timely informed of the status of that plant, the facts are now clear that until that revelation to the subcommittee on June 18, the Congress and the public had been specifically and repeatedly misled as to Duke Power Company's need for additional licensing authority at McGuire. It is of interest in that regard that at the very time it was being unsuccessful in using the fuel-loading criticality authority granted it by the NRC, Duke was pressing before the licensing board for additional authority to go to 35 percent power.<sup>59</sup>

On May 6, the Atomic Safety and Licensing Board considering Duke's license application rejected the Duke bid for an increase to the 35 percent power operation level. The Board did so because it was not satisfied that Duke had at that time adequately demonstrated that the hydrogen burn problem had been solved sufficiently to permit 35 percent power operation. Ironically, the Board showed particular wisdom in its judgment, because it noted that devoting more Board time to the 35 percent inquiry would divert it from continued work on the full-power license.<sup>60</sup> Thus, if Duke had had its way in early 1981, it might have inadvertently created an eventual delay by diverting the licensing Board needlessly to satisfy its unwarranted demand for a higher-power operational authority than it was able to use.

As Chairman Moffett and Commissioners Gilinsky and Bradford noted at the subcommittee hearing, utility industry claims about the McGuire case have been relied upon by many in Congress to justify a range of legislative proposals meant to speed the NRC licensing process.<sup>61</sup> As the facts of the McGuire case demonstrate, Congress has been misled regarding the need for such actions. The Committee's review of the other cases of alleged delay corroborate that conclusion.

<sup>58</sup> Id.

<sup>59</sup> Inside NRC, May 18, 1981, at 1.

<sup>60</sup> Id.

<sup>61</sup> Hearings, *passim*.

## C. ZIMMER

The Zimmer plant lies on the banks of the Ohio River some 40 miles east of Cincinnati, Ohio. The facility is owned by Cincinnati Gas & Electric Company (CG & E) and has been under construction since 1972. The Zimmer reactor is an 810 megawatt General Electric boiling water reactor. The plant was designed by Sargent & Lundy engineers, an experienced architect/engineer firm in the nuclear industry, and construction has been directed by the Henry J. Kaiser Co.<sup>62</sup>

When the construction permit for Zimmer was issued on October 27, 1972, Cincinnati Gas & Electric predicted a fuel loading date—the date on which construction can be said to be finished and operational testing can begin—of January 1977.<sup>63</sup> That goal has not been met. As discussed above, the utility informed the NRC in August 1981 that they were to announce a revised completion date in September 1981 to reflect further slippage in their construction schedule. The NRC expects Zimmer to be completed by August, 1982 at the earliest.<sup>64</sup> If that date is in fact met, the plant will be ready to begin operation 67 months late—and will have taken more than twice as long as the utility predicted to build and get on line.

On the face of it, Zimmer appears to be a classic case of prolonged proceedings and difficulty in going operational. Not surprisingly, Zimmer too has repeatedly been cited to the Congress as an instance of NRC delay impeding the operation of a needed new energy source. But the subcommittee investigation reveals two unmistakable lessons regarding Zimmer: first, the delays in reaching construction completion are the fault of the utility, its subcontractors and in some cases the industrial marketplace, not the NRC;<sup>65</sup> second, construction at the Zimmer plant is of such questionable quality that the NRC at the time of this report is involved in a massive investigation intended to ascertain the nature and extent of safety problems which might be posed by past deficiencies in the CG & E construction program.<sup>66</sup> If the NRC is to discharge its responsibility to the public health and safety, the Commission must fully address the question of whether the Zimmer plant is safe enough to be allowed to operate. The NRC should not prejudge that question by assuming the plant is safe and rushing to license it for operation.

Zimmer can only be characterized as a troubled plant. Allegations have been raised repeatedly over the past five years regarding the adequacy of construction at the site.<sup>67</sup> To the NRC's discredit, as some NRC officials have recently admitted, the NRC prior to early 1981 did not do an adequate job of investigating and discovering the facts supporting many of those allegations.<sup>68</sup> In an intensive new investiga-

<sup>62</sup> Safety Evaluation Report, William H. Zimmer Nuclear Power Station, unit No. 1, Docket No. 50-358, Nureg-0528, Supp. No. 1, June 1981.

<sup>63</sup> Hearings, at Appendix, answer 2B attachment.

<sup>64</sup> Id., answer 2A, table 1.

<sup>65</sup> This discussion of the Zimmer case is based on extensive correspondence between the NRC and the utility, CG & E, and on investigative documents generated by the NRC. The latter category includes certain confidential investigative affidavits in the possession of the subcommittee which will not be released to the public while the investigation is pending.

<sup>66</sup> Id.

<sup>67</sup> NRC investigative summary, Docket No. 50-358.

<sup>68</sup> Statement by James Keppler, Director, Region III, NRC, to ABC World News Tonight, May 19, 1981.

tion begun January 12, 1981 and continuing to the time of this report, the NRC has verified the accuracy of many allegations concerning deficient construction work and discovered additional examples on its own.<sup>69</sup> As a consequence, the NRC has demanded and CG & E has agreed to a substantial range of corrective actions, including the hiring of additional personnel onsite, restructuring of management, tightened control over construction contractor H. J. Kaiser, and reinspection and reworking of a large number of construction jobs.<sup>70</sup>

The full extent of the NRC's findings have not been made public at the time of this report. The NRC report is anticipated to be made final and released to the public during October 1981. Release of that report might, however, be deferred due to possible Department of Justice consideration of criminal charges arising from the construction deficiencies at Zimmer and the failure of material facts to be truthfully reported to the NRC as required by law.<sup>71</sup>

Documents submitted to the Subcommittee which can be referred to publicly at this time, however, reveal the pattern of problems at Zimmer and the extent of the corrective actions now being demanded by the NRC and undertaken by CG&E.<sup>72</sup> The summary conclusion supported by those documents is that the utility failed to maintain control over the Zimmer construction project and that the primary construction contractor, H. J. Kaiser, has done an inadequate job of maintaining quality control and assuring safe construction work at the site.

The failings of the utility at Zimmer regrettably appear to mirror a pattern already discovered by subcommittee investigations at other nuclear construction sites, notably the Marble Hill facility in southern Indiana.<sup>73</sup> Absence of an adequate quality control program—the internal audit program which sees to it that everyone else is doing his job properly—leads to a breakdown in overall job performance. If hostility to the quality control program and evasion of the quality control inspection function are tolerated, it is only a matter of time before poor quality work is also tolerated and even fostered.<sup>74</sup> That is apparently what happened at Zimmer.

Recent sworn affidavits obtained and summarized by NRC investigators indicate that numerous former construction site employees believe that,

The Q/A [quality assurance] program at [Zimmer] was, at best, tolerated by Kaiser management as a necessary evil. They stated that both the harassment of the Q/C [quality control] inspectors and the policies and actions of Kaiser Engineering, as typified by the voiding of nonconformance reports, contributed to the lack of an independent and effective Q/A program at Zimmer.<sup>75</sup>

<sup>69</sup> Zimmer investigation documents, *supra* note 65.

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> Hearings on Construction Problems at Marble Hill Nuclear Facility: Nuclear Regulatory Commission Oversight before the Subcommittee on Environment, Energy and Natural Resources of the Committee on Government Operations, 96th Cong., 1st sess., *passim*.

<sup>74</sup> Evaluating Nuclear Utilities Performance: Nuclear Regulatory Commission Oversight, 28th report of the Committee on Government Operations, H. Rept. 96-1452, Oct. 2, 1980, *passim*.

<sup>75</sup> Zimmer confidential affidavits, *supra* note 65.



Among the startling allegations in those affidavits is the following:

——— stated that he was aware of several incidents in which buckets of water were dumped on Q/C inspectors by craft personnel. He felt that these incidents represented harassment of Q/C inspectors by construction personnel and said that he believed they were reported to Kaiser management. He stated that he was not aware of any action having been taken by Kaiser concerning this problem.<sup>76</sup>

Again, in another affidavit:

Mr. ——— informed he was aware of at least twelve occasions during his tenure at Zimmer when construction workers poured buckets of water on Q/C inspectors. He continued that this occurred to both Mrs. ——— and Mr. ——— while they were conducting inspections in the containment building. Mr. ——— remarked the Q/C personnel were of the opinion that water was thrown on these two individuals since they were conscientious Q/C inspectors who refused to accept inferior and non-conforming work by craft personnel.<sup>77</sup>

After detailing additional experiences at Zimmer indicating falsification of weld inspection reports, questionable inspection and reporting procedures, and intimidation of inspectors by Kaiser management, the latter affiant concluded that "the Q/A program and general workmanship at Zimmer were the worst he had observed at the five or six nuclear power sites he has worked at." That affiant continued to be employed at another nuclear powerplant since leaving Zimmer in 1980.<sup>78</sup>

In yet another sworn affidavit to NRC investigators this spring,

——— stated that while he worked at the Zimmer site, Quality Assurance (Q/A) was just a "gimmick" to keep the job going and the money coming in. He indicated that a major problem was the voiding of Q/C inspectors' nonconformance reports (NCR) by Kaiser management without any justification or explanation and estimated that approximately 20 to 28 NCR's prepared by him were so voided.

——— stated that he would often be sent out to reinspect an item he had rejected, even though no corrective work had been performed . . .

——— stated that the overall work at the Zimmer site is sloppy and recounted incidents in which valves, rusted shut, were welded into systems, despite NCR's having been written and one incident in which a pipe, on which construction was welding a gamma plug, had 3 3/4" of mud inside and on which work continued despite his comments concerning it.

That affiant also continued to be employed at another nuclear power plant after leaving Zimmer.<sup>79</sup>

As startling as those allegations are, they are not novel for the Zimmer site. Beginning in February 1976, allegations have recurrently

<sup>76</sup> Id.  
<sup>77</sup> Id.  
<sup>78</sup> Id.  
<sup>79</sup> Id.

been raised by site and former site personnel about the lax construction practices and the harassment of any employees who attempted to alert higher-ups to problems or to correct construction deficiencies. Such allegations were sufficient to attract the interest of General Accounting Office investigators in late 1976 and have resulted in stop work orders in 1978 and 1979 to force correction of identified problems.<sup>80</sup> In late 1980, a former private inspector at the Zimmer site, Mr. Thomas Applegate, persistently alleged to the NRC, Congressional and other authorities that the faulty construction practices at Zimmer were being accompanied by extensive related criminal activity.<sup>81</sup>

Specifically, he alleged that proper welding procedures were not being followed, that weld inspections were not being properly done and could not be relied upon, and that welders at the Zimmer site were converting the weldrod and other construction materials to their own uses—making various articles such as belt buckles with the materials and selling them for private gain.<sup>82</sup> Mr. Applegate's whistleblowing eventually resulted in an unusual order from the Office of Personnel Management to the NRC to reopen its investigation of Zimmer and of his allegations.<sup>83</sup> That renewed investigation was then begun January 12, as noted above, and resulted in the additional allegations exemplified by the excerpts quoted from affidavits of other former Zimmer employees.

The Committee intends to continue its oversight of the NRC's ongoing investigation into construction practices at Zimmer. At the time of this report, it appears that significant progress is finally being made in identifying and correcting these longstanding problems.

Based on the findings of NRC investigators in the NRC's Region III (Chicago) office, the NRC sent CG & E an Immediate Action Letter on April 8, 1981. That letter set forth an extensive series of initial findings and remedial actions to be taken by CG & E to correct construction deficiencies. Among the major NRC findings indicated by that enforcement letter and subsequently agreed to by CG & E:

Unacceptable welds in structural steel have been found.

Structural welds were painted before inspection, precluding proper visual inspection.

Some beams have been installed but do not show up on design drawings.

There are questions about whether some welds were made with improper or unacceptable weld rod.

Non-standard techniques were used to radiographically examine welds.

Crucial documents indicating the source, quality and handling of important construction materials do not exist or have been improperly altered.

Electrical cables have been improperly mixed and the "trays" which hold them and are intended to protect them from fire and other hazards have in some cases been overloaded and improperly inspected.

<sup>80</sup> Supra note 67.

<sup>81</sup> Letter from James Keppler, NRC Region III, to Louis A. Clark, Government Accountability Project, June 15, 1981.

<sup>82</sup> Id.

<sup>83</sup> Id.



Nonconformance (findings that some aspect of construction does not conform to NRC regulations) have been left undocumented, ignored, and even voided without corrective action having been taken.

Aspects of the plant design have been changed without concomitant changes in the design drawing.<sup>84</sup>

It is inherently speculative to state the consequences of such extensive construction deficiencies. It is accurate, nevertheless, based on the NRC enforcement documents in the Zimmer case, to suggest that such critical safety areas as fire prevention, physical strength and integrity of the plant's construction, and the ability to make rapid and appropriate repairs to the facility in emergency situations all could be jeopardized by these types of deficiencies.<sup>85</sup>

As a result of these initial findings, the NRC's April 8, 1981 Immediate Action Letter to CG & E called for these and other remedial actions:

CG & E was to increase the size and expertise of its onsite staff, particularly in radiography and non-destructive testing, welding electrical design and construction and other areas.

CG & E was to take action by April 15, 1981 to assure the independence of the quality assurance program at Zimmer from the construction program.

CG & E was to perform 100 percent reinspection of all quality control inspections conducted by Kaiser and other contractors after the date of the IAL.

All Q/C inspection procedures were to be reviewed and revised by qualified design engineers independent of the construction organization.

The review and alteration of existing quality control records was to have been stopped and moved under the control of CG & E.

CG & E was to perform a 100 percent review of all surveillance and nonconformance reports written by contractors after the date of the IAL.<sup>86</sup>

Negotiations between CG & E and the NRC over how to go about solving the identified construction problems at Zimmer have continued through the summer of 1981, but CG & E has clearly committed to and begun a series of steps responsive to those demands for remedial action.<sup>87</sup> Additional investigation and testing of existing construction at the Zimmer site have continued. Additional remedial action may be required. And Region III Director James Keppler has pledged publicly that "the Zimmer facility will not be allowed to operate until Region III is satisfied with the adequacy of construction."<sup>88</sup>

In the Committee view, that pledge goes to the heart of the NRC responsibility. As the Committee has had occasion to observe in

<sup>84</sup> NRC Immediate action letter to CG & E, Apr. 7, 1981, and CG & E letter to NRC, Aug. 21, 1981.

<sup>85</sup> Zimmer affidavit, *supra*, note 65.

<sup>86</sup> IAL, *supra*, note 84.

<sup>87</sup> CG & E letter of Aug. 21, 1981, *supra* note 84.

<sup>88</sup> Keppler letter, *supra*, note 81.

previous NRC oversight reports, the mandate of the NRC since its creation by the Energy Reorganization Act of 1974 is to insure that the commercial generation of nuclear power is consistent with the public health and safety.<sup>89</sup> Its task is not the promotion of an expanded nuclear industry no matter the risk to the public and the environment.<sup>90</sup> The facts brought to light by the subcommittee investigation to date regarding Zimmer show that the NRC focus with respect to that plant must be on its ultimate safety. Emphasis on the expedition of its licensing is singularly misguided at a time when significant questions about its safety and the adequacy of its construction remain outstanding.

Like the McGuire case, the Zimmer case will prove to be one where the industry claim of delay caused by the NRC was a mirage. Moreover, in the Zimmer case, the facts clearly indicate that the five and a half years of timetable slippage to date—and the likely additional slippage based on the extensive construction problems just discussed—are the responsibility of the utility and its contractors, not that of the NRC.<sup>91</sup> The Zimmer case stands clearly for the proposition that it is misguided both for the NRC and for the Congress to emphasize NRC speedup of licensing in a case where the preservation of the public health and safety are the true issues at stake.

As Commissioner Gilinsky properly warned the subcommittee:

It is a mistake to put too much pressure on this agency to crank out licenses. The people here are human, they respond to such pressures. The fact is, as a result, priorities shift, and in some undefinable way there is less attention given to certain safety matters that perhaps ought to have more attention given to them.<sup>92</sup>

Commissioner Gilinsky also reminded the subcommittee pointedly of another indication of the shortsightedness of pressure to rush out licenses:

One of the reasons we have had problems with some of the plants that we are dealing with now is that they also went through the licensing system at a time when there was a lot of pressure to crank out [construction] licenses, when there were complaints of delays, and so on.

The plants that we are talking about in granting operating licenses, many of them were caught in a crunch on construction permits back in the early 1970's. It is just not a good thing, it is not a wise thing. I think it is a terrible mistake for the nuclear industry to put too much pressure on this agency to grant licenses quickly.<sup>93</sup>

The Zimmer case history is a regrettable confirmation of Mr. Gilinsky's observation. Although the NRC at last appears to be grappling effectively with the construction deficiencies at Zimmer, it is doing so belatedly and only because of extended pressure from

<sup>89</sup> Energy Reorganization Act of 1974, Public Law 93-438, 88 Stat. 1233, 42 U.S.C. sec. 5801 et seq.; Inspecting, *supra* note 7; Evaluating, *supra* note 74.

<sup>90</sup> Energy Reorganization Act of 1974, *supra* note 89.

<sup>91</sup> Hearings, at Appendix, answer 2B attachment.

<sup>92</sup> Hearings, at 65.

<sup>93</sup> *Id.*

individuals outside the Commission. The momentum within the agency to press ahead with construction at the site and toward licensing the plant made the Commission less responsive than it should have been to the repeated signals of extensive problems at the site. Far from being an example of NRC delay in licensing, Zimmer in retrospect may stand as a vivid example of industry haste toward commencing operation of a defective facility.

#### D. THE TRUE SOURCE OF DELAY

The Zimmer and other cases examined provide insight into the true nature of the nuclear industry's timetable problems. Unforeseen difficulties in managing this complex and sophisticated technology, unanticipated problems in raising the necessary capital for such enormous construction projects, and plain old mistakes by utility management are the real reasons for construction stretchouts, no matter how attractive it might be to scapegoat the NRC and its processes for lagging construction schedules.<sup>94</sup>

The subcommittee examination of the other cases on the prevalent list of "delayed" plants provides ample documentation of those true causes of delay in beginning new nuclear powerplant operations. As already noted, the pessimistic early 1981 industry claims of up to 90 reactor-months of delay caused by the NRC have largely evaporated.<sup>95</sup> The current projection instead stands at 15 months for the two Diablo Canyon reactors and a total of eight months for four other reactors. A look at the history of those other four reactors reveals the comparatively small impact of the anticipated NRC-induced delay.

The four reactors pegged for eight months of NRC licensing delay have slipped a combined total of 153 months from their initial target dates for completion since receiving their construction permits.<sup>96</sup> Summer has already slipped 49 months and is anticipated by the NRC to slip an additional month;<sup>97</sup> San Onofre 2 has slipped 28 months;<sup>98</sup> Susquehanna has slipped 35 months,<sup>99</sup> and Waterford 3 has slipped 40 months from its original fuel load date when it received a construction permit.<sup>100</sup> Thus the NRC delays of one month, four months, two months and one month, respectively, are hardly the major reason those plants did not go on line when first predicted by their utilities.

A closer look at the history of each of those four reactors reveals other reasons for those extensive slippages. The Summer plant in South Carolina was issued a construction permit in March 1973, with an anticipated fuel load date of October 1977. According to NRC records, the first revision of that schedule by the utility came on November 12, 1974. That revision deferred the FLD (fuel loading date) by thirteen months. The reasons given by the utility were financial considerations and a change in the utility judgment about power needs for its systems—clearly legitimate reasons, but not ones attributable to the NRC. After that initial schedule revision, South

<sup>94</sup> Hearings, at Appendix, answer 2B, attachment.

<sup>95</sup> Supra, chapter II.

<sup>96</sup> Hearings, at Appendix, answer 2B attachment.

<sup>97</sup> Id.

<sup>98</sup> Id.

<sup>99</sup> Id.

<sup>100</sup> Id.



Carolina Electric & Gas Company delayed its timetable six more times: in 1977, 1978, three times in 1980 and once in January 1981. No reasons were officially provided to the NRC for those slippages.<sup>101</sup>

San Onofre has had a similar history of timetable slippage. Granted a construction permit by the NRC for Unit 2 in October 1973, Southern California Edison and its partners predicted a fuel load date of February 1979. That date was first revised barely a year later, by six months, to reflect the utility's obtaining of a permit by the California Coastal Commission. A month later another four-month slip was announced with no reason provided the NRC. In 1975, labor difficulties were announced as the reason for an additional slippage of two months. Two more revisions in 1980 and one in 1981 totaled the 28 months in slippage for Unit 2.<sup>102</sup>

Susquehanna Unit 1 tracks the experience of the other units. That reactor, being built by Pennsylvania Power & Light, was granted a construction permit in November 1973 and was projected for completion by May 1979. The next year, in 1974, that schedule slipped by a full year, based on the utility's reassessment of its load forecast for the relevant future time period, the 1980's. Again in 1979 and in 1980, the schedule slipped without reasons officially advanced to the NRC.<sup>103</sup>

Finally, the Waterford plant owned by Louisiana Power & Light, displays a similar history of recurrent slippages. Its construction permit was issued in November 1974, with a utility prediction of fuel loading by June 1979. That prediction was immediately revised by two months to reflect the lengthy antitrust proceedings required prior to the obtaining of the construction permit. Then in February 1976, the utility announced 15 months of slippage in its schedule, based on a reevaluation of its construction schedule to one that was more "realistic," as the utility conceded to the NRC. Again in 1978, the utility slipped its schedule six months, noting once more that that reflected a more "realistic and precise" construction schedule. In January 1981 the schedule slipped another five months, with no reason officially provided by the NRC.<sup>104</sup>

That brief review shows that the bulk of the reasons given for slippage by the utilities themselves are not the fault of the NRC. Noteworthy among the causes was the general reevaluation by utilities in the years 1973-1974—immediately after the Arab oil embargo—of future U.S. energy needs. Financial problems, labor difficulties and engineering complications too were typical stretchout causes for these four reactors. In that regard, their experience has not been unique. The same pattern of recurrent slippage for similar marketplace reasons has affected the other plants once misleadingly on the industry's "delayed" list. Indeed, the slippage caused by marketplace realities well beyond the reach of the NRC are the reason those plants are not now, and should never have been, projected to be delayed by the NRC.

The Shoreham plant on Long Island is an illustrative additional example. The Shoreham plant, owned by Long Island Lighting Company, was granted a construction permit in 1973, with a projected

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*



construction completion date for the 820 megawatt reactor of 1977.<sup>105</sup> Slippage and cost overruns in the Shoreham construction program have been the norm ever since. Lilco's current official projected completion date is September 1982, five years late.<sup>106</sup> One attorney testifying before the Subcommittee on Environment, Energy and Natural Resources on July 2, 1980, about problems at the Shoreham plant noted:

The Shoreham plant is located on the north fork of Long Island, about 60 miles from New York City. It has the dubious distinction of being the most expensive nuclear power-plant per kilowatt ever constructed in the world.

There was a calculation done recently which predicted that the barrel-of-oil equivalent cost was roughly \$70, which may be an invitation to the Arabs to raise the price again.

This is the only plant that I am aware of where the projected cost of the plant is rising at a rate faster than the money that is being invested to complete the plant...

The cost of the Shoreham plant has risen from \$271 million to \$2.2 billion. Three months ago there was a \$600 million cost increase casually announced by the Long Island Lighting Co. . . . There is a \$228 million rate increase which is currently pending to finance in large part the accelerated construction of the Shoreham plant.<sup>107</sup>

That pattern of cost increases and delayed timetables has continued during the past year. In October 1980, Lilco was again asking the rate commission for a \$145 million rate increase. The Public Service Commission staff, in opposing that size rate increase, asserted that Lilco's announced completion date could "be given no credibility."<sup>108</sup> Citizens' groups opposing the plant at that time stated the plant could not be completed prior to 1984 and would cost nearly \$3 billion.<sup>109</sup>

While Long Island Lighting still contends plant completion can occur by late 1982 or early 1983, it conceded in July 1981 that the cost will be at least \$2.49 billion rather than the \$2.2 billion claimed during the previous year.<sup>110</sup>

Lilco's difficulties in meeting its construction schedules and its cost overruns appear to be trapping the utility in a vicious circle. The slippage and cost increases have reduced its earnings, steering investors away. That in turn makes it more difficult to obtain the necessary capital to maintain construction at the desired pace, resulting in more delays and eventual cost increases.<sup>111</sup> At this juncture, it is clear that far from delaying the plant—as the industry claimed through most of 1981—the NRC's licensing process will be ready and waiting on the utility to complete construction, as with McGuire and the other cases examined.

<sup>105</sup> Nuclear Power Plants, Construction Status Report, data as of Dec. 31, 1980, Nuclear Regulatory Commission, Nureg-0030, vol. 4, April 1981; article by Anthony Parisi, "Hard Times for Nuclear Power," New York Times Sunday magazine, at 36.

<sup>106</sup> July status report, at 5-6.

<sup>107</sup> Hearings on NRC Oversight: Limitations on Intervenor in Licensing Proceedings before the Subcommittee on Environment, Energy and Natural Resources of the Committee on Government Operations, 96th Cong., 2d sess., at 92.

<sup>108</sup> New York Times, Oct. 23, 1980, at B2.

<sup>109</sup> Id.

<sup>110</sup> Wall Street Journal, July 31, 1981, at 1.

<sup>111</sup> New York Times, *supra*, note 105.

## E. COMANCHE PEAK

One more plant not yet discussed in this Chapter was on the industry-touted lists of NRC delay but now is not expected to be delayed by the licensing process. That is the Comanche Peak facility being built by Texas Utilities Generating Company. When the Comanche Peak construction permit was issued in December 1974, its projected fuel load date was June 1979.<sup>112</sup> Since that time, some 30 months of slippage have already occurred based on the utility's official claim that construction will be complete December 1981. As already noted, the NRC expects another twelve months of slippage to be announced by the utility, making total slippage at least 42 months and eliminating any projected NRC delay.<sup>113</sup>

A brief look at the Comanche Peak history discloses a sadly familiar saga of construction, financial and safety problems. Texas Generating's schedule has already been altered four times, beginning in 1976, again in 1977, in late 1979 and in 1980. In 1977, "rescheduled commercial operation" was given as a reason. No official reason was reported to the NRC for the other schedule revisions.<sup>114</sup>

NRC documents on Comanche Peak show far more than those cryptic entries, however. Comanche Peak has been plagued by construction problems reminiscent of the Marble Hill and Zimmer difficulties. Faulty welding practices resulted in the rewelding of some 60 percent of the safety-related welds at one point in the construction.<sup>115</sup> Poor quality concrete with excessive "honeycombing" (hole and porosity in the concrete that weaken it) have required extensive rework. In one instance, concrete of unknown and untested quality was poured on the dome of the containment building without proper inspection.<sup>116</sup> NRC inspectors discovered that Brown & Root, the building contractor, had excessively blasted with dynamite and "over-broken" the bedrock around the foundation perimeter.<sup>117</sup> The bedrock was intended to be the solid foundation for the containment and the reactor. That construction error require additional grouting and concrete work to repair and resolidify the foundation.<sup>118</sup>

A particularly troublesome and costly construction error was made by Texas Generating and its contractors at the Comanche Peak site in early 1979. Simply put, a major misreading of the design for Unit 2 resulted in the support structures for the reactor being built in the wrong place.<sup>119</sup> It should be noted that this costly and ultimately time-consuming error by the utility and its contractors occurred on Unit 2, not on Unit 1. It is the latter unit which the industry has alleged was being delayed by the NRC. The realities of nuclear powerplant construction, however, are that major additional workloads on the building contractors, design engineers and top management of the utility—from whatever part of the overall project—inevitably contribute to the total construction burden and difficulty of meeting time and cost

<sup>112</sup> Hearings, at Appendix, answer 2B attachment.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> This discussion of the Comanche Peak case comes from NRC Inspection and Enforcement documents in that licensing case, NRC docket No. 50-445 and 50-446.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

schedules, as this case demonstrates. The NRC reported the construction error in March 1979:

It had been determined that the reactor vessel support shoes, their ventilation duct work, and the surrounding reinforcing steel had been rotated forty-five degrees from the correct position through a design error. As a result of the error, the reactor vessel would not match the vessel support feet nor would the piping system to the other reactor loop components.<sup>120</sup>

Major design and construction changes were of course required to correct the error. Not only did new structures have to be built so that the reactor could fit into place and all the piping would fit, it was also necessary to build additional support structures to support the reactor in the right places. Again, as the NRC described the process later in March 1979:

The reactor vessel concrete support structure is misoriented approximately forty-five degrees. By design, the reinforcing steel, which supports the reactor vessel support plates, is of a greater design strength than the reinforcing steel which is beneath the unsupported reactor vessel nozzles. Therefore, there will be a loss of shear strength in those areas where the concrete base for the steel support plates are to be relocated. Hence, the design repairs have centered on the placement of additional shear reinforcement in the areas where the steel support plates are to be relocated.<sup>121</sup>

In addition to causing direct delays in construction this misalignment error has fueled the ardor of those citizens living near the Comanche Peak site who have intervened in the case because they have some doubt about the competence of the utility and its contractors.<sup>122</sup>

In sum, the Committee review of those plants other than Diablo Canyon which the industry has claimed were being delayed by the NRC shows either that they are not being delayed by the NRC or that any delay is minimal, particularly in comparison to the extensive delays attributable to the utilities themselves and to the nuclear marketplace. Diablo Canyon's two units stand as the one example worthy of some further examination where the NRC can be said to be the source of "delay." The bases for that NRC delay, however, are far from spurious, as the Committee review shows.

#### F. DIABLO CANYON

At the time of this report, Diablo Canyon Unit 1 has just been granted a low-power operating license by the NRC and is expected to go into operation within a matter of weeks. Thus the projected licensing delay of 11 months may well be reduced to some 6 months. The

<sup>120</sup> Id.

<sup>121</sup> Id.

<sup>122</sup> The competence of Brown & Root as a nuclear constructor has also been examined in the context of the South Texas I project in Hearings before the Oversight and Investigations Subcommittee of the House Energy and Commerce Committee, 96th Cong., 2d sess.



officially-projected date for the NRC full-power licensing decision for both Units 1 and 2 remains February 1982. If that date holds true, the licensing delay for those units, as previously noted, will probably be 6 and 4 months, respectively.<sup>123</sup>

Whatever the eventual magnitude of the NRC-induced delay at that site, there will have been two cardinal reasons for that delay: the seismic question at the Diablo site and the problem of post-TMI alterations to the plant. Pacific Gas & Electric, the utility that owns Diablo, has complained bitterly in public that both holdups have been unfair and unnecessary to PG & E and to its consumers.<sup>124</sup> Its complaints have been echoed widely by the industry and its supporters.<sup>125</sup>

Before examining the facts regarding those two sources of delay, it is important to recite the same basic licensing history already described for the other reactors on the "delay" list. At the time Diablo 1 received its construction permit in April 1968, its projected fuel loading date was April 1972. That date slipped three times in 1974, once in 1975, once in 1976, once in 1977, twice in 1978, once in 1980 and again in 1981. The total slippage in the plant timetable has been 105 months, of which only 11 months is being attributed to the licensing process delay.<sup>126</sup>

The reasons for the other 94 months of delay included wildcat strikes by electricians disgruntled by the utility's decision to bring in a second shift rather than pay overtime, a pipefitters' strike, and retooling of certain major generation components such as the turbines and the main condenser.<sup>127</sup>

Unit 2 was given a construction permit in November 1970 with a fuel load date of November 1974. That date slipped for many of the same reasons as Diablo 1, and because of electrical installation problems. It slipped twice in 1974, once in 1975, once in 1976, once in 1977, three times in 1978, and twice in 1980. Total slippage for Diablo 2 has been 83 months, of which only 4 are being attributed to the NRC licensing delay.<sup>128</sup>

That recital does not convey the core reason that Diablo has become both the most delayed and arguably the most controversial nuclear powerplant in the country. That reason is the seismic issue. The center of the debate over the safety and the operability of Diablo has been the fact that it is located just three miles from a major earthquake fault, the Hosgri fault.<sup>129</sup> That location has been the root cause for the sustained opposition to the plant's operation both by citizens' groups and by the current Governor of California, Jerry Brown. PG & E's efforts to allay the NRC's and public's concerns over the seismic danger have been the major reason the utility has been slower in constructing the plant and slower in fending off challenging litigation than it ever anticipated.

The embarrassing fact for PG & E is that they did not know about the earthquake fault's proximity to the Diablo site when they

<sup>123</sup> Hearings, at Appendix, answer 2B attachment.

<sup>124</sup> E.g., debate between Rep. Toby Moffett and Malcolm Furbush, general counsel, PG & E, McNeil-Lehrer Report, July 3, 1981.

<sup>125</sup> Appropriations hearings, *passim*.

<sup>126</sup> Hearings, at Appendix, answer 2B attachment.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

<sup>129</sup> In the matter of PG & E (Diablo Canyon), Nuclear Regulatory Commission Docket No. 50-275, 50-323, ALAE-644, June 16, 1981.



began construction.<sup>130</sup> Since the entire Pacific rim is an area of some concern over earthquakes, the site was originally designed to meet a certain level of seismic threat. The existence of the Hosgri fault, however, was not known to the utility in 1968 because the fault lies offshore, under the Pacific, and the utility had not discovered it. By the time it was discovered, in 1971, "construction was approved and well underway."<sup>131</sup> While PG & E might have made the decision to abandon that site if it had known of the Hosgri fault earlier, it decided to stand by its investment and seek design changes which the NRC would consider capable of withstanding this enhanced seismic threat.<sup>132</sup>

The design and effectuation of such changes necessarily required time. They provoked challenges from citizen intervenors who considered them inadequate. Those challenges were not resolved until September 1979, when a licensing board decided that PG & E's fault analysis was correct and the design changes made to compensate for the Hosgri fault's potential had been adequate.<sup>133</sup> Just three weeks later, a major (6.5 to 6.9 on the Richter scale) earthquake hit the Imperial Valley. Instrument readings from that earthquake became available in early 1980. The intervenors in the Diablo case petitioned the licensing appeal board to examine that data, since the Imperial Valley quake had been near enough to Diablo to be of relevance and since they contended that the data discredited some of PG & E's assumptions regarding the danger of earthquakes to the Diablo site. The appeal board granted that request, taking the new evidence on the seismic issue and studying the question exhaustively.<sup>134</sup>

On June 16, 1981, the Atomic Safety and Licensing Appeal Board issued a highly detailed, impressively reasoned 180-page decision on the seismic question at Diablo.<sup>135</sup> Its conclusion was that the steps taken by PG & E to strengthen the Diablo Canyon plant to meet the threat of the Hosgri fault were adequate to protect the health and safety of the public. That decision cleared away the major obstacle to the operation of Diablo Canyon. Nevertheless, Governor Brown and certain of the citizen intervenors have expressed continuing disagreement with that judgment and have stated their intention to pursue this matter further, possibly by court action challenging the NRC licensing decisions.<sup>136</sup>

It is therefore undeniable that resolution of the seismic question through the NRC licensing process has delayed and may yet further delay that plant's operation. It is equally apparent, however, that that question is not a trivial one. As the licensing appeal board stated in its sober opinion, "Seismology is an evolving science."<sup>137</sup> The expert opinions offered to the licensing boards from highly-credentialed scientists differed factually and judgmentally.<sup>138</sup> As Dr. Harold Lewis, a prominent nuclear physicist, a strong supporter of nuclear power,

<sup>130</sup> *Id.*, at 3.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.*, *passim*.

<sup>133</sup> *Id.*, at 3; (Licensing Board Proceedings, 79-26, 10 NRC 453).

<sup>134</sup> *Id.*, pp. 6 ff.

<sup>135</sup> *Id.*, *passim*.

<sup>136</sup> See, e.g., letter from counsel for Gov. Jerry Brown to Chairman Paladino, Sept. 15, 1981.

<sup>137</sup> ALAB-644, at 11, *supra* note 129.

<sup>138</sup> *Id.*, at 11 ff.

and a member of the President's Nuclear Safety Oversight Committee recently said, "the seismic issue at Diablo Canyon is a real issue, unlike some other issues that have been raised in that connection, it is a very real one . . ." <sup>139</sup>

Neither this Committee nor the Congress is in a position to make an expert determination about the resolution of so serious a technical issue as whether a structure at Diablo Canyon can withstand a potential earthquake and protect the public from a release of radiation. That is quite properly the NRC's job. What is highly regrettable in the current context is that the NRC and the Congress are being subtly persuaded that resolution of such vital safety questions may not be acceptable if the time needed for that resolution interferes with a utility's construction timetable.<sup>140</sup> The Committee rejects that view and urges the NRC to continue the proper and full exploration of such uniquely important safety questions through its licensing process.

The second complaint advanced in recent months by the owners of Diablo Canyon regarding the delay in its operation has been the requirement for technical "fixes" called for by the NRC in the wake of its analysis of the TMI accident.<sup>141</sup> As the worst accident in the commercial nuclear power industry,<sup>142</sup> the TMI accident in March 1979 necessarily provoked thoroughgoing reassessments of a host of safety and design questions by the nuclear industry and the NRC. That reassessment resulted in, among other things, the TMI "Action Plan" which called upon utilities to make a number of changes in their physical plants and in their procedures to solve problems identified by the TMI experience.<sup>143</sup>

Diablo Canyon had the misfortune of being caught in the flux of regulatory change provoked by TMI, since construction was largely finished at the time of that accident. Its officials have since argued that it was unfair for Diablo to be forced to make the alterations suggested by the TMI "lessons learned" prior to beginning operation. They contended that since they were near beginning operation at the time of the TMI accident, they should have been allowed to commence operations and make the required retrofits while already in operation.<sup>144</sup> That is in large part what reactors already in operation at the time of the TMI accident were allowed to do, with the exception of the Babcock & Wilcox-manufactured reactors similar to the TMI-2 unit.

Both factual and policy reasons erode the superficial plausibility of that PG & E contention. First of all, as recited above, PG & E had slipped its Diablo 1 schedule by 82 months prior to the TMI accident. Its schedule slipped 25 months after that.<sup>145</sup> Furthermore, since the seismic issue was not resolved by the appeals board until June of this year, and the required TMI modifications were being made while the seismic issue continued in litigation, the company's contentions that those modifications held them up prior to that date is only valid if the seismic issue is ignored.<sup>146</sup>

<sup>139</sup> Transcript of Nuclear Safety Oversight Committee meeting, Washington, D.C., June 8, 1981, at 87.

<sup>140</sup> *Supra* notes 124, 1.

<sup>141</sup> *Supra* note 124.

<sup>142</sup> *Supra* notes 5, 7, 74.

<sup>143</sup> Action plan, *supra* note 5.

<sup>144</sup> *Supra* note 124.

<sup>145</sup> Hearings, at Appendix, answer 2B attachment.

<sup>146</sup> *Supra*, chapter II.

Finally, the Atomic Energy Act clearly calls for a determination by the NRC at the time of issuing an operating license that operation of a reactor is consistent with the public health and safety.<sup>147</sup> The NRC must make that determination based on its knowledge about safety questions at each point in time when it makes the licensing decision. It cannot responsibly shut its eyes to new and valuable information related to safety. To do so would be in effect to grandfather-in all nuclear facilities to the standards by which reactors were licensed in the earliest days of the industry. This runs counter both to sound public policy and to the actual regulatory history of the nuclear industry.<sup>148</sup> The owners of Diablo may have been ill-starred in the siting of their plant and the timing of the TMI accident, but that happenstance does not alter the NRC's proper regulatory responsibility to impose upon PG & E and all other operating license applicants those requirements which it believes to be necessary in the interest of safety at any point in time when the licensing decision is made.

### III. THE NRC RESPONSE TO INDUSTRY CLAIMS OF DELAY

The Committee analysis in Chapter II shows that nuclear industry claims of licensing delay by the NRC are not supported by the facts. Nevertheless, in response to those industry claims and associated political pressures, the NRC has taken a considerable range of actions within the past eight months to eliminate this largely hypothetical problem. The subcommittee investigation and the Committee review of the record suggests two unfortunate conclusions about those NRC actions: first, some are at best a waste of regulatory effort and at worst are misguided for policy reasons; second, while devoting considerable staff and official energies to the resolution of an exaggerated problem, critical NRC safety programs, including its inspection program and a number of post-TMI safety initiatives, remain behind schedule.

The administrative steps taken by the NRC to deal with licensing "delay" have been detailed before the Congress on several occasions, including the June 18 subcommittee hearing.<sup>149</sup> The bulk of those actions can be summarized under two headings: efforts to trim time from the hearing process by limiting the procedural rights of citizen-intervenors and the latitude of the licensing boards themselves in addressing health and safety questions, and a decision by the Commissioners to reduce their own role in the licensing process prior to permitting reactor operation.

In addition to those two categories of administrative actions, the NRC has made one major legislative recommendation to speed licensing. On March the NRC transmitted to Congress a proposal for NRC authority to grant interim low-power licenses to permit operation of reactors prior to the conclusion of hearings involving intervenor allegations of health and safety problems at the reactors.<sup>150</sup>

<sup>147</sup> Atomic Energy Act of 1954, 68 Stat. 919, 42 U.S.C. sec. 2011 et seq.

<sup>148</sup> See, e.g., evaluating, *supra* note 74, at 17-28.

<sup>149</sup> Hearings, at 4-9.

<sup>150</sup> Letter from NRC Chairman Hendrie to Speaker Thomas P. O'Neill, Jr., Mar. 15, 1981.



It is not clear at the time of this report whether these steps will in fact expedite licenses, in part because, as demonstrated in Chapter II, the purported cases of reactors delayed by the licensing process for which these remedies are appropriate are largely industry fiction.<sup>151</sup> The hard truth for the nuclear industry is that the overwhelming majority of any future delay in placing new reactors on line will be caused by factors having nothing to do with the NRC hearing and licensing process.

#### A. IMMEDIATE EFFECTIVENESS

It is apparent that some time savings have been achieved, and have been reflected in the most current NRC estimates of delay, by the NRC decision to curtail the Commissioners' role in licensing reactor operation. What the Commission has decided to do is to revert to a modified version of its practice prior to the Three Mile Island accident. That practice, known as the "immediate effectiveness" rule, meant that the five Commissioners of the NRC did not themselves pass judgment on the safety and operability of a new reactor prior to its going on line.<sup>152</sup> Once the licensing board (composed of two scientists and one lawyer who sit as a three-judge panel in the trial-type licensing hearing) renders a favorable decision, the reactor could go on line. Review by the Commissioners came later. While the Commissioners in theory could have shut a reactor down after it began operation if they disagreed with the licensing board, that has never happened.<sup>153</sup>

The major studies of the Three Mile Island accident uniformly recommended that that practice be abandoned and that the Commissioners themselves be more actively involved in the fundamental decision of when a reactor is safe and ready for licensed operation.<sup>154</sup> The NRC accepted that recommendation and the Commissioners have voted directly on all five new licenses issued since the TMI accident before allowing operation to begin.<sup>155</sup>

In adopting a modified version of the immediate effectiveness rule earlier this year in response to the industry pressure over delay, the NRC announced that it anticipates some two to three months of time savings in beginning reactor operations in the typical case.<sup>156</sup> In so doing, however, the NRC has explicitly turned its back on one of the major recommendations to arise from the TMI accident.

The Committee cannot state with certainty that there is a safety cost to that reduction in the Commissions' role in licensing. In the Committee view, however, that step does tend to undermine public confidence in the credibility of the NRC as a regulatory body and lessens public confidence in the safety of the nuclear industry—both unfortunate results. It does so because it gives the impression of a return to "business as usual" prior to Three Mile Island and will in many

<sup>151</sup> Supra, chapter II.

<sup>152</sup> Hearings, at 5-6.

<sup>153</sup> In fact, the NRC has never shut down an operating reactor that a utility actively sought to keep in operation. See evaluating, supra note 74, at 50-51.

<sup>154</sup> See, e.g., Rogovin Report, supra note 5, at 138.

<sup>155</sup> Since TMI, full power licenses have been granted to Sequoyah 1 and 2, Salem 2, North Anna 2 and Farley 2.

<sup>156</sup> Letter from NRC Chairman Joseph Hendrie to subcommittee Chairman Tom Bevill, Mar. 12, 1981.



quarters be seen as a signal of returning complacency in the NRC and the industry about nuclear safety. It also does so because it adds to an already widespread impression that the NRC processes are a sham. The likelihood that the Commissioners will actually vote to shut down a plant already in operation absent a disastrous accident is unsupported by NRC history. Many in the public may understandably conclude that the Commissioners in fact have no say at all in licensing.<sup>157</sup>

#### B. LIMITING INTERVENORS

Those observations apply with greater force to the NRC's steps with respect to limiting intervenors' rights in hearings. Subcommittee investigations have disclosed that the NRC on several occasions has attempted to limit intervenors' rights in the licensing process. A few of the more than 20 recent NRC proposals to curb intervenors and the hearing process include:

- Raising the threshold for admission into hearings of various contentions made by intervenors;
- Limiting the number of interrogatories parties may file in the hearings;
- Permitting oral rulings on written motions;
- Restricting citizens' rights to discover information and expert opinions held by the NRC staff.

Despite a broad range of actions to limit the powers of intervenors, the NRC never has effectively demonstrated that the intervenors and the contentions they raise are the source of delays or the other problems in the industry.<sup>158</sup> Sadly, the NRC appears to turn on intervenors and scapegoat them for the industry's ills as rapidly and as unreasonably as the industry itself tries to scapegoat the NRC.

The attack on the role of intervenors in the licensing process generally boils down to two related assertions: first, that intervenors, typically calumniated by the industry as crazies of one stripe or another,<sup>159</sup> raise frivolous objections and thereby needlessly prolong the licensing process;<sup>160</sup> second, that there is no safety benefit to the whole process of allowing citizens to intervene and raise safety objections to the licensing of a nuclear plant.<sup>161</sup> Many in the industry and its supporters are frank in their preference for a licensing procedure that places complete trust in a panel of experts and denies the public any role at all in determining the safety of nuclear reactors.<sup>162</sup>

Yet the testimony of knowledgeable individuals familiar with the actual contributions of intervenors to nuclear safety is diametrically counter to that view. For example, Mr. Alan Rosenthal, Chairman of the NRC's Atomic Safety and Licensing Appeal Board, recently told the President's Nuclear Safety Oversight Committee:

Intervenors in adjudicatory proceedings do make a substantial contribution to safety. Over the years there have

<sup>157</sup> That is in large part the precise public perception which the Rogovin inquiry suggested should be avoided, *supra* note 5, at 112-114.

<sup>158</sup> Intervenor Hearings, *supra* note 107.

<sup>159</sup> Appropriations hearings, *supra* note 1.

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> NSOC testimony, *supra* note 129.

been substantial attacks coming from various quarters into the contribution that is made by intervenors. Indeed, much of the assertion heard from many quarters that operating licensing proceedings contribute little to the safety or the preservation of environmental values rests upon the premise that few, if any, intervenors are able to make any contribution to the ventilation of safety and environmental issues.

An appeal board in 1973 categorically rejected that argument. [The River Bend proceeding reported at 7AEC222.] In my judgment, that rejection seven years ago holds true today.<sup>163</sup>

Mr. Rosenthal's experience includes nine years of involvement with the licensing process at the NRC and its predecessor, the Atomic Energy Commission. Mr. Rosenthal went on to give a graphic example of the ability of intervenors to contribute to the resolution of safety issues even when they do not have the technical resources to compete with the NRC staff or the industry lawyers:

I would cite simply one example and that is one derived from the Prairie Island operating license proceeding where an intervenor raised an issue with respect to the integrity of the facility's steam generator tubes. And while the intervenor didn't itself have the resources to push forward on that issue, the adjudicatory board, in that instance an appeal board, proceeded with it itself and the outcome was a rather significant change in the water chemistry of the facility and also in steam generator tube design.

I would submit that that was a significant contribution to safety.<sup>164</sup>

At the subcommittee hearing, the Commissioners were asked whether the hearings demanded by intervenors had materially affected the actual safety of plants or the public health and welfare.<sup>165</sup> Chairman Hendrie's answer submitted for the record disclosed two pertinent facts. First, the NRC staff's review of recent licensing history indicates that intervenor-induced hearings have not presented unproductive roadblocks to the issuance of operating licenses. Of the last eleven licenses granted (going back to June 1977), only three were even required to litigate intervenor contentions.<sup>166</sup> The other eight were not challenged by intervenors requiring hearings. Second, of those three intervenor-caused hearings, two cases resulted in significant conditions being added to the operating licenses to address safety and environmental concerns: at North Anna I in Virginia and at the McGuire plant in North Carolina.<sup>167</sup>

At the subcommittee hearing, Rep. Eugene Atkinson (D-Pa.) reflected on the importance of intervenor participation in licensing cases with which he is familiar:

Mr. ATKINSON. . . . according to the information we have—taking them one at a time—the Consumer Power Co., Mid-

<sup>163</sup> *Id.*, at 71-72.

<sup>164</sup> *Id.*

<sup>165</sup> Hearings, at 87-88.

<sup>166</sup> *Id.*, at 68.

<sup>167</sup> *Id.*, at 69.

land plant, the intervenors claimed the utility's quality assurance program was inefficient and NRC later found this to be true.

In the case of Seabrook, intervenors pressed for an evacuation plan. TMI proved the need for such plans. In the Northern States' Prairie Island plant, the intervenors questioned the integrity of steam generating pipes. The utility later agreed and upgraded these pipes. Virginia Electric's North Anna plant, the intervenors questioned the integrity of the generator turbine. The turbine manufacturer later changed the turbine design.

I was thinking that there has been some input on the part of these people that has been helpful . . .

Mr. HENDRIE. I think as a general proposition, wide public participation in the nuclear licensing process is something that is mandated in the Atomic Energy Act and that the agency supports. I don't have any argument with the proposition.<sup>168</sup>

As other expert witnesses have consistently testified, intervenors with the potential of raising safety questions effectively in the hearing process are a key element in a safe licensing system. Robert Lazo, Vice Chairman of the NRC's Atomic Safety and Licensing Board Panel, has pointed out that utilities and the NRC staff both do their safety analysis better because they know that unanswered safety problems can be raised and forced to resolution by intervenors in the licensing hearing:

I think we all understand if we are told that down the road there is a speed trap. That even if it is not manned the day we go by, we'll probably drive a little more slowly.

The back pressure that was talked about applies not only to the staff, but it applies to the applicants as well, and to their vendor because in preparing to file an application for an operating license, they know that it is very likely that there will be an operating license hearing.<sup>169</sup>

Indeed, credible testimony suggests that where the role of intervenors has not been effective in improving the safety of new reactors, it may be because of wrongheaded resistance of the NRC staff and the utility to positions advanced by the intervenors. Commissioner Bradford gave a telling example:

Take another example of something that did not ever result in any change in the licensing process, although we all now wish, I think, that it had, and that is emergency planning.

There were a number of contexts in which citizen groups tried to raise emergency planning before Three-Mile Island. They argued repeatedly that an emergency plan should be required as a precondition to the operation of the plant.

Now, if you do a review design to determine whether citizen input has ever made a difference on the licensing process, that

<sup>168</sup> Id., at 15-16.

<sup>169</sup> NSOC, *supra* note 139, at 59.



issue won't show up because they got turned down every time. But if you ask the question differently, that is, do we wish—was that citizen input potentially useful, and should it make a difference—the answer would have to be yes, and, in retrospect we are now requiring just what they asked for, and it would be better if we had required it sooner.<sup>170</sup>

Once again, the Committee cannot assert with certainty that there will be a safety impact from any one of the particular proposals being considered or placed in motion by the NRC to restrict intervenors' rights in licensing proceedings. The Committee is compelled to observe, on the basis of the record before it, that the NRC has not substantiated the need for such efforts to restrict the hearing process and it has not demonstrated that safety will not be impinged by so doing.

Beyond the safety questions posed by those facts, the Committee again must observe that recent NRC actions and proposals for restricting intervenors may damage public confidence in the agency and in the integrity and fairness of its proceedings. When questioned by Chairman Moffett on the possible damage of these proposals to public confidence in the NRC, Commissioner Bradford said:

Mr. BRADFORD. I agree that the measures the Commission has actually taken in the course of the last few months should not have an adverse effect on public participation in our hearings. We have put some much more hair-raising measures out for comment than we have actually enacted.

I think perhaps your comment about public perception would draw its justification from the fact that all of the measures that have gone out for comment have leaned in one direction. There are measures that I at least would like to take in the direction of more effective public participation—and we've discussed them before. They would include intervenor funding, they might well include an Office of Public Counsel, that sort of thing which we have not been considering and have not been putting out for comment.

If there's a one-sidedness, it comes not from the actions we have actually taken. I agree with the chairman, that those are not adverse to public participation. But from the fact that the entire range of options we have been considering over the last few months leans all one way, and there are definitely improvements to be made on the other side in our hearing processes as well.<sup>171</sup>

### C. INTERIM LICENSING

The final major proposal advocated by the NRC during the past few months to expedite licensing is new statutory authority to permit interim licensing of plants where the hearing process is still ongoing but the plant is physically ready for operation. That proposal remains pending before the Congress at the time of this report.<sup>172</sup> The NRC Commissioners have consistently supported a very limited version of such an interim licensing power, more limited than current legisla-

<sup>170</sup> Id., at 35.

<sup>171</sup> Hearings, at 17.

<sup>172</sup> H.R. 2330 (H.R. 4255), Nuclear Regulatory Commission, fiscal year 1982-83.



tive proposals. The NRC has recommended that such licenses be limited to low-power, probably five percent level, operation.<sup>173</sup> Commissioner Gilinsky also recommended to the subcommittee that any such authority be made explicitly nondelegable to the NRC staff and remain vested in the Commissioners themselves.<sup>174</sup>

Nevertheless, the record before the Committee suggests that the NRC again failed to substantiate the need for even a limited interim licensing authority before proposing it. Nor has the Commission adequately addressed the question of whether public confidence in the process, if not safety itself, will be damaged by creating interim licensing authority.

Based on the subcommittee findings detailed in Chapter II, it is difficult to identify a reactor which is likely to benefit from this unprecedented<sup>175</sup> licensing power. The various proposals for interim operating licenses all contemplate proceedings which would themselves take at least some time before a Commission decision to grant the interim license. Given the extremely short projected delays for those few plants that might in fact be delayed by an NRC licensing hearing, the interim license process probably would obstruct rather than expedite full power licenses for those plants. As for the Diablo Canyon case, the decision on full-power operation for Unit 1 will probably occur before the interim license could even begin, so that it is unlikely to be of use in that case either.<sup>176</sup>

There is thus no clear use for this proposed new interim licensing authority. Yet, as NRC Commissioners themselves have stated, here too there is a substantial risk of undermining public confidence in the NRC by endorsing the interim operation concept. Beginning operation of a reactor while concerned citizens continue to litigate its safety does not increase the likelihood that those citizens will see the process as a fair one free of a predetermined result, as Commissioner Gilinsky said to the subcommittee in this colloquy:

Mr. HILER. What I am asking is, if everybody still knows there is going to be a hearing, you are still going to be prepared for public scrutiny in a hearing. The question is: Has the hearing materially changed the operation of any plant that would have affected the public health and welfare?

Mr. GILINSKY. . . . I think it becomes a different hearing if it is a hearing after the fact. It is not something that one has to engage in, from the point of view of the applicant [utility], in a serious way to get a license or get approval to operate the plant.

Mr. HILER. You are saying that the NRC would be affected by the fact that it is already in operation?

Mr. GILINSKY. I think the process would be affected. I think the public would regard the process rather differently than it

<sup>173</sup> Hendrie letter to O'Neill, *supra* note 150.

<sup>174</sup> Hearings, at 67.

<sup>175</sup> While interim operating authority was temporarily created in the Atomic Energy Act of 1954 after the oil embargo in 1973, that authority was more strictly limited. It required a finding of actual need for power based on reserve capacities in a given region in order to permit interim reactor operation. That authority has expired. Atomic Energy Act, 68 Stat. 919, 41 U.S.C. sec. 2011 et seq., at section 192.

<sup>176</sup> *Supra*, Chapter II.

does now. It is just different to run a hearing about whether you are going to run a plant after you decided to run it, or build it, or whatever.<sup>176</sup>

Regrettably, Commissioner Bradford noted, the detrimental impact of an action such as this will endure long after the disappearance of the supposed ailment for which this cure is suggested.<sup>177</sup>

#### D. THE REAL DELAY: SLIPPING SAFETY PROGRAMS

The subcommittee investigation shows that most of the NRC proposals to remedy the purported licensing delay are largely unnecessary. They may in some cases be inimical to nuclear safety and they likely will be damaging to the public faith in the NRC as a genuine champion of the public health and safety. The subcommittee investigation reveals a far greater related problem: while the NRC has been devoting considerable manpower, resources and bureaucratic energy to the resolution of the purported problem of licensing delay, its attention to crucial safety programs has lagged.

The NRC conceded in response to questions posed by Chairman Moffett that a large number of safety-related programs, some growing out of the TMI experience, have slipped behind schedule.<sup>178</sup>

One major set of safety-related projects now behind schedule are included in the "TMI Action Plan." That plan constitutes the principal Commission response to the lessons learned from the traumatic accident at TMI-1.<sup>179</sup> In the NRC's words, the Action Plan includes those steps:

judged necessary by the NRC to correct or improve the regulations and operation of nuclear facilities based on studies and investigations following the TMI accident. These actions cover the broad areas of: (a) operational safety, (b) siting and design, (c) emergency preparedness and radiation effects, (d) practices and procedures, and (e) NRC policy, organization and management.<sup>180</sup>

Multiple aspects of the TMI Action Plan are now behind schedule. In fact, a June 1981 internal NRC investigation discloses that the entire NRC follow-through to the lessons learned from TMI is badly in disarray. The NRC Inspector and Auditor concluded:

Generally speaking, although portions of the Action Plan are being implemented, progress has been slow in many areas because of a lack of management attention to the implementation of the plan. Immediately following the accident at Three Mile Island and during the development of the Action Plan, NRC put considerable time and effort into identifying changes needed in the regulatory process. No other program within the agency had a higher priority. On the basis of our review, however, we do not believe the same commitment

<sup>176</sup> Hearings, at 67-68.

<sup>177</sup> *Id.*, at 52.

<sup>178</sup> Hearings, at Appendix, answer 1.

<sup>179</sup> Action plan, Nureg 0660, *supra* note 5.

<sup>180</sup> Hearings, at Appendix, answer 1.

exists within the agency to implement the Action Plan as existed to prepare it. The agency seems to be implementing TMI requirements through the normal business routine; some licensees seem to be questioning the value of their own good faith efforts, in view of NRC's changing schedules and requirements; priorities seem to be getting confused; and no one seems to be really managing or coordinating NRC's efforts. As time goes by and the memories of the accident become clouded by more current problems, the need for an organizational structure that will ensure continued implementation of the Action Plan becomes more important.<sup>181</sup>

Perhaps the most disturbing specific revelation of that internal audit of the NRC's response to the Three Mile Island accident is that during the last year the Commission has not effectively tracked the implementation of new post-TMI requirements.<sup>182</sup> Utilities have of course been apprised of the requirements by official NRC regulatory publications. Not all regulations are applicable to all operating reactors, however, given the variation in reactor design and construction. Absent some system for identifying which utilities should be doing which tasks, and absent some tracking system to find out if utilities are complying with applicable new regulations, the NRC has no guarantee that its new safety-related requirements are being followed in the industry.

The internal NRC audit found that in one case, new training requirements for licensed operators, the NRC did not have a tracking system in place by the compliance deadline. As a result, utility submittals were merely stacked in a corner and their receipt not recorded. As a result [NRC] officials did not know which licensees had submitted the revised programs, or if any had requested more time to comply.<sup>183</sup>

Such disarray might have been tolerable if the utilities had a good record of compliance without NRC enforcement followup. In the training case, the industry could not make that claim. The Inspector and Auditor's office found that as of the August 1, 1980 deadline applicable to that program—out of 90 facilities that were supposed to submit revised training programs—

only six had submitted revised programs. We found no indication that any action was taken to follow up on those who had not submitted programs. Two months after the due date we again checked on the status of this item and were informed that 19 licensees still had not submitted revised programs. Although follow up calls had been made, the responsible [NRC] individuals were not encouraged by the licensees' responses and suggested to their management that follow-up letters be sent.<sup>184</sup>

That disturbing indication of licensee failure to comply with important new NRC safety regulations has been evident in other important

<sup>181</sup> NRC's Implementation of the Three Mile Island Action Plan, report to the Commission of the Office of Inspector and Auditor, June 1981, at 2.

<sup>182</sup> *Id.*, at 7.

<sup>183</sup> *Id.*, at 11.

<sup>184</sup> *Id.*, at 11.



areas, as subcommittee inquiries have shown. The subcommittee's continuing oversight of the NRC in the area of emergency planning has disclosed that neither the April 1, 1981 nor the July 1, 1981 deadlines for the implementation of new emergency planning and evacuation requirements have been met by the industry.<sup>185</sup> The July 1 deadline for emplacement of sirens to warn affected citizens of a dangerous nuclear accident was met by only 6 of 50 currently operating nuclear powerplants.<sup>186</sup> Just a third of the operating facilities could claim substantial partial compliance. Another third had failed to take some of basic preliminary steps—such as ordering the equipment from the manufacturer—necessary to comply with the regulation, despite their having been on notice of the deadline for eleven months.<sup>187</sup>

The considerable range of additional requirements imposed in the wake of the Three Mile Island accident might provide some excuse for this industry record of failure to meet regulatory deadlines if only the post-TMI requirements were at issue. That is not the case, however. The NRC responses to Chairman Moffett show that major new requirements for fire protection that grew out of the Browns' Ferry accident still are behind schedule and have not been implemented at some utilities.<sup>188</sup> The Browns' Ferry fire (at the nuclear facility at Mussel Shoals Alabama owned by the Tennessee Valley Authority) was in March 1975. Thus nuclear plants have been in operation for six and a half years since that accident without the prescribed remedial action for fire protection being taken.

The NRC also conceded that its "equipment qualification" program is behind schedule.<sup>189</sup> That program is intended to see whether vital safety equipment can operate in unusual post-accident conditions. For example, in light of the TMI accident and water spills at Indian Point, Sequoyah and elsewhere, the NRC has questioned whether certain electrical wiring can function adequately while accidentally immersed in water for substantial periods of time. The NRC has already found that "a large portion of nuclear powerplant equipment important to safety may not be qualified for service in all accident environments."<sup>190</sup>

The NRC reported to the subcommittee that its program to evaluate the safety need of the oldest nuclear plants—in light of the overall safety learning of the last decade—is behind schedule.<sup>191</sup>

Again, the NRC noted that its "unresolved safety issues" program is behind schedule. That program is meant to identify those generic problems that may affect a number of reactors in the industry and for which no solution has yet been devised.<sup>192</sup>

Other safety-related programs too have not been completed or have remained behind schedule during the past ten months.<sup>193</sup> As Commissioner Bradford conceded in an unusual agency plea for better Congressional oversight:

<sup>185</sup> Letter from Chairman Moffett to NRC Chairman Hendrie, June 30, 1981; Letter from Chairman Palladino to Chairman Moffett, August, 1981; Letter from Chairman Moffett to Chairman Palladino, Aug. 20, 1981.

<sup>186</sup> *Id.*

<sup>187</sup> *Id.*

<sup>188</sup> Hearings, at Appendix, answer 1.

<sup>189</sup> *Id.*

<sup>190</sup> *Id.*

<sup>191</sup> *Id.*

<sup>192</sup> *Id.*

<sup>193</sup> *Id.*



Mr. BRADFORD. If the only message we get from the Congress is that our primary duty is to license powerplants and that the deadlines as to unresolved safety issues, to the Three Mile Island action plan, to fire protection, and others are somehow deadlines of a secondary order—it is all right to miss them as long as the deadlines are met for powerplants—that is going to affect Seabrook and every other plant in the country.

Mr. MOFFETT. Can we interpret your statement at that point to mean that things are slipping, those secondary things are slipping or are in danger, safety-related things are in danger of slipping?

Mr. BRADFORD. I think all of the items that I mentioned have slipped in the last year, and I think probably even in this calendar year. I don't mean to tell you that any one of those slippages in some tangible way undermine safety in a specific way in a specific set of powerplants. If one knew that that were happening, one wouldn't allow it to happen.

It is much more a matter of preserving over a period of years the balance between attention to licensing deadlines and attention to safety deadlines.

I guess this must be somewhere between my 12th and 20th congressional hearing in the last year, and I don't think we have been asked at any of them what our deadlines are on unresolved safety issues, on the action plan, on equipment qualification, on fire protection. Have they slipped in the last year? Have they slipped over the last 4 or 5 years? What is being done? What are we going to do to assure that they don't slip any more?

At virtually every one of those hearings. I have been asked those questions about specific plants and about plants in general. So that the attention we get from those who oversee what we do is not conducive, in my view, to the kind of balance between licensing and safety that is conducive to safety in the long run.<sup>194</sup>

#### IV. FINDINGS AND CONCLUSIONS

Based on the subcommittee oversight investigation and its review of the record, the committee finds and concludes that:

*1. The delay likely to be experienced by utilities in obtaining operating licenses for physically completed nuclear powerplants has been substantially exaggerated. Consequently, the purported cost to electricity consumers of this delay also has been overstated by hundreds of millions of dollars.*

Few plants will even arguably be delayed by the Nuclear Regulatory Commission licensing process. Instead of the 13 delayed plants projected by the industry and the NRC earlier this year, no more than six plants are even projected to be delayed now. Further slippage in construction completion likely will reduce that number. Likewise, the magnitude of the overall delay is dramatically less than repeatedly

<sup>194</sup> Hearings, at 64-65.

claimed by the industry. Rather than some 90 to 104 reactor-months of licensing delay, no more than 23 and probably fewer than 23 reactor-months of delay will be experienced for all NRC-related reasons. The maximum cost projected in the August NRC report for licensing delay at all plants besides Diablo Canyon would be some \$181.5 million, instead of the \$2 to \$3 billion cost originally suggested by the industry.

Even that period of delay is largely composed of the 15 months of delay anticipated to have been borne by the two reactors at the Diablo Canyon site in California. The Committee has found that the principal reason for the prolongation of NRC proceedings at that site has been the resolution of the vital safety questions related to the seismic threat at the Diablo site. The Committee rejects any suggestion that the resolution of the vital safety questions related to the seismic issue constitutes delay. Utilities that wish to avoid lengthy NRC analyses of seismic conditions would be well-advised to avoid siting reactors near significant earthquake faults.

There are only four other cases where modest delay may be occasioned by the completion of NRC licensing proceedings—San Onofre, Susquehanna, Summer and Waterford. The total delay for those plants will be eight months or less.

The Committee has found that significant safety questions remain outstanding at a number of supposedly delayed plants. As detailed in this report, there are significant construction deficiencies at Zimmer that are just now being verified by the NRC, with remedial action by the utility far from complete; construction problems also have plagued the Comanche Peak site; emergency planning and seismic questions remain at Diablo Canyon and at San Onofre; questions about the strength of the containment building at McGuire necessitated the hearing about which that utility publicly complained and led to the NRC requirement for further study; doubts that emergency evacuation is feasible for the Shoreham plant on Long Island have not been laid to rest. All of those problems are at the plants which the industry has touted as "delayed" and obstructed from operation by the NRC.

In addition, the Committee has found that the utilities themselves in some cases bear the responsibility for having delayed those very proceedings about which they complain. As NRC officials have had several occasions to warn industry officials, delays by the utilities themselves in resolving outstanding safety questions and the industry tendency to misstate construction completion schedules, as documented in this report, delay the NRC licensing proceeding.

Finally, the Committee has found that the magnitude of whatever delay can be attributed to the NRC—even including the time taken to resolve significant safety issues such as seismic threat and emergency planning—is a small fraction of the delay caused by utility errors, management problems and marketplace realities such as capital acquisition.

These facts suggest that the nuclear industry has attempted to blame the NRC for problems that lie within the industry and the energy marketplace. It is apparent that the nuclear industry has financial problems today. It is also apparent that many fossil experienced utilities venturing into the nuclear arena have been troubled by the unexpected complexity and novelty of nuclear technology.

It is demonstrable that nuclear plants are taking longer to build and get on line than anticipated by the utilities. What has not been demonstrated in any substantive way by the industry is that those extended schedules are the fault of the NRC, its processes, or citizens who raise safety questions as legal intervenors.

2. *The NRC response to the alleged problem of licensing delay has been misguided. Its actions and proposals may be detrimental to safety over the long term, and they risk undermining public confidence in the Commission and the licensing process.*

The myriad NRC steps to deal with the purported problems of delay chiefly include three proposals: a return to permitting reactors to begin operation without the Commissioners' direct approval, a practice abandoned after the TMI accident; efforts to trim the hearing process by restricting the rights of intervenors and the hearing boards; and a legislative proposal for interim operating license authority.

The first proposal directly reverses a major recommendation that emerged from the Three Mile Island accident by removing the five NRC commissioners themselves from the ultimate responsibility for deciding that a reactor and a utility are safe and ready for operation before that reactor is placed into operation. After-the-fact review, as some Commissioners have conceded, lacks public credibility. And as one Commissioner told the subcommittee, that and related actions risk turning the NRC into the kind of "licensing sweatshop" it was before TMI.<sup>185</sup>

The second set of proposals, to trim time from the licensing hearings involving intervenors, is misdirected. The NRC has made no factual demonstration that it has been or is now the role of intervenors that is at fault for the delay now projected for new reactor licenses. Its near-reflexive assault on intervenors appears to be its own effort to find a scapegoat for the purported problem of licensing delay. Again, the Committee is compelled to reject the notion that the resolution of such important safety-related questions as seismic issues, "hydrogen burn" problems, construction quality, equipment adequacy and emergency planning constitute unwarranted delay. Resolution of those questions instead lies at the heart of the NRC's statutory mission. And the record before the Committee shows conclusively that the role of intervenors has been important in raising, analyzing and resolving those vital safety questions.

The NRC proposal for interim operating license authority appears to be a remedy without a reason. At this juncture, it appears highly unlikely that there are any plants which will be in a licensing/construction posture to benefit from any such interim authority. Not only is that authority not useful, it is also detrimental to public confidence in the NRC and the long-term safety of the industry. Allowing a reactor to be operated while citizens continue to litigate the question of whether the reactor is safe enough to be operated cannot possibly add to the public conviction that the licensing process is a fair one. The understandable public conclusion from such a procedure will be that the NRC licensing process is a pre-determined sham.

<sup>185</sup> Id., at 64.



*3. Safety-related NRC programs and the inspection of operating nuclear reactors—the true mission of the NRC—have remained behind schedule at the same time the NRC's attention has been devoted to the supposed problem of licensing delay. The problem of slippage in safety-related programs clearly antedates the recent debate over licensing delays, going back in some cases for years.*

The NRC has conceded to the Committee that a large number of important safety programs remain behind their targeted schedules for completion. The bare fact is that important, identified inadequacies in reactor safety have not been remedied by operating utilities on time and the NRC has failed to adequately pursue those failures.

Many of the delayed safety actions spring from the lessons of the Three Mile Island accident. The record before the Committee suggests that the NRC and the utilities' commitment to learn from that severe accident has waned as the memory of the accident fades. That tendency has been exacerbated by the excessive and unfounded diversion of NRC attention and energy to the question of licensing delay.<sup>1</sup>

More disconcerting than the failure of the NRC and the industry to follow through on TMI-related actions, however, is the sustained failure to implement remedial steps dictated by previous accidents. The Committee finds it a matter of particular concern that over six and a half years after the Browns Ferry fire, the Commission and the industry have not implemented all the fire protection measures called for by that accident. Such sustained delay in safety programs should not be tolerated by the NRC, the Congress or the public.

At the same time important safety programs have remained behind schedule, the NRC's inspection program for operating reactors has been found to be seriously deficient. The Committee has already found in previous oversight reports that the inspection program at the NRC is not satisfactory. The Committee has already concluded that the NRC is not completing its inspection program and cannot assure the public of the actual safety of operating nuclear reactors.<sup>196</sup> Those conclusions need not be repeated here at length. The Committee can only observe that the record does not indicate significant improvement in the NRC inspection program since the last Committee analysis.

In that regard, the Committee notes that the NRC is obliged to respond by October 12 to previous Committee recommendations by reporting to the Subcommittee on Environment, Energy and Natural Resources on steps being taken to remedy inspection deficiencies.

*4. The conduct of the industry and the NRC in the matter of alleged licensing delay have not been in the best interests of either the public or the industry.*

As this Committee has been obliged to observe too often in the past, the Nuclear Regulatory Commission's statutory mandate is the protection of public health and safety and safeguarding the environment. Its statutory mandate does not entail promotion of the nuclear industry unless that is demonstrably consistent with the public health and safety and environmental preservation.

<sup>196</sup> Inspecting, *supra* note 7.



The series of events arising from the industry's public campaign regarding the licensing delay has not reflected well on the NRC's grasp of its mission. The NRC should not be apologetic about the need to resolve important safety questions. The NRC should not begrudge citizens their desire to speak and to be heard on questions of safety affecting their lives, homes and families.

Those observations are not in any way diminished by reference to economic arguments. It is apparent that the principal justification used by both the industry and the NRC for urging expedited licensing of new reactors has been financial. The possible incremental cost to consumers of "delay" has been repeatedly cited and exaggerated as a basis for expediting licensing. Yet the facts before the Committee suggest that genuine economic analysis supports caution and exhaustive study prior to licensing, not rushed or truncated proceedings.

The simple fact is that a single major accident such as the TMI accident costs consumers and taxpayers many times the cost legitimately attributable to NRC licensing hearings and citizen contentions about safety problems.

The record before the Committee suggests that intervenors and the NRC licensing process have contributed to the resolution of a number of safety problems. If any one of those had been left unresolved by an expedited process and resulted in a major accident, the economic folly of such expedition would be painfully manifest.

At the time of this report the owners of TMI and the utility industry are seeking financial assistance from the Federal government to pay over one billion dollars in costs arising from just one accident at a nuclear plant. It is therefore particularly ill-advised now to advocate any steps which increase the possibility that a potential cause of an accident could be overlooked prior to licensing.

Moreover, as the record plainly reflects, it is equally ill-timed to devote resources to rushing more plants on line at a time when basic safety programs and the inspection of reactors already operating are not being fully implemented. If the next major accident can be shown to be a result of any of these slippages by the NRC, both the NRC and the industry will bear a significant economic responsibility to consumers and taxpayers for their misdirected efforts of recent months.

Going beyond cost, the Committee again must observe that the long-term viability of the nuclear power generation industry depends on achieving the necessary level of public acceptance and confidence in its safety. Few in the industry today are content with current public attitudes toward nuclear power. Improvement of citizen confidence in nuclear power ought to be a major agenda item for the industry.

The actions of the industry over the past few months have not advanced that goal, as these examples illustrate: Utilities have failed to correct significant and longstanding construction deficiencies. Utilities have failed to implement warning systems and evacuation plans as clearly required by the NRC in light of the Three Mile Island experience. Six and a half years after the Browns Ferry fire, not all utilities have fully implemented the new fire protection actions required by the lessons of that major accident.

Yet despite these and other safety-related deficiencies in the industry, nuclear proponents have loudly and inaccurately complained

because additional plants are not being rushed into operation. In the Committee view, this is not the way to convince the public of the industry's commitment to safety. As many in the industry well know, the next major accident could be the last. Public acceptance of the industry likely would not survive another TMI. Prevention of that next major accident should therefore be the principal aim of all in the industry and in the NRC.

## V. RECOMMENDATIONS

Based on the record before it and the above findings and conclusions, the Committee acting in its oversight capacity makes the following recommendations:

1. The Nuclear Regulatory Commission should carefully review the analysis, findings and conclusions of this Committee Report. Within 60 days, the NRC should report to the Committee stating the Commission's conclusions regarding this report. The NRC should specifically address the findings regarding the NRC actions to limit intervenor participation and licensing board actions in hearings and to reduce the role of the Commissioners in licensing decisions.

In light of the Committee conclusion that interim licensing authority does not appear necessary at this time, the NRC should not advocate nor utilize interim licensing authority except in keeping with its stated position that such licenses should be limited to low-power (five percent) operations. Such authority, if utilized, should not be delegated to NRC staff but should be exercised solely by action of the Commissioners in cases where licensing delay in fact occurs.

2. The Nuclear Regulatory Commission should report to the Committee within 60 days stating its timetable for the completion of those safety-related programs listed as having been delayed or being behind schedule in its response to the Subcommittee on Environment, Energy and Natural Resources.

If any of those programs are listed as likely to remain incompletely implemented by December 31, 1981, the NRC should describe what actions it is taking to expedite these delayed safety programs. The NRC should then report in writing to the Subcommittee on Environment, Energy and Natural Resources at the end of each month thereafter on the actions taken and the progress being made to expedite and implement these safety programs.

3. The Nuclear Regulatory Commission should report to the Committee within 60 days on the efforts it has taken to ascertain whether those utilities that have not complied with current NRC emergency planning implementation deadlines had good faith reasons for not complying with the deadlines. The NRC should state what enforcement action it plans or has undertaken for those utilities found not to have a good faith reason for compliance with the emergency planning regulations.

ADDITIONAL VIEWS OF HON. JOHN HILER, HON. PAUL N. McCLOSKEY, JR., HON. THOMAS N. KINDNESS, HON. LYLE WILLIAMS, HON. WILLIAM F. CLINGER, JR., HON. RAYMOND J. McGRATH, HON. HAL DAUB, HON. JUDD GREGG, AND HON. MICHAEL G. OXLEY

While we have voted in favor of the report, there are several issues which we feel have been portrayed inadequately, inaccurately, and in one case, inappropriately.

Finding number one states correctly that the costs of delay in licensing have been overstated. But, we should not lose sight of the principle that any delay which leads to increased costs for the consumer should be approached from the standpoint of "what can we do to eliminate the cause of these extra costs?" Certainly industry is responsible for some of the extra costs involved. However, as elected officials it is our responsibility to do what we can to minimize the extra costs incurred by *inefficient bureaucratic procedures and agency delay* at the federal level.

Finding number two refers to the "alleged problem" of licensing delay. We believe the NRC has acted responsibly in approaching this problem of added costs to the consumer due to delay in NRC procedures, whether that delay be 17 months, 23 months, or 104 months. Since the NRC's jurisdiction does not reach the problem of added costs that are the fault of industry management, we believe the NRC properly interpreted its duty in identifying any unnecessary costs stemming from agency procedures.

There is no evidence to indicate that the NRC's response to date has been detrimental to safety, or that it risks undermining public confidence in itself as regulator. Our recommendation (No. 1) that the NRC review its proposals to ensure that they do not become detrimental to safety or to the role of intervenors is a reasonable request by the Committee. But we should not jump to the conclusion that any change in licensing or intervenor procedures is detrimental to safety or public confidence until the facts justify that conclusion.

We do not subscribe to the finding (No. 4) that the conduct of the industry and the NRC may not be in the best interests of the public or the industry. As is clear from the statements made above, it is our opinion that there is no evidence that the procedures the NRC has proposed or the concern that the industry has shown about licensing delay is adverse to safety.

A concern raised in both the hearing and the report was the reallocation of personnel. It is important to note that NRC has reallocated to licensing work certain personnel who had been diverted from such work in the immediate aftermath of the Three Mile Island incident. This reallocation was made possible in part because that work had been completed and in part because it was considered to be of relatively



lower priority and not safety-related. The reallocations involved *no Office of Inspection and Enforcement Personnel*.

Another concern expressed in the hearing and report was the possible infringement of intervenor rights under the NRC's new procedural rules. We do not feel that the rights of intervenors have been detrimentally affected by the NRC's procedural changes. (See Appendix A, excerpt from Chairman Hendrie's statement to the Subcommittee in public hearings on June 18, 1981, for the specific text of changes made and proposed.)

Lastly, the lengthy discussion of the Zimmer Plant is inappropriately included in this report. It was never discussed during the hearing. To discredit the plant and the company without providing an opportunity for the company to respond to such allegations is inappropriate for the Subcommittee, especially in light of the on-going investigations by the NRC.

Continued and prolonged delays are not in the best interest of industry or the consumer given the substantial cost of those delays to utilities and their ratepayers. Even using the August DOE cost projections, the anticipated licensing delays will cost the industry, and ultimately the public, \$608 million. With these significant costs it is important that the NRC minimize licensing delays without sacrificing safety.

The NRC's chief concern should be safety. We do not dispute that. But to take the approach that because the NRC has fallen down in its efforts to ensure safety it should ignore other problems it may have in its procedures is short-sighted.

The first nuclear reactor (a demonstration pressurized water reactor) was built and operating in less than four years from the date the Atomic Energy Commission gave its permission for construction. Completion of the average reactor today takes anywhere from 12 to 16 years. To imply that it is impossible for the NRC to make any changes that will reduce the time it takes to construct and license a nuclear reactor without affecting safety is short-sighted. The NRC should take a multifaceted approach to nuclear power that stresses first and foremost safety, but an approach that also recognizes that nuclear power as an energy source should rise and fall on its own merits and not on the inability of the federal government to establish procedures that resolve questions on construction or licensing in an expeditious manner.

#### APPENDIX A

EXCERPT FROM CHAIRMAN HENDRIE'S STATEMENT TO THE ENVIRONMENT, ENERGY, AND NATURAL RESOURCES SUBCOMMITTEE JUNE 18, 1981

The overall picture is thus one of a licensing process which, after a major dislocation, is returning to greater predictability, and at a considerably enhanced level of safety. At the same time, however, the institution of new safety requirements has raised a number of potential issues in the contested hearings for both operating licenses and construction permits around the country. Some of these proceedings concern units which were substantially complete at the time of the Three Mile Island accident, or which have been completed since then.



Accordingly, we now face a situation in which for the first time a significant number of plants will be complete and ready to operate before the completion of required adjudicatory hearings. We have referred to these as "impacted plants" and have provided monthly reports on their status to the Committee on Appropriations. One consequence of these monthly reports is a reappraisal by the Commission of licensing schedule projections. These reappraisals have indicated to the Commission a need for making significant improvement in the licensing process and have been the basis for the corrective actions which I referred to earlier.

At present, there are nine impacted plants on the list: Diablo Canyon 1 and 2, Zimmer 1, San Onofre 2, Summer 1, Susquehanna 1, Waterford 3, Comanche Peak 1, and, depending on your definition, McGuire 1, with a total delay of about 50 months by current estimates. We are meeting on McGuire tomorrow so I should note it may soon come off the list in any case.

All nine involve contested proceedings. For five of the plants, the staff safety evaluation is essentially complete, and for the remaining plants the evaluation is expected to be finished by the end of August. For all these plants, the principal source of delay is the fact that the hearing process has gotten out of phase with construction of the plants due to Three Mile Island.

Having described the nature of the delays presently being encountered and their causes, I would next like to set forth some of the actions which the Commission has taken and is in the process of taking to remedy these problems.

In the late winter and early spring of this year, the Commission conducted a review of the docket of the Atomic Safety and Licensing Board Panel and of the status of the proceedings before individual licensing boards. The Commission held a series of public meetings at which the major elements of the agency's licensing process were examined in some detail. The outcome was the issuance on May 20, 1981, of the "Statement of Policy on Conduct of Licensing Proceedings," designed to provide guidance to the Commission's licensing boards in using management methods and other procedural devices to prevent unnecessary delay in the hearing process. The Commission stressed that it was not urging alteration of the existing procedural framework, but rather encouraging boards to avail themselves of tools already in use to varying degrees by different licensing boards.

As a matter of general guidance, the policy statement directs licensing boards to insure that parties to proceedings, the NRC staff included, meet their obligations under the law and Commission regulations, or face sanctions for their failure to do so. More specifically, the Commission directed the boards to set and adhere to reasonable time schedules; to consolidate interventions where appropriate by designating lead intervenors; to encourage negotiation prior to and during the hearing to resolve contentions, settle procedural disputes, and better define issues; to manage discovery through the use of fewer, more focused interrogatories, and to supervise discovery directly so as to minimize unnecessary delay; and to hold settlement conferences for the purpose of narrowing or eliminating issues and of achieving resolution, wherever possible, of matters in controversy.

The policy statement further provides that licensing boards should make timely ruling on all matters and should do so as early as practicable where the issue in question is crucial or potentially dispositive. Where Commission guidance is needed, the matter should be referred to the appeal board or the Commission promptly. The licensing board should also, in the interest of efficiency and expedition, use summary disposition procedures; require trial briefs, prefiled testimony outlines, and cross-examination plans, where appropriate; put opposing witnesses on the stand at the same time, where doing so can eliminate particular technical issues; and require parties to file proposed findings of fact and conclusions of law on issues which they have raised.

Finally, the policy statement stresses the Commission's expectation that decisions of licensing boards will not only continue to be fair and thorough, but also will issue as soon as practicable after the submission of proposed findings of fact and conclusions of law.

Having used the policy statement to provide general and specific guidance to the licensing boards, the Commission next adopted rule changes designed to bring greater efficiency and timeliness to the licensing process. On May 22, of this year, the Commission issued a final rule amending its procedures regarding the time at which licensing board decisions become effective. Where formerly, under appendix B to part 2 of the Commission rules, a licensing board's initial decision authorizing issuance of a construction permit or operating license did not become effective until reviewed by both the appeal board and the Commission, the revised rule eliminates the appeal board from the review of the effectiveness of the licensing board's decision. The effect is to shorten from about 3 months to about 1 month the span of time during which the effectiveness of the decision is automatically stayed by the Commission review process.

On June 2, the Commission adopted several amendments to the rules of practice, designed to shorten the hearing process without reducing either the overall quality or the fairness of TRC adjudicatory proceedings. First, the new rule permits licensing boards to rule orally on written motions, where formerly they were required to issue written rulings on such motions.

Second, the rule prohibits parties from filing answers to objections or to motions for reconsideration with respect to prehearing orders, unless authorized by the licensing board. If a board decides that a motion or an objection has little or no merit on its face, it need not delay the proceeding by entertaining other parties responses to the motion or objection.

In addition, the Commission amended its rules to provide explicitly that the filing of a motion for reconsideration or an objection will not stay the effectiveness of a prehearing order, unless the licensing board for good cause shown determines that the decision should be stayed pending the board's action.

The rule change also revised the time limits for the filing of proposed findings of fact and conclusions of law, and eliminated the requirement that motions for summary disposition be submitted no later than 45 days before the commencement of the hearing. Under the amended rule, motions for summary disposition may be filed at any time, but boards are directed to reject motions filed just before

the hearing or during the hearing itself, when response to such motions would divert the resources of the parties or the board from the hearing itself.

The Commission also established a 10-day period in which parties may file an answer in support of or in opposition to a motion for summary disposition. Under existing procedures, individual licensing boards had established those time limits on a case-by-case basis.

Finally, among the corrective actions which are already the subject of final Commission rules, the Commission on May 20 amended its rules to provide that alternative site contentions will not be considered in operating license reviews.

The Commission has also directed its staff to prepare a proposed rule which would reduce or eliminate requirements with respect to the financial qualifications required of nuclear licensees. In addition, the Commission voted on June 2 to solicit public comment on proposed changes in the rules of practice governing licensing proceedings. These changes are designed to increase the efficiency of the Commission's hearing process, without depriving participants of substantive or procedural rights.

One such change would require a person petitioning to intervene in an NRC proceeding to set forth at the outset additional information in support of his intervention.

The exact Commission proposal is in the form of two alternatives. One would require the would-be intervenor to demonstrate the facts on which his contention or contentions are based, and the sources or documents which have been or will be used to establish those facts. This rule change would permit the presiding officers to exclude contentions which are either insufficiently specific or inadequately supported. The second formulation of the proposed change would raise the threshold for admitting contentions by requiring the intervenor to assert facts which, if proved, would be legally sufficient to establish the validity of that contention.

Another proposed rule change would limit to 50 the number of interrogatories which a party may file on another party in a single proceeding. The proposal would permit the presiding officer to authorize further interrogatories, however, on a finding that the information sought is essential to the preparation of the case and not otherwise reasonably available, and also that the requesting party has not used its first 50 interrogatories improvidently. This proposed rule change is analogous to the limits on interrogatories which have been adopted by more than 20 Federal district courts in recent years. Still another proposed rule change would authorize the boards to require oral responses to motions to compel discovery, and to require the service of documents by express mail.

The Commission has also taken a number of internal management measures designed to better utilize existing resources for the timely completion of the staff's technical reviews. Since early March of this year, staff members of the Office of Nuclear Reactor Regulation and the Office of the Executive Legal Director have been on a mandatory overtime work schedule. Personnel have also been transferred to reactor regulation from other offices within the agency to assist in reviewing casework, and some NRR assignments have been delegated to other



NRC offices. In order to free NRR personnel to perform technical reviews on licensing cases, some other projects of lower priority have been delayed.

The national laboratories have been asked to perform additional technical assistance work in connection with case reviews, as well as noncasework-related assignments. The result will be to make more NRC staff time available for inhouse operating license reviews. Also, additional members were added to the Atomic Safety and Licensing Board Panel and the Boards in many cases were reconstituted to minimize schedule conflicts.

We project that these steps will result in immediate benefits in reducing delays in issuing operating licenses for facilities scheduled to be licensed this year and next, and in permitting the staff to achieve a review schedule consistent with the expected completion dates for those facilities scheduled to receive operating licenses in fiscal year 1983.

The Commission has also forwarded two legislative proposals to the Congress with a view to eliminating actual or potential delay in the reactor licensing process. The first of these would overturn the principal adverse ruling in the recent decision of the United States Court of Appeals for the District of Columbia Circuit in *Sholly v. NRC*. In that case, a three-judge panel of the D.C. Circuit ruled—erroneously, in our view—that the Commission must hold a prior hearing on demand from any interested person before it can issue a license amendment that involves “no significant hazards consideration.” This position is contrary, we believe, to the intent of Congress, and contradicts consistently applied NRC policy over many years.

The Commission has yet to be required to comply with that decision, however, as the court’s mandate continues to be stayed—most recently by the decision of the Supreme Court to take review of the case. Unless the decision is overturned, however, either by Congress or by the Supreme Court, the *Sholly* decision could require hearings on a number of the some 400 such amendments issued by the Commission each year. The effect of such a burden on the Commission’s licensing process, as well as on other agency activities, would be drastic.

The second of the two legislative proposals would amend the Atomic Energy Act to issue an interim low-power license permitting fuel loading and low-power operation and testing in advance of the conduct or completion of any required hearing. Such operation and testing would be limited to 5 percent of full power in the Commission’s proposal, and would require a finding by the Commission that such action is necessary in the public interest in order to avoid the consequences of unnecessary delay in the operation of a completed plant. In all other respects than the completion of the hearing, the Commission would have to find that all applicable requirements have been met prior to allowing such interim operations.

We are pleased to note that provisions on reversal of the *Sholly* decision and on interim operating license authority have been included in recent authorization bill drafts in both the House and the Senate. The forms of the various provisions differ from the Commission’s recommendations and you may want to hear the views of the individual Commissioners on them.



In sum, the Commission is taking a broad range of actions in order to eliminate unnecessary delay from the licensing process, through internal discipline of the hearing process, better management of agency resources, rule changes, and legislative proposals. Our objective throughout has been to increase efficiency without impairing the right of effective public participation, and to assure that the safety of licensed nuclear powerplants remains the paramount consideration.

I thank you, Mr. Chairman, for allowing me to make this statement.

JOHN HILER.

PAUL N. McCLOSKEY, Jr.

THOMAS N. KINDNESS.

LYLE WILLIAMS.

WILLIAM F. CLINGER, Jr.

RAYMOND J. McGRATH.

HAL DAUB.

JUDD GREGG.

MICHAEL G. OXLEY.

## ADDITIONAL VIEWS OF HON. RAYMOND J. McGRATH

While it is difficult for me to attest to or deny the overall conclusions of the Environment, Energy and Natural Resources Subcommittee report on Licensing Speedup, Safety Delay: NRC Oversight, there are numerous outdated and incorrect statements concerning the Long Island Lighting Company and its Shoreham facility in Suffolk County, N.Y. Therefore, I must at the very least question the amount of care that was taken in assembling this document.

While it is true that the Shoreham plant construction has been faced with interminable delays, the cause has not been clearly identified in this report. The Construction Permit licensing process was the longest in the history of the old Atomic Energy Commission, accounting for years of delay. In addition, new regulations formulated during and after this licensing process necessitated various backfitting efforts at Shoreham, an expensive time consuming process. Other plants, that were not exposed to these delays during this period, such as the Fitzpatrick Plant in New York and Millstone II in Connecticut, were completed in a timely fashion at far lower cost. Finally, the paralysis of the licensing process following TMI made LILCO's licensing efforts that much more difficult.

The Subcommittee report discusses at some length the rapid escalation of construction costs at Shoreham and its effect on the company's ability to complete the project. It is a fact that this plant, and others in its generation, have been constructed during one of the most inflationary periods in our history and will all be expensive. LILCO is moving ahead to complete the plant as soon as possible, to relieve its total dependency upon foreign oil.

Finally, the most telling cause of rising costs has been the regulatory process. If there is a single true horror story within the nuclear industry of a plant that was severely effected financially as well as schedule wise by the licensing and regulatory process, Shoreham surely is the one.

RAYMOND J. McGRATH.

### ADDITIONAL VIEWS OF HON. TOBY MOFFETT

The Subcommittee on Environment, Energy and Natural Resources approved this report on September 23, 1981. The full Government Operations Committee approved the report by voice vote on October 7, 1981. In the few days since these subcommittee and committee deliberations, certain events have transpired which dramatically corroborate the findings and conclusions of the report.

The utility that owns Diablo Canyon has now reported to the Nuclear Regulatory Commission that an error in the reading of the design for Diablo Canyon Unit 1 has resulted in construction mistakes which had not been discovered until the end of September—after Pacific Gas & Electric was granted an NRC license for low-power operations at the plant and after Subcommittee approval of this report. The gist of the error is that diagrams for Unit 2 were used in building certain seismic supports for Unit 1. Whether the utility or one of its contractors is responsible for the error appears to be at issue. What is certain, however, based on an October 9 PG&E briefing to the NRC, is that substantial modifications in the construction of Unit 1 must now be made to conform that plant to its planned specifications. Fuel loading and operation of the plant have therefore been suspended until those corrections can be made.

How long that corrective action will take is not certain. The utility at present is predicting one month. Some NRC officials are skeptical of that optimistic prediction. Whatever the length of this delay, one plain fact emerges. Once again the situation is that the NRC has granted a license for operation which cannot be used because the utility is not ready to use it. And the reason it is not ready is because it—or one of its contractors—made a mistake. The NRC and its licensing process plainly are not to blame for this delay. Neither are the intervenors who have so bitterly and tenaciously opposed this plant's operation.

In light of these facts, moreover, it is now subject to question whether Diablo Canyon has in fact been physically complete and delayed by the NRC deliberations over the seismic question. The Committee report, based on the facts before the Committee, properly concluded that among all the plants supposedly delayed by the NRC licensing process, Diablo Canyon was the one that had the most credible claim of actual delay—albeit for a non-trivial reason. Even that utility claim has now been seriously eroded. The thrust of the report and the accuracy of its findings and conclusions about the industry exaggeration of NRC-caused delay of nuclear powerplants have thus been rapidly and vividly corroborated.

TOBY MOFFETT.