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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					
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SUBJECT: Monthly operating repts for Nov 1995 for PVNGS Units 1,2 &  
3.W/951213 ltr.

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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

182-06112-JML/JLT/JDF  
December 13, 1995

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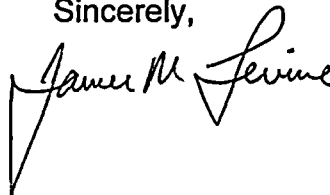
**Subject: Palo Verde Nuclear Generating Station (PVNGS)**  
**Units 1, 2, and 3**  
**Docket Nos. STN 50-528/529/530**  
**Monthly Operating Reports for NOVEMBER 1995**

Enclosed are the Monthly Operating Reports for NOVEMBER 1995, 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/cj

Enclosures: NOVEMBER 1995 Monthly Operating Reports

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

9512150191 951130  
PDR ADDCK 05000528  
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2/11

# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528  
 UNIT NAME PVNGS-1  
 DATE 12/13/95  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: November 1995
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	720	8,016	86,256
12.	Hours Reactor was Critical	674.5	6,636.8	57,269.6
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	662.7	6,564.9	56,221.5
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,422,865	24,119,740	203,201,758
17.	Gross Electrical Energy Generated (MWH)	832,900	8,265,400	70,311,900
18.	Net Electrical Energy Generated (MWH)	781,774	7,778,942	66,009,848
19.	Unit Service Factor (%)	92.0%	81.9%	65.2%
20.	Unit Availability Factor (%)	92.0%	81.9%	65.2%
21.	Unit Capacity Factor (Using MDC Net)	88.5%	79.1%	62.7%
22.	Unit Capacity Factor (Using DER Net)	86.9%	77.7%	60.3%
23.	Unit Forced Outage Rate (%)	8.0%	1.4%	12.3%

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

INITIAL CRITICALITY INITIAL ELECTRICITY COMMERCIAL OPERATION	Forecast <u>05/85</u> <u>06/85</u> <u>11/85</u>	Achieved <u>05/25/85</u> <u>06/10/85</u> <u>01/28/86</u>
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# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 12/13/95  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

MONTH: November 1995

DAY AVERAGE DAILY POWER LEVEL

1	1245
2	1242
3	1244
4	1246
5	1244
6	1242
7	1243
8	1243
9	1243
10	1242
11	1245
12	1247
13	1247
14	1247
15	1246
16	1244

DAY AVERAGE DAILY POWER LEVEL

17	1242
18	1243
19	1244
20	1245
21	1244
22	1247
23	1248
24	1246
25	1249
26	1092
27	0
28	0
29	91
30	566
31	





## REFUELING INFORMATION

DOCKET NO.	<u>50-528</u>
UNIT NAME	<u>PVNGS-1</u>
DATE	<u>12/13/95</u>
COMPLETED BY	<u>J. D. Fulton</u>
TELEPHONE	<u>(602) 393-5277</u>

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.**

11/01/96.

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	12/13/95
COMPLETED BY	J. D. Fulton
TELEPHONE	(602) 393-5277

## November 1995

11/01	0000	Unit began the month in Mode 1 with RX power at 100%.
11/26	2100	The main turbine tripped due to a sudden low condenser vacuum condition in A shell.
11/26	2107	RX tripped and MSIS actuated due to hi level steam generator #1. Entered Mode 3.
11/27	0908	Entered Mode 4. To meet Tech Spec 3.7.1.2 action b.
11/27	2259	Entered Mode 3.
11/28	1739	Entered Mode 2.
11/28	1839	RX is critical.
11/29	0017	Entered Mode 1.
11/29	0616	Synchronized main generator to grid.
11/30	0740	Commenced RX power increase from 50% to 70%.
11/30	1040	Stabilized RX power at 70%
11/30	1509	Commenced RX power decrease to 50% to work on SGN1123 downcomer FW control valve.
11/30	1715	Stabilized RX power at 47% with the downcomer isolation valves closed.
11/30	2000	Commenced RX power increase to 100%
11/30	2310	Stopped RX power at 70% for performance of surveillance test.
11/30	2400	Unit ended the month in Mode 1 with RX power at 70%.

SHUTDOWNS AND POWER REDUCTIONS  
November 1995

DOCKET NO      50-528  
UNIT NAME      PVNGS-1  
DATE            12/13/95  
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
95-04	11/26/95	F	57.3	A	3	N/A	N/A	N/A	RX automatically tripped due to a sudden low condenser vacuum condition in A shell.

<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 12/13/95  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: November 1995
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	720	8,016	80,640
12.	Hours Reactor was Critical	720.0	6,739.4	57,391.1
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	720.0	6,677.3	56,278.2
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,718,234	24,957,382	205,201,289
17.	Gross Electrical Energy Generated (MWH)	942,800	8,613,400	71,344,870
18.	Net Electrical Energy Generated (MWH)	894,434	8,135,503	66,829,398
19.	Unit Service Factor (%)	100.0%	83.3%	69.8%
20.	Unit Availability Factor (%)	100.0%	83.3%	69.8%
21.	Unit Capacity Factor (Using MDC Net)	101.2%	82.7%	67.9%
22.	Unit Capacity Factor (Using DER Net)	99.5%	81.3%	65.3%
23.	Unit Forced Outage Rate (%)	0.0%	0.6%	5.4%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): 6th Refueling outage is scheduled for 3/16/96.
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>11/86</u>	<u>09/19/86</u>



# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 12/13/95  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

MONTH: November 1995

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1254	17	1247
2	1254	18	1081
3	1249	19	1209
4	1254	20	1255
5	1256	21	1254
6	1255	22	1255
7	1257	23	1255
8	1256	24	1255
9	1254	25	1253
10	1255	26	1253
11	1255	27	1253
12	1257	28	1255
13	1256	29	1251
14	1257	30	1251
15	1256	31	
16	1255		





## REFUELING INFORMATION

DOCKET NO.	<u>50-529</u>
UNIT NAME	<u>PVNGS-2</u>
DATE	<u>12/13/95</u>
COMPLETED BY	<u>J. D. Fulton</u>
TELEPHONE	<u>(602) 393-5277</u>

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

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

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

05/10/96.

**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.**

12/08/95.

**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.**

Stretch Power to 102%.

**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 12/13/95  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

November 1995

11/01	0000	Unit began the month in Mode 1 at 100% RX power.
11/17	2200	Commenced RX power decrease to 86% for hideout return test.
11/17	2330	RX power at 86%.
11/19	0440	Commenced RX power increase to 100%.
11/19	1000	RX power at 100%.
11/31	2400	Unit ended the month in Mode 1 at 100% RX power.



SHUTDOWNS AND POWER REDUCTIONS  
November 1995

DOCKET NO 50-529  
UNIT NAME PVNGS-2  
DATE 12/13/95  
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 November 1995.

<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 12/13/95  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: November 1995
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	720	8,016	69,216
12.	Hours Reactor was Critical	70.1	6,935.0	51,949.0
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	20.6	6,885.5	51,233.0
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	22,152	25,858,346	187,635,279
17.	Gross Electrical Energy Generated (MWH)	3,500	8,996,900	65,528,600
18.	Net Electrical Energy Generated (MWH)	0	8,492,948	61,615,655
19.	Unit Service Factor (%)	2.9%	85.9%	74.0%
20.	Unit Availability Factor (%)	2.9%	85.9%	74.0%
21.	Unit Capacity Factor (Using MDC Net)	0.0%	86.1%	72.9%
22.	Unit Capacity Factor (Using DER Net)	0.0%	84.6%	70.1%
23.	Unit Forced Outage Rate (%)	0.0%	0.0%	5.4%

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>11/28/87</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 12/13/95  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

MONTH: November 1995

DAY	AVERAGE DAILY POWER LEVEL
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0

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	118
31	

## REFUELING INFORMATION

DOCKET NO.	<u>50-530</u>
UNIT NAME	<u>PVNGS-3</u>
DATE	<u>12/13/95</u>
COMPLETED BY	<u>J. D. Fulton</u>
TELEPHONE	<u>(602) 393-5277</u>

**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	12/13/95
COMPLETED BY	J. D. Fulton
TELEPHONE	(602) 393-5277

## November 1995

11/01	0000	Unit began the month with RX de-fueled, continuing 5th refuel outage.
11/06	1434	Entered Mode 6.
11/13	1437	Entered Mode 5.
11/22	1600	Entered Mode 4.
11/23	0448	Entered Mode 3.
11/28	0032	Entered Mode 2.
11/28	0154	RX is critical.
11/29	1925	Entered Mode 1.
11/29	2300	Commenced raising RX power to 12%.
11/30	0324	Synchronized main generator to grid.
11/30	0335	Commenced RX power increase to 14%.
11/30	0435	RX power at 14%, continuing power increase to 19%.
11/30	0645	Stabilized RX power at 18.5%.
11/30	2330	Commenced RX power increase to 70%.
11/30	2400	Unit ended the month in Mode 1 with Rx power at 19% and ascension to 70%.



SHUTDOWNS AND POWER REDUCTIONS  
November 1995

DOCKET NO 50-530  
UNIT NAME PVNGS-3  
DATE 12/13/95  
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
95-01	10/14/95	S	699.4	C	1	N/A	N/A	N/A	Continuation of fifth 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