



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 30, 1981

CHAIRMAN

The Honorable Tom Bevill, Chairman
Subcommittee on Energy and Water
Development
Committee on Appropriations
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This monthly status report is in response to the direction given in House Report 96-1093. Enclosed is our eleventh report covering the period from August 15, 1981 to September 15, 1981. This eleventh report discusses the actions that were taken during this period on operating reactors and licensing reviews of new facilities.

During the reporting period, a full-power license was issued to Sequoyah Unit 2. In addition, a low-power license was issued to Diablo Canyon Unit 1 on September 22, 1981. After receiving the low-power license, Pacific Gas and Electric Company discovered that certain piping may not be properly analyzed for seismic loads. Pacific Gas and Electric Company has halted fuel loading until reanalysis of affected piping is completed.

During this reporting period, applicant changes in estimated construction completion dates have occurred for seven plants. The estimated construction completion dates have been revised as follows: Diablo Canyon Unit 2 has been revised from October 1981 to July 1982; Summer 1 has been revised from November 1981 to December 1981; Watts Bar Units 1 and 2 have been revised from June 1982 to August 1982 and from March 1983 to June 1983, respectively; Zimmer 1 has been revised from November 1981 to July 1982; Comanche Peak 1 has been revised from December 1981 to June 1982; South Texas 1 has been revised from September 1983 to July 1984. Because of these applicant changes in construction completion schedules, the projected total delays have decreased from 42 months in the last report to 21 months in this report. Further changes are likely, and the number of delay months at all of the affected units will change accordingly.

The staff is analyzing the schedules for FEMA findings on offsite emergency plans. The staff is assessing the potential impact of these schedules on the licensing process. The potential impacts have not been reflected in this report.

Commissioners Gilinsky and Bradford note that, if the NRC meets its schedules and if adjustments are made for applicants' actual schedules and for recent revision of the low power licensing process, the number of future delay months is likely to be between zero and five.

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The Honorable Tom Bevil

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We have expanded Table 2 to include all plants for which OL applications have been tendered, thereby indicating all plants for which NRC OL review is underway. We have also added a new Table 3 to show the projected licensing schedules for pending Construction Permit and Manufacturing License applications.

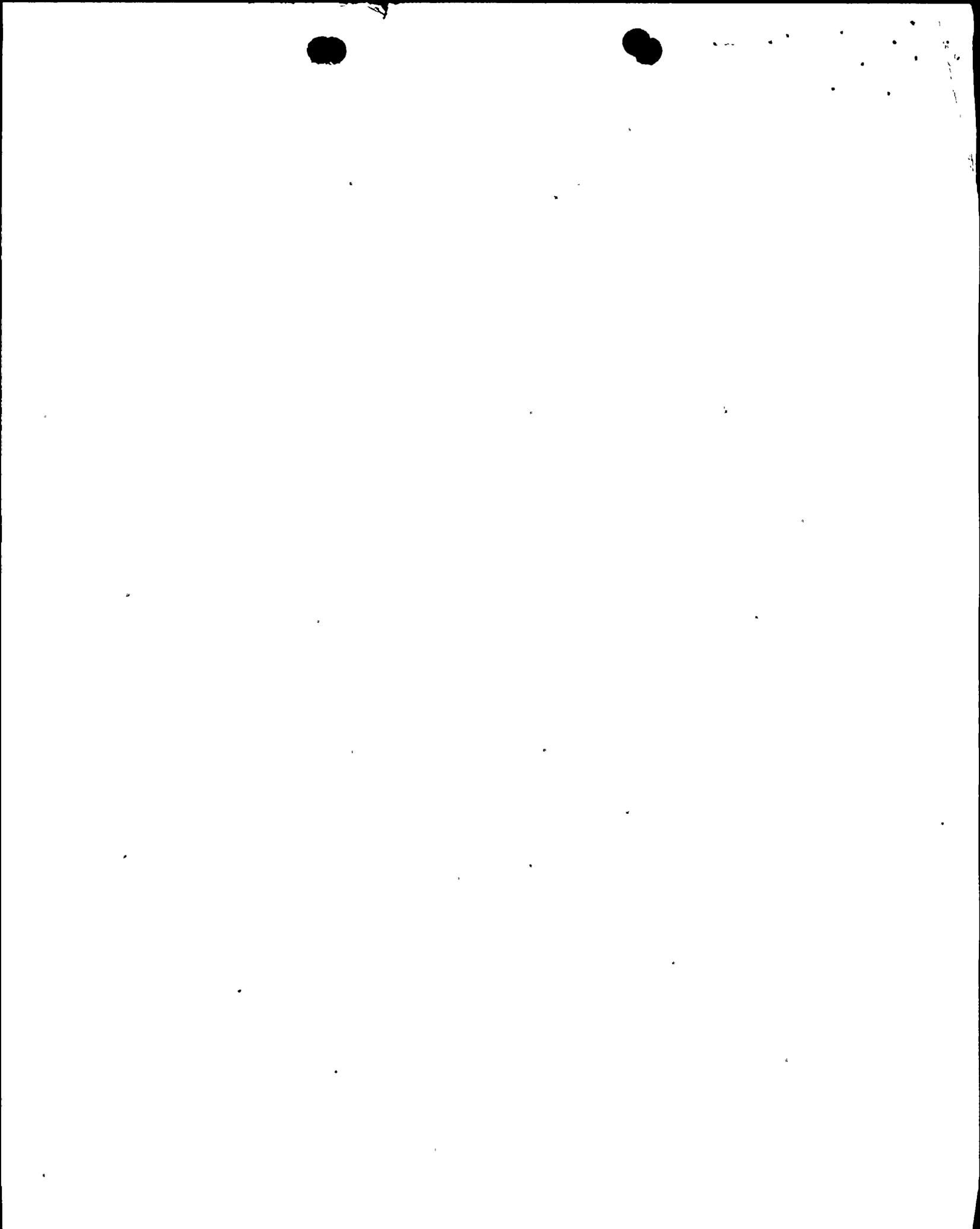
Sincerely,



Nunzio J. Palladino

Enclosure:
NRC Monthly Status
Report to Congress

cc: The Honorable John T. Myers



NRC MONTHLY STATUS REPORT TO CONGRESS

This is the eleventh monthly status report to Congress in response to the direction given in House Report 96-1093. This report provides a discussion of the major actions that were taken on operating reactors and on licensing reviews of new facilities during the period of time between August 15, 1981 and September 15, 1981.

OPERATING REACTORS

Thermal Shock To Reactor Pressure Vessels

During the last month, no new information has come to our attention that would alter the staff's conclusion that no immediate licensing actions are required for operating reactors. Because the implementation of any proposed remedial actions must allow for adequate lead time, letters were sent to the licensees of eight plants requesting further information to enable the staff to assess what actions may be required to resolve this issue. The eight plants (Ft. Calhoun, Robinson 2, San Onofre 1, Maine Yankee, Oconee 1, Turkey Point 4, Calvert Cliffs 1 and Three Mile Island 1) were selected on the basis of their vessel irradiation history and their plant system characteristics. This effort is progressing in parallel with the generic review presently underway by the owners groups. The staff has also held meetings with the owner groups this month to review progress on the thermal shock issue.

OPERATING LICENSE APPLICATIONS

Licensing Schedules

During the past month, the emphasis on licensing activities continued to be on operating license applications. During this period, the staff issued a Final Environmental Statement on Fermi 2, a Safety Evaluation Report on Grand Gulf and Supplemental Safety Evaluation Reports (SSERs) on Susquehanna and Shoreham. In addition, a full-power license was issued for Sequoyah Unit 2. The present licensing schedules for plants projected by utilities to be completed in 1981 and 1982 are given in Table 1. Additional units at the same site with projected completion dates in 1983 are included in Table 1.

The preliminary licensing schedules for plants with lead units projected to be completed in 1983 and beyond are given in Table 2. Table 2 was modified to include all plants projected to be completed in 1983 and beyond for which OL applications have been tendered, and thus indicates all plants for which NRC OL review is underway. The schedules are based on standard assumptions for review and hearing times, except for those plants that are expected to be heavily contested (Byron 1, Seabrook 1, and Midland 2). For those plants, we have projected a 13-month (rather than the typical 11-month) hearing schedule from issuance of our SSER to Commission decision date. The staff review process for those cases has been accelerated to compensate for the additional time allotted for the hearing process. The potential delays between construction completion and projected issuance of a full-power operating license are presented based on the applicant's expected construction completion date.

The staff is analyzing the schedules for FEMA findings on off-site emergency preparedness. The schedules provided for findings on off-site emergency preparedness may cause licensing delays for many facilities.

This month we have added a Table 3 giving the status and projected schedules for pending Construction Permit applications.

There are uncertainties associated with the dates for the ASLB Initial Decision, Commission Decision, and Applicant Construction Completion. As the delays are reduced to small values, these uncertainties become more significant and have the potential to impact the totals.

Cost Estimates

The NRC is obtaining cost estimates associated with the licensing delays from the Department of Energy on a monthly basis. Their latest estimates, dated September 14, 1981, are set forth in Attachment 1.

Commission Actions to Improve the Licensing Process

The Commission is amending its recently adopted final rule on review procedures for Licensing Board decisions granting power reactor operating license applications. The Commission will retain to itself the decision as to whether a plant will be allowed to go into commercial operation, i.e., receive a full-power license. However, the rule is being modified so as to delete the requirement that the Commission conduct an effectiveness review prior to fuel loading and low-power testing, and to make other clarifying changes. The reconsideration is prompted by Commission experience in reviewing several recent cases.

The staff is analyzing the potential effect of the rule change on licensing delays. The results of the staff analysis will be reported in the next report to the Subcommittee. It may result in further reductions in delay estimates.

PLANT-BY-PLANT DISCUSSION OF DELAYED PLANTS

The following is a discussion of the status of the potentially delayed facilities. Although not projected to be a delayed plant, Shoreham Unit 1 is included in this discussion since some major milestones are being delayed. Because of a number of applicant changes in construction completion schedules, the projected total delays have decreased from 42 months in the last report to 21 months herein.

San Onofre Unit 2 - On June 3, 1981, FEMA issued an interim finding regarding the conduct of the San Onofre emergency preparedness drill which was performed on May 13, 1981. The applicant is currently undertaking those corrective actions identified in the FEMA interim finding. The hearing on a full-power license started on June 22, 1981, and testimony on seismic issues has been completed.

Testimony on emergency planning issues started during August 1981. The applicant has filed a motion with the Licensing Board for consideration of a decision regarding a low-power license. A decision regarding a full-power license is projected for February 1982. The estimated construction completion date is October 1981. A four-month delay is projected for this facility if the low-power license is not granted.

2. Diablo Canyon Units 1 and 2 - A favorable Licensing Board decision on low-power operation was issued on July 17, 1981. However, the low-power decision was not complete until the Appeal Board issued its decision on physical security matters. This decision was issued on September 9, 1981. A Commission Order permitting issuance of a low power license was issued on September 21, 1981, and a low power license was issued on September 22, 1981. The Commission directed that two additional contentions be admitted to the full-power proceeding. In addition, a Board order on full-power contentions postpones a ruling on equipment qualification issues until the staff's review of this issue is complete and other parties have had an opportunity to review the staff SSER. The applicant's initial submittal on equipment qualification was not complete. The staff worked closely with the applicant to assure that the necessary information was provided in an expeditious manner. The staff conducted an audit during the week of August 31, 1981, and plans to issue an SSER on this matter by early October 1981. Since the Board has indicated that it will finalize the full-power hearing schedule when the staff's SSER is issued, the hearing is projected to start in October 1981, and a decision regarding a full-power license is projected for February 1982. The construction completion date for Unit 1 was in March 1981. A nine-month delay is

projected for Unit 1, but this takes no account of the recently discovered problems in the licensee's seismic analysis. The estimated construction completion date for Unit 2 has been revised from October 1981 to July 1982. The projected delay for Unit 2 has been eliminated.

3. Shoreham Unit 1 - A pre-ACRS review supplement to the SER was issued the first week of September, with 20 open items requiring information from the applicant, commitments from the applicant, or technical issues remaining for resolution. The ACRS meeting is scheduled for October 15, 1981. A post-ACRS supplement to the SER is projected to be issued following the ACRS meeting. A decision regarding a full-power license is projected for September 1982, which is concurrent with the estimated construction completion date.
4. Summer Unit 1 - The SSER was issued on April 28, 1981. The FES was issued on May 21, 1981. The hearing started on June 22, 1981. A decision on a full-power license is projected for January 1982. The construction completion date is projected for December 1981. The projected delay has been reduced from two months to one month.
5. Susquehanna Unit 1 - The ACRS meeting was held on August 6, 1981, and a ACRS letter was received on August 11, 1981. A post-ACRS SSER was issued on September 4, 1981, with four open items remaining to be resolved. The start of the hearing is now scheduled for October 6, 1981. A decision regarding a full-power license is projected for June 1982. A two-month delay is projected for this facility.

6. Zimmer Unit 1 - A SSER was issued on June 4, 1981. Issuance of an additional SSER addressing resolved issues is scheduled for October 1981.
Recommencement of the hearing is projected for February 1982. A decision regarding a full-power license is projected for July 1982. The applicant has revised the estimated construction completion date from November 1981 to July 1982. The projected eight-month delay for this facility has been eliminated.
7. Waterford Unit 3 - The SER was issued on July 9, 1981. The ACRS meeting was held on August 6, 1981. Staffing and management issues were identified by the ACRS as requiring further review. Late comments received on the DES, and the applicant's announced planned consolidation with New Orleans Public Service, have delayed issuance of the FES to September 30, 1981. This delay will have no impact on the hearing schedule or licensing. A decision regarding a full-power license is projected for November 1982. The estimated construction completion date is October 1982. A one-month delay is projected for this facility.
8. Comanche Peak Unit 1 - The SER was issued in July 1981 with over 40 open items. A pre-ACRS supplement to the SER is projected to be issued in October 1981. The ACRS meeting is now scheduled for November 12, 1981. A post-ACRS SSER is projected to be issued in December 1981. The FES is projected to be issued on September 18, 1981. The hearing on selected issues is now scheduled to begin in December 1981. The full-power hearing schedule remains unchanged and is projected to begin in March 1982. A decision regarding a full power license is projected for October 1982. The applicant recently informed the NRC that construction completion cannot be earlier than June 1982. The projected delay will not exceed 4 months. Informal information provided to the staff indicates a construction completion date for the facility after October 1982. Therefore, the projected delay may be eliminated in the future.

FULL-POWER LICENSES

Sequoyah Unit 2

A five percent power license for Sequoyah Unit 2 was issued on June 25, 1981.

A full-power license was issued on September 15, 1981.

CONSTRUCTION PERMIT APPLICATIONS

The staff is continuing to review the TMI-related items for those CP and ML applicants who have submitted information regarding the TMI-related matters (Pilgrim 2, Allens Creek 1, Skagit 1 and 2, and FNP 1-8). The staff issued its SSER for Pilgrim 2 in June 1981, and issued its SSER for Allens Creek 1 in July 1981. The applicant for Pilgrim 2 cancelled the facility on September 24, 1981.

The staff reviews of the TMI-related information for FNP Units 1-8 and Skagit Units 1 and 2 are in progress. Results of its reviews are expected to be issued in September 1981 for FNP Units 1-8, and in October 1981 for Skagit Units 1 and 2. The projected licensing schedules for pending Construction Permit (CP) and Manufacturing License (ML) applications are given in Table 3.

On August 27, 1981, the Commission approved a final rule regarding TMI related requirements applicable to Construction Permit and Manufacturing License Applications filed prior to the TMI-2 accident. The rule is projected to be published in October 1981 in the Federal Register and will be effective 30 days after publication.

1. Licensing Schedules CY 1981 - 1982 Plants
2. Licensing Schedules CY 1983 Later Plants
3. Licensing Schedules CP and ML Applications

Attachment:

DOE Estimates of Costs Due to Licensing Delays

CY 1991 - 1992 PLANTS
(Based on Lead Unit; Listed in Order of Projected Commission Decision Date)

DIVISION OF LICENSING 9/15/91

Plant	Est Delay (Months)	SCR				SSER				Start of Hearing	ASLD Initial Decision	Comm. Dec. Date	1/ Appl. Constr. Compl.
		Issue DCS	Staff Technical Input to DL	Issue SER	ACRS Htg	Issue FES	Staff Technical Input to DL	Issue SSER					
LaSalle 1	0	C	C	C	C	C	C	C	C	None	None	10/91	12/91
Grand Gulf 1	0	C	C	C	10/15/91	9/25/91	10/25/91	11/15/91	11/15/91	None	None	12/91	12/91
Summer 1	1	C	C	C	C	C	C	C	C	C	12/91	01/92	12/91
Watts Bar 1	0	C	9/10/91 6/	10/9/91	11/12/91	C	11/26/91	12/11/91	12/11/91	None	None	01/92	01/92
Diablo Canyon 1	9	C	C	C	C	C	C	9/30/91 4/	9/30/91 4/	10/91 2/	01/92	02/92	03/91
Diablo Canyon 2	0	C	C	C	C	C	C	9/30/91 4/	9/30/91 4/	10/91 2/	01/92	02/92	04/92
San Onofre 2	4	C	C	C	C	C	C	C	C	C	01/92	02/92	10/91
LaSalle 2	0	C	C	C	C	C	4/01/92	5/01/92	5/01/92	None	None	06/92	06/92
McGuire 2	0	C	C	C	C	C	4/01/92	5/01/92	5/01/92	C	C	06/92	06/92
Susquehanna 1	2	C	C	C	C	C	C	C	C	10/91 2/	05/92	06/92	04/92
WHP-2	0	C	2/12/92	3/12/92	4/09/92	12/31/91	4/30/92	5/28/92	5/28/92	None	None	07/92	12/92
Zimmer 1	0	C	C	C	C	C	9/22/91	10/01/91	10/01/91	02/92	06/92	07/92	07/92
San Onofre 3	0	C	C	C	C	C	6/01/92	7/01/92	7/01/92	C	01/92	08/92	08/92
Fermi 2	0	C	C	C	C	C	9/14/91	9/25/91	9/25/91	12/91 2/	08/92	09/92	11/92
Shoreham 1	0	C	C	C	10/15/91	C	11/02/91	11/16/91	11/16/91	02/92	08/92	09/92	09/92
Callaway 1	0	9/25/91	9/25/91	10/09/91	11/12/91	1/15/92	11/20/91	11/27/91	11/27/91	11/91 3/	09/92	10/92	10/92
Comanche Peak 1	4	C	C	C	11/12/91	9/10/91	12/01/91	12/14/91	12/14/91	12/91 2/	09/92	10/92	06/92
St. Lucie 2	0	10/16/91	C	10/09/91	11/12/91	1/15/92	11/20/91	11/27/91	11/27/91	04/92	09/92	10/92	10/92
Palo Verde 1	0	10/23/91	10/09/91	11/06/91	12/10/91	2/12/92	12/10/91	12/31/91	12/31/91	05/92	10/92	11/92	11/92
Waterford 3	1	C	C	C	C	9/30/91 5/	9/10/91	10/09/91	10/09/91	03/92	10/92	11/92	10/92
Watts Bar 2	0	C	9/11/91 6/	10/09/91	11/12/91	C	1/01/93	2/01/93	2/01/93	None	None	03/93	06/93
Susquehanna 2	0	C	C	C	C	C	2/01/93	3/01/93	3/01/93	10/91 2/	05/92	04/93	04/93
Palo Verde 2	0	10/23/91	10/09/91	11/06/91	12/10/91	2/12/92	9/01/93	10/01/93	10/01/93	05/92	10/92	11/93	11/93
Comanche Peak 2	0	C	C	C	11/12/91	9/10/91	10/01/93	11/01/93	11/01/93	12/91 2/	08/92	12/93	12/93
TOTAL	27 0/9/												

- 1/ Licensing schedules and Decision Dates do not reflect additional potential impact from Emergency Preparedness Review. These potential delays are based on Emergency Preparedness finding dates as reported in FEA/HRC Report on Emergency Preparedness submitted to the Subcommittee on Nuclear Regulation.
- 2/ Hearing on limited selected issues. Full hearing schedule remains unchanged, hence ASLD initial decision dates remain unchanged.
- 3/ DL Construction deficiency issue only.
- 4/ Board Order on full power operation reserved judgment on the equipment qualification contentions. Applicant did not pass initial staff audit. Staff estimates SSER on this issue to be complete on September 30, 1991.
- 5/ Late comments received on DCS have delayed FES to 9/10/91. Applicant announced planned consolidation with New Orleans Public Service may further delay issuance of FES, based on applicant's ability to provide financial information.
- 6/ Meeting scheduled for late September 1991, at applicant's request, to discuss licensing schedule.
- 7/ The projected date for an off-site emergency preparedness finding was not met. This may impact the hearing schedule.
- 8/ Fifteen months are projected in the future, six months have been realized.

TABLE 2

CY 1993 AND LATER PLANTS
 (Includes all DL Applications Tendered to Date)

DIVISION OF LICENSING - 9/15/01

Plant	Est Delay (Months)	SER				SSER			Start of Hearing	ASLD Initial Decision	Comm. 1/ Dec. Date	Appl. Constr. Comp.
		Issue DES	Staff Technical Input to DL	Issue SER	ACRS Mtg	Issue FES	Staff Technical Input to DL	Issue SSER				
Clinton 1	0	11/01/01	12/05/01	1/05/02	2/05/02	3/15/02	2/12/02	2/20/02	07/02	12/02	01/03	01/03
Holf Creek 1	0	1/05/02	3/07/02	4/07/02	5/07/02	6/05/02	5/10/02	5/30/02	10/02	03/03	04/03	04/03
Dyron 1	0	11/05/01	1/07/02	2/07/02	3/07/02	4/05/02	3/10/02	3/30/02	08/02 2/	03/03	04/03	04/03
Perry 1	0	2/05/02	4/10/02	5/10/02	6/11/02	7/05/02	6/15/02	6/30/02	11/02	04/03	05/03	05/03
Midland 2	0	2/05/02	4/06/02	5/06/02	6/06/02	7/05/02	6/10/02	6/30/02	11/02 2/	06/03	07/03	07/03
Catawba 1	0	5/05/02	7/09/02	8/06/02	9/10/02	10/05/02	9/12/02	9/30/02	02/03	07/03	08/03	08/03
River Bend 1	0	7/05/02	9/04/02	10/04/02	11/05/02	12/05/02	11/08/02	11/29/02	04/03	09/03	10/03	10/03
Seabrook 1	0	5/05/02	8/07/02	9/07/02	10/08/02	10/05/02	10/10/02	10/30/02	03/03 2/	10/03	11/03	11/03
Midland 1	0	2/05/02	4/06/02	5/06/02	6/06/02	7/05/02	10/01/03	11/01/03	11/02	06/03	12/03	12/03
So. Texas 1	0	4/01/03	6/04/03	7/01/03	8/07/03	9/02/03	8/14/03	8/31/03	01/04	06/04	07/04	07/04
Bellefonte 1	0	2/03	10/03	11/03	12/03	7/03	4/04	5/04	None	None	06/04	06/04
Limerick 1	0	5/03	7/03	8/03	5/03	10/03	10/03	11/03	04/04	09/04	10/04	10/04
Harris 1	0	10/02	6/03	7/03	8/03	3/03	12/03	01/04	06/04	11/04	12/04	12/04
Draughtwood	0	01/04	11/03	12/03	1/04	6/04	4/04	05/04	10/04	03/05	04/05	04/05
Total												

1/ Commission Decision Date does not reflect additional potential impact from Emergency Preparedness review.
 2/ Heavily contested plants reflect 13-month hearing schedule (vs 11 months) from SSER to Commission decision date.
 Commissioner Aheare remains convinced this scheduled is too optimistic.

TABLE 3

STATUS AND PROJECTED TARGET SCHEDULES
FOR PENDING CONSTRUCTION PERMIT APPLICATIONS

DIVISION OF LICENSING 9/15/01

Plant	<u>SSER (THI Issues)</u>			<u>SSER (Non-THI Issues)</u>			<u>ACRS Meeting</u>	<u>Start of Hearing</u>	<u>ASLD Initial Decision</u>	<u>Commission Decision Date</u>
	<u>Issue DES</u>	<u>Issue FES</u>	<u>Staff Technical Input to DL</u>	<u>Issue SSER</u>	<u>Staff Technical Input to DL</u>	<u>Issue SSER</u>				
Pilgrim 2 <u>5/</u>	C	C	C	C	C	C	C	11/09/01	3/02	4/02
FHP 1-0	C	C	C	9/10/01	C	9/10/01	10/01	2/02	7/02	8/02
Allens Creek 1	C	C	C	C	9/15/01	10/15/01	C	3/02	8/02	9/02
Black Fox 1 & 2	C	C	11/01	12/01	2/02	3/02	2/02 <u>4/</u>	8/02	1/03	2/03
Skagit/Hanford 1 & 2	3/02 <u>1/</u>	8/02 <u>1/</u>	C	10/01	4/02	6/02	7/02	11/02	4/03	5/03
Pebble Springs 1 & 2	C	C	N/S	N/S	N/S	N/S	N/S	12/01/01	5/03	N/S <u>2/</u>
Perkins 1, 2, 3	C	C	N/S <u>3/</u>	N/S <u>3/</u>	N/S	N/S	N/S	N/S	N/S	N/S <u>3/</u>

- 1/ As a result of field explorations conducted by USGS, the seismic design of the facility must be re-examined. Applicants indicated in September 1999 that the proposed facility is to be relocated to the Hanford reservation. Amended ER and PSAR will be filed in December 1999.
- 2/ In response to a 4/20/01 board order, the applicant stated (5/14/01) an interest in pursuing the review with respect to completing the hearing on environmental and site suitability issues. However, the applicant has not indicated when they propose to resume activities related to the safety review, particularly on THI-related issues, therefore, a Commission decision date is not projected at this time for this facility.
- 3/ By letter dated 3/12/01, the applicant recommended that the NRC not devote any resources beyond support for the alternate site hearing for the next two years.
- 4/ It is anticipated that THI issues only will be discussed at the ACRS meeting.
- 5/ Facility cancelled by applicant on September 24, 1991.



ATTACHMENT

(The recent change to the construction completion date for Diablo Canyon Unit 2 is not reflected in the attached DOE estimates.)

Note: The estimated delays are calculated by the NRC from the applicant's construction completion date to the Commission Decision date. The estimated delays are calculated by the DOE from the applicant's construction completion date, or the current date for completed units, to the Commission Decision date. Therefore, the DOE estimates exclude delays from prior months for completed plants.

ESTIMATES OF THE COSTS OF DELAYING
OPERATING LICENSES FOR NUCLEAR PLANTS

Prepared by
Division of Utility Systems and Emergency Communications
U.S. Department of Energy
September 14, 1981

This report is the sixth in a monthly series of estimates of the costs of delay in the issuance of operating licenses of the Nuclear Regulatory Commission (NRC). This month's report takes account of changes in the estimated length of delays and continues to provide Department of Energy (DOE) estimates of the costs of delay, in addition to revised estimates supplied by utilities.

Completion of emergency preparedness plans required under the safety review may result in delays for some plants. DOE will provide potential cost estimates next month for those plants which may be affected.

Summary of Results

The most recently projected dates of issuance of operating licenses for new units would result in a loss of 22 months of reactor operation based on the utilities' projected dates of completion for 7 units. (This does not include the two additional months of loss of operation projected for the undamaged TMI 1 unit.) Last month's estimate was 36 months for these units.

The estimated cost of these delays, excluding TMI 1, is \$584 million, based on data obtained from the utilities in September, or \$502 million, based on independent DOE estimates. A comparison with last month's report follows:

	Excluding TMI-1			Including TMI-1		
	Sept 1981 Estimate	Aug 1981 Estimate	Change	Sept 1981 Estimate	Aug 1981 Estimate	Change
Units Delayed	7	8	-1	8	9	-1
Months of Operation Lost	22	36	-14	24	39	-15
Total Cost of Delays (\$MM) Based on						
-- Utility Data	584	715	-131	612	757	-145
-- DOE Analyses	502	608	-106	530	650	-120

The decrease is due to mainly to delay in construction schedules.

Length of Delay

The length of the delay--the number of lost months of reactor operation--is estimated in Table 1. For units still under construction, the delay is the interval between the utilities' projected date of completion (column 4) and the NRC's projected date of issuance of operating license (column 3). For units already completed, the delay is based on the period from and including September 1981 through the projected month of issuance of an operating license.

Last month's estimate of the licensing dates are shown in column 2. A net change of 14 months (excluding TMI 1) has occurred in the estimated total length of delay (column 5). The change is due to

- o Delays in construction for Comanche Peak 1, Summer 1 and Zimmer 1. For the Summer unit the change is less than one month, from 11/30/81 to 12/1/81. For the Zimmer 1 unit the date now coincides with the operating license issuance date; therefore, the unit no longer appears on the list. (-15 months).
- o Omission of costs incurred in August 1981 (since past costs are not included) for Diablo Canyon 1 (-1 month).
- o Delay in issuance of operating licenses for Diablo Canyon units 1 and 2. The NRC has reported that the delay is caused by the applicant's incomplete submission on equipment qualifications (+2 months).

Costs of the Delay

The cost of a delay in issuing an operating license after a plant is physically complete is equal to:

- o 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
- o The total costs of satisfying the same energy requirement if the license had been issued when the plant was complete.

This cost differential is affected only by cost elements that change as a result of the delay--for example, fuel, purchased power, maintenance, and other special expenses. It is not affected by anticipated monthly capital carrying charges or by any other costs that would be incurred with or without the delay.

The estimated costs of delay are summarized in Table 2, based on two independent sources:

- o One set of estimates (columns 1 through 4) was based on data obtained from the owners of the units; and
- o A second set of estimates (columns 5 through 8) was developed independently by DOE staff based on available data on generating resources, pooling arrangements, load projections, capacity factors, and fuel prices. The analysis method was summarized in the May report. The key numerical assumptions are presented in Table 3.

Both sets of estimates used the same length-of-delay information (from Table 1, column 5).

Capacity charges were not taken into consideration in the DOE analyses. Most of the utilities indicated that the replacement power for the delayed nuclear units would be generated within their own systems. It is possible that, in some cases, there would be a capacity charge for purchased power, but DOE has no current basis for estimating its cost.

DOE's assumptions generally resulted in lower estimates for the monthly cost of replacement power (Table 2, column 5) than those provided by the utilities (column 1). In addition, a few utilities claimed special additional costs associated with the delay (footnoted in column 1). DOE did not attempt to estimate such costs.

TABLE 1

Division of Utility Systems and Emergency Communications
U.S. Department of Energy
September 14, 1981

DATA ON NUCLEAR UNITS WITH OPERATING LICENSE DELAYS ^{1/}

Unit	Capacity (MW) (1)	Projected Date of Issuance of Operating License August 1981	Projected Date of Issuance of Operating License September 1981	Construction Com- pletion Dates Pro- jected by Company September 1981	Months of Delay (3) - (4) (5)	Replacement Power	
		(2)	(3)	(4)	Fuel (6)	Source (7)	
Comanche Peak 1	1,150	10/82	10/82	6/82 ^{6/}	4	Gas	Self-generated
Diablo Canyon 1	1,084	1/82 ^{2/}	2/82 ^{2/}	3/81	6 ^{5/}	Oil-Gas	Self-generated
Diablo Canyon 2	1,106	1/82 ^{2/}	2/82 ^{2/}	10/81	4	Oil-Gas	Self-generated
San Onofre 2	1,100	2/82	2/82	10/81	4	Oil	Self-generated
Summer 1	900	1/82	1/02	12/81	1	Coal-Oil	Self-generated
Susquehanna 1	1,050	6/82	6/82	4/82	2	Oil-Gas ^{4/}	Self-generated
Waterford 3	1,153	11/82	11/82	10/82	1	Oil	Purchased/Self-generated
Total (new units)					22		
TMI 1	776	10/81 ^{3/}	10/81 ^{3/}		2 ^{5/}	Oil-Coal	Purchased

Sources: Utility Companies
Nuclear Regulatory Commission

^{1/} Covers all units for which construction is expected to be completed at least one month before an operating license is issued.

^{2/} According to company sources, the NRC-projected dates do not reflect expediting procedures available to the Commission. The NRC in its August report to the Devill Committee slipped the operating license issuance date from 1/82 to 2/82.

^{3/} TMI 1 has received an operating license and has been in operation. However, the unit was taken out of service for a routine refueling during February 1979, and was not allowed to return to service following the TMI 2 accident. The company anticipates being finished with TMI 1 modifications by the end of 10/81. NRC projects it will make a decision on the unit in 10/81.

^{4/} Delay would reduce utility's coal-fired and oil-fired exports which would replace power in the PJM pool derived from oil and less efficient coal plants.

^{5/} Delays for these completed units prior to 9/81 are not included.

^{6/} The company has indicated that the unit will not be ready for fuel loading prior to 6/82. An exact construction completion date is under review.

TABLE 2

Division of Utility Systems and Emergency Communications
 U.S. Department of Energy
 September 14, 1981

ESTIMATED COSTS OF OPERATING LICENSE DELAYS FOR NUCLEAR UNITS

Unit ^{11/}	Costs Based on Company Data				Costs Based on Independent DOE Analysis			
	Replacement ^{1/} Power Costs	Capacity Factor	Replacement ^{2/} Power Costs	Total ^{3/} Cost	Replacement ^{7/} Power Costs	Capacity Factor	Replacement Power Costs	Total ^{9/} Cost
	-\$MM/Month- (1)	-Percent- (2)	--¢/kwh-- (3)	-\$MM- (4)	-\$MM/Month- (5)	-Percent- (6)	--¢/kwh-- (7)	-\$MM- (8)
Comanche Peak 1	18.5	70	3.2	74	14.5 ^{8/}	60	2.9	58
Diablo Canyon 1	26.8 ^{4/}	65	5.3	161	26.0	60	5.5	156
Diablo Canyon 2	28.7 ^{4/}	65	5.5	115	26.5	60	5.5	106
San Onofre 2	36.0 ^{6/}	70	6.5	144	29.6	60	6.1	118
Summer 1	12.7	65	3.0	13	8.5	60	2.2	9
Susquehanna 1	25.0	65	5.1	50	10.1 ^{10/}	60	3.9	36
Waterford 3	27.4 ^{5/}	75	4.4	27	19.1	60	3.8	19
Total (new units)				584				502
TMI 1	14.0	70	3.6	28	14.0	70	3.5	28
Total (including TMI 1)				612				530

- 1/ Cost of replacement power minus fuel and operating costs of nuclear units.
- 2/ Replacement power costs divided by kilowatt-hours replaced. (Column 1 ÷ Column 2 ÷ Unit capacity ÷ 720 hours/month).
- 3/ Derived by multiplying monthly replacement power costs (column 1) by the total months of delay (Table 1, column 5).
- 4/ Cost of fuel for 1981 estimated by utility.
- 5/ Does not include other abnormal costs of \$15.25 million per month.
- 6/ Does not include other abnormal costs of \$2.7 million per month.
- 7/ Cost of replacement power minus nuclear fuel costs of 6 mills/kwh. Estimates do not include capacity charges which may be incurred if power is purchased from other systems.
- 8/ Most of delay occurs in 1982; therefore, fuel costs are based on 1982 estimates.
- 9/ Derived by multiplying monthly replacement power costs (column 5) by total months of delay (Table 1, column 5).
- 10/ Nuclear fuel cost of 10 mills/kwh are used in this calculation.
- 11/ Ownership of units

Comanche Peak 1: Texas Electric Service Co. - 35 5/6%, Texas Power and Light - 31 1/2%, Dallas Power & Light - 18 1/3%, Texas Municipal Power Agency - 6 1/5%, Brazos Electric Power Coop - 3 4/5%, Tex-La Electric Coop. of Texas - 4 1/3%.
 Diablo Canyon 1 and 2: Pacific Gas and Electric Co. - 100% of both units.
 San Onofre 2: Southern California Edison - 76.55%; San Diego Gas and Electric - 20%; City of Riverside - 1.79%; City of Anaheim - 1.66%.
 Summer 1: South Carolina Gas and Electric - 66%; South Carolina Public Service Authority - 34%.
 Susquehanna 1: Pennsylvania Power and Light - 90%; Allegheny Electric Cooperative - 10%.
 Waterford 3: Louisiana Power and Light - 100%.
 TMI 1: Metropolitan Edison - 50%, Jersey Central Power and Light - 25%, Pennsylvania Electric Co. - 25%.

TABLE 3

Division of Utility Systems and Emergency Communications
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 September 14, 1981

KEY ASSUMPTIONS IN DOE ESTIMATES OF COST OF NUCLEAR PLANT DELAYS

<u>Unit</u>	<u>Replacement Fuel Mix</u>	<u>Replacement^{1/} Fuel Price -\$/BTU-</u>	<u>Heat Rate of^{1/} Replacement Fuel -BTU/kWh-</u>
Comanche Peak 1	Gas (100%)	Gas 3.19 ^{2/}	10,911
Diablo Canyon 1	Oil (50 %) ^{3/} Gas (50 %)	Oil 6.50 Gas 4.90	10,670
Diablo Canyon 2	Oil (50 %) ^{3/} Gas (50 %)	Oil 6.50 Gas 4.90	10,670
San Onofre 2	Oil (100%)	Oil 6.71	10,035
Summer 1	Coal (81 %) Oil (19 %)	Coal 1.71 Oil 7.26	Coal 10,001 Oil 9,944
Susquehanna 1	Coal (33 %) ^{3/} Oil (67 %)	Coal 1.67 Oil 5.84	Coal 10,083 Oil 11,240
Waterford 3	Oil (100%)	Oil 3.91 ^{2/}	11,223
TMI 1	Coal (50 %) Oil (50 %)	Coal 1.67 Oil 5.84	Coal 10,083 Oil 11,240

^{1/} Source: U.S. Department of Energy, Energy Information Administration, ETC Form 423.

^{2/} Prices are 1982 projections; all other prices are on a 1981 basis.

^{3/} Based on new information, DOE has revised its assumptions.

Mr. Nunzio Palladino

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September 11, 1981

I am interested in knowing what your personal position is on this matter and what, if anything, is being done to change some of the procedures presently employed.

A response from you at your earliest convenience will be greatly appreciated. Thank you very much.

Sincerely,

Sunday C. Spong

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SCS/ncl

