

# CATEGORY 1

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STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529  
STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530  
AUTH. NAME      AUTHOR AFFILIATION  
FULTON, J.D.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
LEVINE, J.M.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: Monthly operating repts for Mar 1996 for PVNGS, units 1, 2 & 3  
W/ 960411 ltr.

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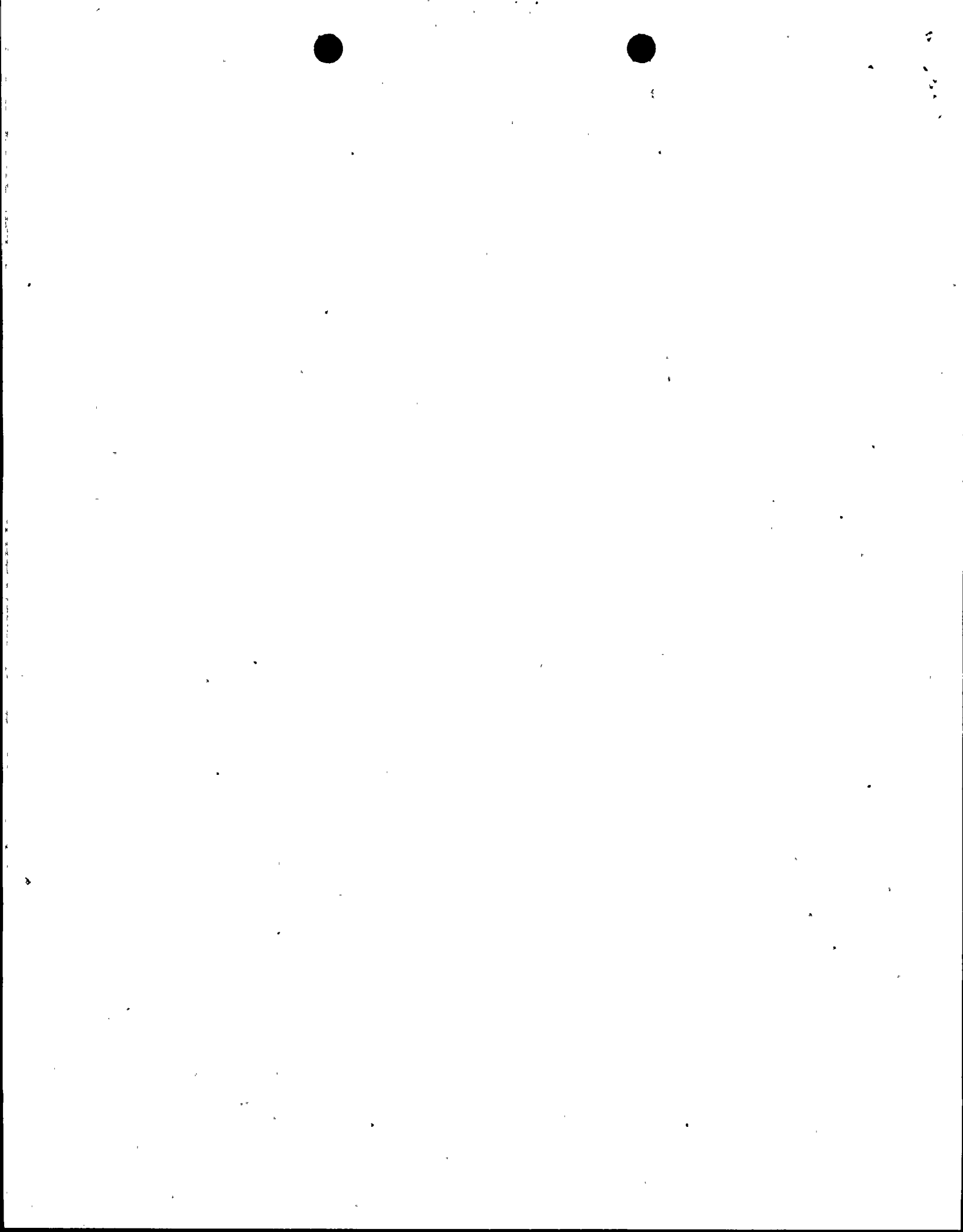
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**Arizona Public Service Company**  
PALO VERDE NUCLEAR GENERATING STATION  
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

JAMES M. LEVINE  
VICE PRESIDENT  
NUCLEAR PRODUCTION

182-06132-JML/JLT/JDF  
April 11, 1996

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
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Dear Sirs:

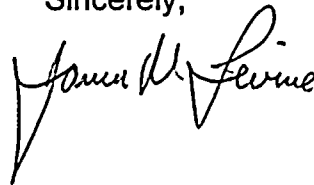
**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, and 3  
Docket Nos. STN 50-528/529/530  
Monthly Operating Reports for MARCH 1996**

Enclosed are the Monthly Operating Reports for MARCH 1996, prepared and submitted pursuant to Specification 6.9.1.6 of Appendix A (Technical Specifications) to the PVNGS Units 1, 2, and 3 Operating Licenses.

By copy of this letter, Arizona Public Service Company is also forwarding the Monthly Operating Reports to the Regional Administrator, NRC Region IV.

If you have any questions, please contact Judy Fulton at (602) 393-5277.

Sincerely,



JML/JLT/JDF/clj

Enclosures: MARCH 1996 Monthly Operating Reports

cc: L. J. Callan (all w/enclosures)  
K. E. Perkins  
NRC Senior Resident Inspector  
INPO Records Center  
Utility Data Institute

160060

9604170071 960331  
PDR ADOCK 05000528  
R PDR

IERA  
||

# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528  
 UNIT NAME PVNGS-1  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: March 1996
3. Licensed Thermal Power (MWt): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1249
6. Maximum Dependable Capacity (Gross MWe): 1299
7. Maximum Dependable Capacity (Net MWe): 1227
8. If Changes Occur In Capacity Ratings (Item Numbers 3 Through 7) Since Last Report, Give Reasons: N/A
9. Power Level to Which Restricted, If Any (Net MWe): None
10. Reasons For Restrictions, If Any: N/A

Unit 1 Generating Statistics	This Month	Yr. to Date	Cumulative
11. Hours in Reporting Period	744	2,184	89,184
12. Hours Reactor was Critical	717.8	2,084.0	60,047.0
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator was On-Line	674.4	2,014.7	58,917.8
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,519,048	7,613,069	213,149,273
17. Gross Electrical Energy Generated (MWH)	863,500	2,617,300	73,727,800
18. Net Electrical Energy Generated (MWH)	809,547	2,461,913	69,219,634
19. Unit Service Factor (%)	90.6%	92.2%	66.1%
20. Unit Availability Factor (%)	90.6%	92.2%	66.1%
21. Unit Capacity Factor (Using MDC Net)	88.7%	91.9%	63.6%
22. Unit Capacity Factor (Using DER Net)	87.1%	90.3%	61.1%
23. Unit Forced Outage Rate (%)	9.4%	7.8%	12.1%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): 6th Refueling outage is scheduled for 9/7/96 through 10/27/96 (50 days).
25. If Shutdown At End of Report Period, Estimated Date of Start-up: N/A

	Forecast	Achieved
INITIAL CRITICALITY	<u>05/85</u>	<u>05/25/85</u>
INITIAL ELECTRICITY	<u>06/85</u>	<u>06/10/85</u>
COMMERCIAL OPERATION	<u>12/85</u>	<u>01/28/86</u>



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-528  
 UNIT NAME PVNGS-1  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: March 1996

DAY AVERAGE DAILY POWER LEVEL

1	0
2	0
3	11
4	538
5	1195
6	1240
7	1241
8	1242
9	1239
10	1239
11	1240
12	1238
13	1239
14	1237
15	1241
16	1242

DAY AVERAGE DAILY POWER LEVEL

17	1242
18	1242
19	1242
20	1239
21	1240
22	1237
23	1242
24	1245
25	1244
26	1244
27	1244
28	1242
29	1242
30	1244
31	1243



REFUELING INFORMATION

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

1. **Scheduled date for next refueling shutdown.**  
The 6th refueling outage is scheduled to begin on 09/07/96.
2. **Scheduled date for restart following refueling.**  
10/27/96.
3. **Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?**  
No
4. **Scheduled date for submitting proposed licensing action and supporting information.**  
5/20/96
5. **Important Licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, and new operating procedures.**  
None.
6. **The number of fuel assemblies.**  
a) In the core. 241  
b) In the spent fuel storage pool. 456
7. **Licensed spent fuel storage capacity. 1329**  
Intended change in spent fuel storage capacity. None
8. **Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.**  
2005 (18 Month reloads and full core discharge capability).





SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

March 1996

03/01 0000 Unit began the month with RX in Mode 3.  
03/02 0113 Entered Mode 2.  
03/02 0214 RX critical.  
03/02 0235 RX power to POAH (Point Of Adding Heat).  
03/02 0300 Raised RX power to 1.5%.  
03/02 1639 Commenced RX power increase to 11%.  
03/02 1653 Entered Mode 1.  
03/02 1750 Completed RX power increase to 11%.  
03/03 2133 Synchronized the Main Generator to the grid.  
03/03 2340 RX power at 19%.  
03/04 0810 RX power at 50%.  
03/05 0215 RX power at 90%.  
03/05 0620 RX power at 100%.  
03/31 2359 Ended the month in Mode 1 with RX power at 100%.



SHUTDOWNS AND POWER REDUCTIONS  
March 1996

DOCKET NO        50-528  
 UNIT NAME        PVNGS-1  
 DATE              4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE        (602)393-5277

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Occurrence
96-01	02/25/96	F	69.6	H	2	N/A	N/A	N/A	Continuation of outage from previous month. Unit returned to power on 3/3/96.

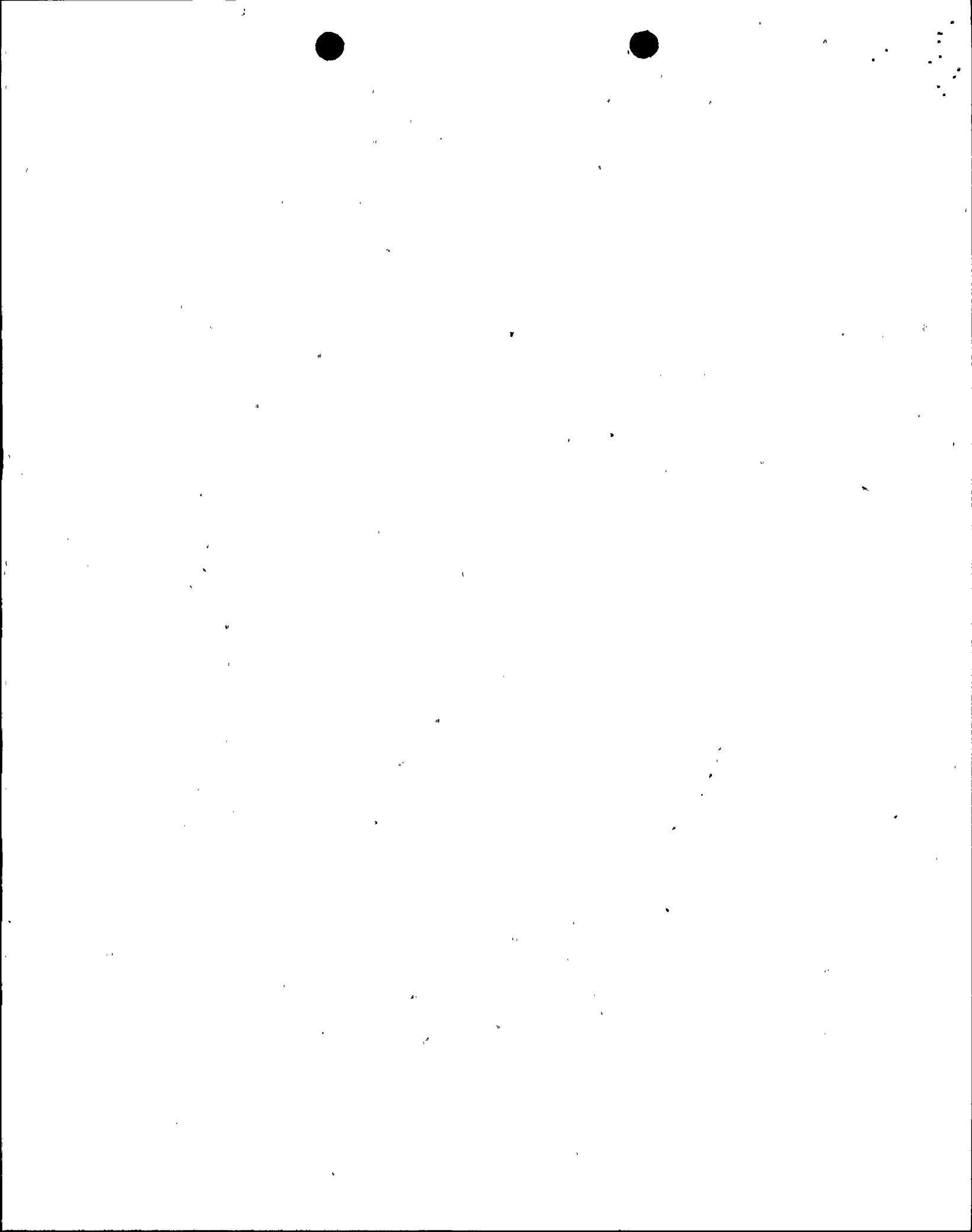
<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>Reason:  
 A-Equipment Failure(Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error  
 H-Other (Explain)

<sup>3</sup>Method:  
 1-Manual  
 2-Manual Scram  
 3-Automatic Scram  
 4-Continuation from Previous Month  
 5-Reduction of 20% or Greater in the Past 24 Hours  
 9-Other-(Explain)

<sup>4</sup>Exhibit F - Instructions for Preparation of the Data Entry Sheets for Licensee Event Report (LER) File (NUREG 0161)

<sup>5</sup>Exhibit H-Same Source



# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-529  
 UNIT NAME PVNGS-2  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

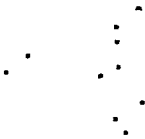
1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: March 1996
3. Licensed Thermal Power (MWt): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1249
6. Maximum Dependable Capacity (Gross MWe): 1299
7. Maximum Dependable Capacity (Net MWe): 1227
8. If Changes Occur In Capacity Ratings (Item Numbers 3 Through 7) Since Last Report, Give Reasons: N/A
9. Power Level to Which Restricted, If Any (Net MWe): None
10. Reasons For Restrictions, If Any: N/A

Unit 2 Generating Statistics		This Month	Yr. to Date	Cumulative
11.	Hours in Reporting Period	744	2,184	83,568
12.	Hours Reactor was Critical	360.1	1,771.9	59,907.0
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	360.1	1,747.1	58,769.3
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,299,310	6,502,203	214,529,816
17.	Gross Electrical Energy Generated (MWH)	453,200	2,261,700	74,591,170
18.	Net Electrical Energy Generated (MWH)	424,480	2,138,955	69,903,706
19.	Unit Service Factor (%)	48.4%	80.0%	70.3%
20.	Unit Availability Factor (%)	48.4%	80.0%	70.3%
21.	Unit Capacity Factor (Using MDC Net)	46.5%	79.8%	68.5%
22.	Unit Capacity Factor (Using DER Net)	45.7%	78.4%	65.9%
23.	Unit Forced Outage Rate (%)	0.0%	2.9%	5.3%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): \_\_\_\_\_

25. If Shutdown At End of Report Period, Estimated Date of Start-up: N/A

	Forecast	Achieved
INITIAL CRITICALITY	<u>03/86</u>	<u>04/18/86</u>
INITIAL ELECTRICITY	<u>06/86</u>	<u>05/20/86</u>
COMMERCIAL OPERATION	<u>12/86</u>	<u>09/19/86</u>



AVERAGE DAILY UNIT POWER LEVEL

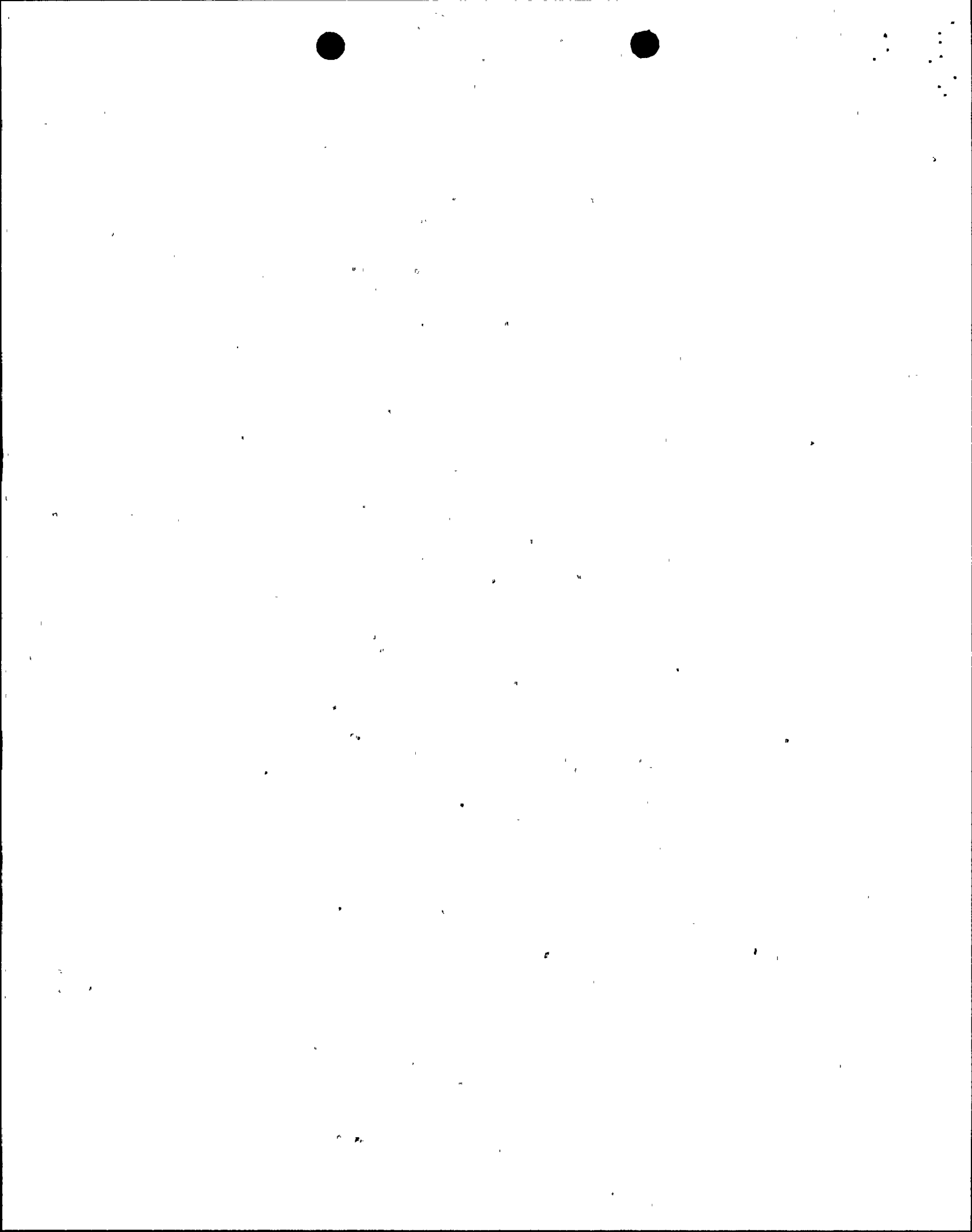
DOCKET NO. 50-529  
 UNIT NAME PVNGS-2  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: March 1996

DAY	AVERAGE DAILY POWER LEVEL
1	1261
2	1260
3	1258
4	1257
5	1247
6	1230
7	1220
8	1203
9	1191
10	1177
11	1169
12	1150
13	1139
14	1119
15	1060
16	1

DAY	AVERAGE DAILY POWER LEVEL
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0





REFUELING INFORMATION

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

1. **Scheduled date for next refueling shutdown.**

The 6th refueling outage is scheduled for 03/16/96.

2. **Scheduled date for restart following refueling.**

05/05/96.

3. **Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?**

a. Technical Specification 3.2.6 "Reactor Coolant Cold Leg Temperature" figure 3.2-1 to establish new 100% power operation allowable temperature from 560°F to 550°F.

4. **Scheduled date for submitting proposed licensing action and supporting information.**

Submitted 01/05/96.

5. **Important Licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, and new operating procedures.**

Change megawatts thermal stretch power from 3800 to 3876.

6. **The number of fuel assemblies.**

a) In the core. 241

b) In the spent fuel storage pool. 444

7. **Licensed spent fuel storage capacity. 1329**

Intended change in spent fuel storage capacity. None

8. **Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.**

2005 (18 Month reloads and full core discharge capability).



SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

March 1996

03/01 0000 Unit began the month in Mode 1 at 100% RX power.  
03/05 0800 Commenced RX power coastdown.  
03/15 2049 Commenced RX power decrease for shut down.  
03/16 0005 Tripped RX at 23%, entered mode 3  
03/16 0610 Started RCS cooldown.  
03/16 1022 Entered Mode 4.  
03/17 0155 Entered Mode 5.  
03/20 2211 Entered Mode 6.  
03/31 2359 Unit ended the month with RX in Mode 6 for 6th refueling outage.

SHUTDOWNS AND POWER REDUCTIONS  
March 1996

DOCKET NO      50-529  
 UNIT NAME      PVNGS-2  
 DATE            4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE      (602)393-5277

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Occurrence
96-02	03/16/96	S	383.9	C	2	N/A	N/A	N/A	RX manually tripped to begin the sixth refueling outage.

<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>Reason:  
 A-Equipment Failure(Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error  
 H-Other (Explain)

<sup>3</sup>Method:  
 1-Manual  
 2-Manual Scram  
 3-Automatic Scram  
 4-Continuation from Previous Month  
 5-Reduction of 20% or Greater in the Past 24 Hours  
 9-Other-(Explain)

<sup>4</sup>Exhibit F - Instructions for Preparation of the Data Entry Sheets for Licensee Event Report (LER) File (NUREG 0161)

<sup>5</sup>Exhibit H-Same Source



# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530  
 UNIT NAME PVNGS-3  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: March 1996
3. Licensed Thermal Power (MWt): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1253
6. Maximum Dependable Capacity (Gross MWe): 1302
7. Maximum Dependable Capacity (Net MWe): 1230
8. If Changes Occur In Capacity Ratings (Item Numbers 3 Through 7) Since Last Report, Give Reasons: N/A
9. Power Level to Which Restricted, If Any (Net MWe): None
10. Reasons For Restrictions, If Any: N/A

Unit 3 Generating Statistics		This Month	Yr. to Date	Cumulative
11.	Hours In Reporting Period	744	2,184	72,144
12.	Hours Reactor was Critical	744.0	2,184.0	54,877.0
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	744.0	2,168.2	54,145.2
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,826,110	8,226,046	198,591,104
17.	Gross Electrical Energy Generated (MWH)	978,200	2,844,300	69,317,400
18.	Net Electrical Energy Generated (MWH)	926,964	2,696,588	65,206,130
19.	Unit Service Factor (%)	100.0%	99.3%	75.1%
20.	Unit Availability Factor (%)	100.0%	99.3%	75.1%
21.	Unit Capacity Factor (Using MDC Net)	101.3%	100.4%	74.0%
22.	Unit Capacity Factor (Using DER Net)	99.4%	98.5%	71.2%
23.	Unit Forced Outage Rate (%)	0.0%	0.7%	5.2%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): N/A

25. If Shutdown At End of Report Period, Estimated Date of Start-up: N/A

	Forecast	Achieved
INITIAL CRITICALITY	<u>07/87</u>	<u>10/25/87</u>
INITIAL ELECTRICITY	<u>07/87</u>	<u>12/28/87</u>
COMMERCIAL OPERATION	<u>09/87</u>	<u>01/08/88</u>



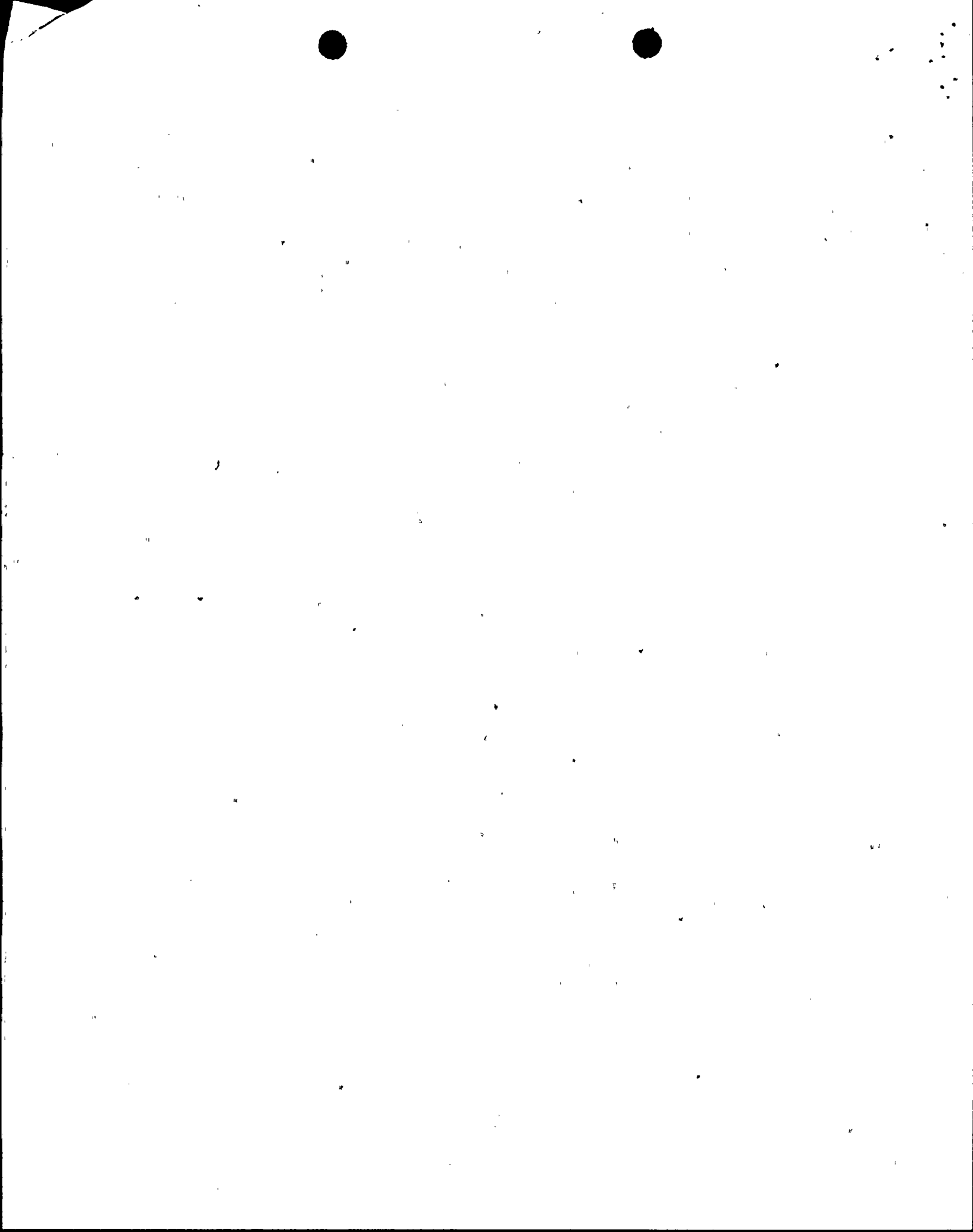


AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-530  
 UNIT NAME PVNGS-3  
 DATE 4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: March 1996

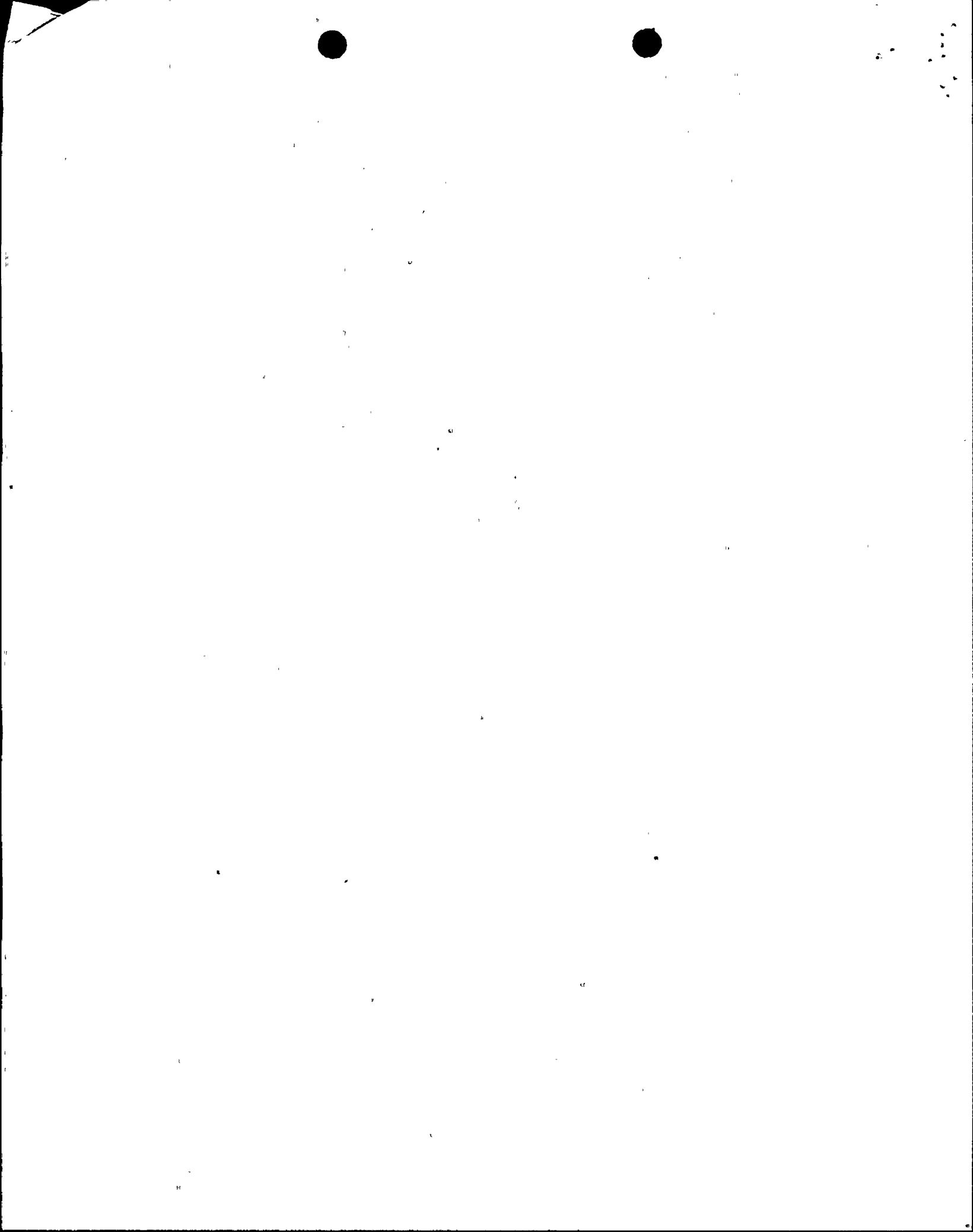
DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1250	17	1248
2	1245	18	1249
3	1257	19	1253
4	1258	20	1255
5	1255	21	1252
6	1254	22	1252
7	1257	23	1246
8	1255	24	1249
9	1256	25	1249
10	1255	26	1247
11	1257	27	1247
12	1252	28	1247
13	1250	29	1249
14	1254	30	1249
15	1255	31	1250
16	1245		



REFUELING INFORMATION

DOCKET NO. 50-530  
UNIT NAME PVNGS-3  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

1. **Scheduled date for next refueling shutdown.**  
The 6th refueling outage is scheduled for 3/15/97.
2. **Scheduled date for restart following refueling.**  
5/7/97.
3. **Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?**  
None.
4. **Scheduled date for submitting proposed licensing action and supporting information.**  
None.
5. **Important Licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, and new operating procedures.**  
None.
6. **The number of fuel assemblies.**  
a) In the core. 241  
b) In the spent fuel storage pool. 456
7. **Licensed spent fuel storage capacity. 1329**  
Intended change in spent fuel storage capacity. None
8. **Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.**  
2005 (18 Month reloads and full core discharge capability).

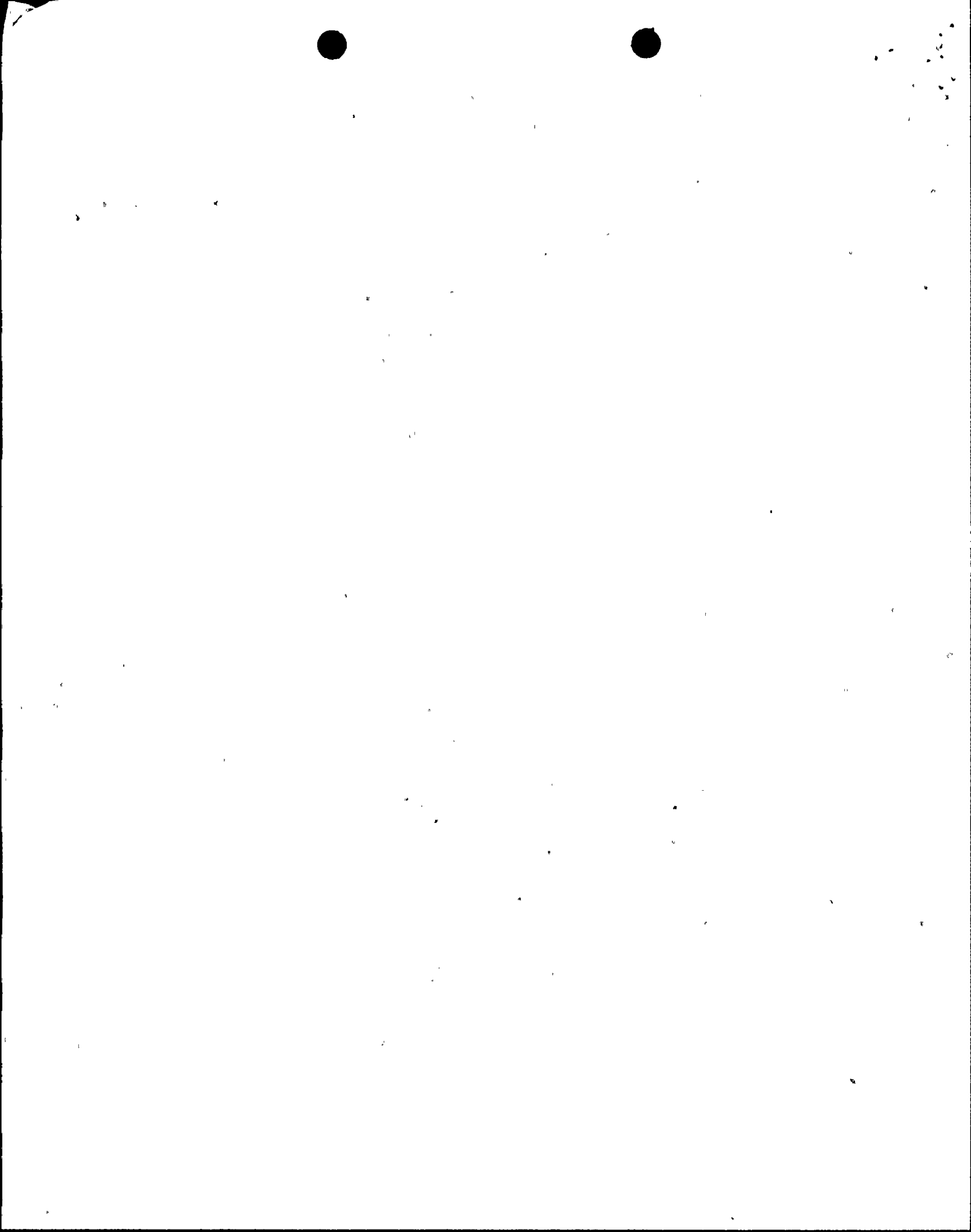


SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-530  
UNIT NAME PVNGS-3  
DATE 4/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

March 1996

03/01	0000	Unit began the month in Mode 1 at 100% RX power.
03/31	2359	Unit ended the month in Mode 1 at 100% RX power.



SHUTDOWNS AND POWER REDUCTIONS  
March 1996

DOCKET NO        50-530  
 UNIT NAME        PVNGS-3  
 DATE              4/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE        (602)393-5277

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Occurrence
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No reactor shutdowns or significant power reductions occurred during the month of March 1996.

<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>Reason:  
 A-Equipment Failure(Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License  
 Examination  
 F-Administrative  
 G-Operational Error  
 H-Other (Explain)

<sup>3</sup>Method:  
 1-Manual  
 2-Manual Scram  
 3-Automatic Scram  
 4-Continuation from Previous Month  
 5-Reduction of 20% or Greater in the  
 Past 24 Hours  
 9-Other-(Explain)

<sup>4</sup>Exhibit F - Instructions for Preparation  
 of the Data Entry Sheets for Licensee  
 Event Report (LER) File (NUREG 0161)

<sup>5</sup>Exhibit H-Same Source

