

# CATEGORY 1

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STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530

AUTH. NAME      AUTHOR AFFILIATION

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RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: Monthly operating repts for Aug 1996 for Palo Verde Nuclear  
Generating Station Units 1, 2 & 3. W/960911 ltr.

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Palo Verde Nuclear  
Generating Station

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182-06168-JML/JLT/JDF  
September 11, 1996

U. S. Nuclear Regulatory Commission  
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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 AUGUST 1996**

Enclosed are the Monthly Operating Reports for AUGUST 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/cj

Enclosures: August 1996 Monthly Operating Reports

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

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# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528  
 UNIT NAME PVNGS-1  
 DATE 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: August 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	5,856	92,856
12. Hours Reactor was Critical	714.4	5,370.5	63,333.5
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator was On-Line	706.9	5,282.6	62,185.7
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,630,990	19,916,768	225,452,972
17. Gross Electrical Energy Generated (MWH)	887,700	6,808,300	77,918,800
18. Net Electrical Energy Generated (MWH)	837,148	6,416,661	73,174,382
19. Unit Service Factor (%)	95.0%	90.2%	67.0%
20. Unit Availability Factor (%)	95.0%	90.2%	67.0%
21. Unit Capacity Factor (Using MDC Net)	91.7%	89.3%	64.5%
22. Unit Capacity Factor (Using DER Net)	90.1%	87.7%	62.1%
23. Unit Forced Outage Rate (%)	5.0%	3.8%	11.6%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): 6th Refueling outage is scheduled for 9/21/96 through 11/04/96 (45 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 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: August 1996

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1217	17	1222
2	1216	18	1222
3	1220	19	1224
4	1162	20	1225
5	1224	21	1225
6	1228	22	1223
7	1227	23	1220
8	1224	24	1221
9	1217	25	1222
10	830	26	1222
11	0	27	1219
12	268	28	1217
13	1143	29	1208
14	1211	30	1217
15	1224	31	1215
16	1222		



REFUELING INFORMATION

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 9/11/96  
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 09/21/96.

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

11/04/96.

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 9/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

August 1996

08/01	0000	Unit began the month in Mode 1 at 100% power.
08/10	1549	RX tripped due to grid disturbance, Mode 3.
08/11	1958	Commenced RX startup.
08/11	2054	Entered Mode 2.
08/11	2128	RX is Critical.
08/12	0018	Entered Mode 1.
08/12	0454	Synchronized main generator to grid.
08/12	1213	RX power at 20%.
08/13	0103	RX power at 78%.
08/13	0333	Commenced RX power increase to 100% after completion of 40ST-9NI01.
08/13	0549	RX power at 90%.
08/13	0715	Commenced RX power increase to 100%.
08/13	1001	RX power at 100%.
08/31	2359	Unit ended the month in Mode 1 at 100% power.

SHUTDOWNS AND POWER REDUCTIONS  
August 1996

DOCKET NO      50-528  
 UNIT NAME      PVNGS-1  
 DATE            9/11/96  
 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
96-03	8/10/96	F	37.1	H	3	N/A	N/A	N/A	RX tripped due to grid disturbance.

<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 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: August 1996
3. Licensed Thermal Power (MWt): 3876
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	5,856	87,240
12. Hours Reactor was Critical	744.0	4,670.6	62,805.7
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator was On-Line	744.0	4,620.7	61,642.9
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,880,178	17,371,387	225,399,000
17. Gross Electrical Energy Generated (MWH)	975,900	5,964,300	78,293,770
18. Net Electrical Energy Generated (MWH)	925,897	5,649,516	73,414,267
19. Unit Service Factor (%)	100.0%	78.9%	70.7%
20. Unit Availability Factor (%)	100.0%	78.9%	70.7%
21. Unit Capacity Factor (Using MDC Net)	101.4%	78.6%	68.9%
22. Unit Capacity Factor (Using DER Net)	99.6%	77.2%	66.3%
23. Unit Forced Outage Rate (%)	0.0%	1.1%	5.1%

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>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 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: August 1996

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1250	17	1250
2	1243	18	1250
3	1248	19	1252
4	1251	20	1252
5	1255	21	1252
6	1259	22	1250
7	1258	23	1250
8	1254	24	1248
9	1251	25	1252
10	1247	26	1250
11	1249	27	1247
12	1251	28	1242
13	1249	29	1229
14	1233	30	1246
15	1252	31	1246
16	1254		



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REFUELING INFORMATION

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 9/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

1. Scheduled date for next refueling shutdown.

The 7th refueling outage is scheduled for 09/20/97.

2. Scheduled date for restart following refueling.

11/09/97.

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.

N/A

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.

N/A

6. The number of fuel assemblies.

- a) In the core. 241
- b) In the spent fuel storage pool. 544

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 9/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

August 1996

08/01 0000 Unit began the month in Mode 1 at 100% RX power.  
08/31 2359 Unit ended the month in Mode 1 at 100% RX power.

SHUTDOWNS AND POWER REDUCTIONS  
August 1996

DOCKET NO      50-529  
 UNIT NAME      PVNGS-2  
 DATE            9/11/96  
 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 August 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





# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530  
 UNIT NAME PVNGS-3  
 DATE 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: August 1996
3. Licensed Thermal Power (MWt): 3876
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	5,856	75,816
12. Hours Reactor was Critical	723.8	5,835.8	58,528.8
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator was On-Line	717.9	5,772.5	57,749.5
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,777,158	22,028,136	212,393,194
17. Gross Electrical Energy Generated (MWH)	930,900	7,538,000	74,011,100
18. Net Electrical Energy Generated (MWH)	877,478	7,123,728	69,633,270
19. Unit Service Factor (%)	96.5%	98.6%	76.2%
20. Unit Availability Factor (%)	96.5%	98.6%	76.2%
21. Unit Capacity Factor (Using MDC Net)	95.9%	98.9%	75.2%
22. Unit Capacity Factor (Using DER Net)	94.1%	97.1%	72.3%
23. Unit Forced Outage Rate (%)	3.5%	1.4%	5.0%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): 6th Refueling outage is scheduled for 2/22/97 through 4/13/97 (45 days).
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 9/11/96  
 COMPLETED BY J. D. Fulton  
 TELEPHONE (602) 393-5277

MONTH: August 1996

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1247	17	1243
2	1247	18	1245
3	1245	19	1251
4	1246	20	1251
5	1249	21	1252
6	1259	22	1250
7	1259	23	1251
8	1255	24	1243
9	1251	25	1244
10	846	26	1249
11	44	27	1247
12	989	28	1246
13	1245	29	1243
14	1236	30	1246
15	1249	31	1240
16	1252		

REFUELING INFORMATION

DOCKET NO. 50-530  
UNIT NAME PVNGS-3  
DATE 9/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

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

The 6th refueling outage is scheduled for 2/22/97.

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

4/13/97.

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 9/11/96  
COMPLETED BY J. D. Fulton  
TELEPHONE (602) 393-5277

August 1996

08/01	0000	Unit began the month in Mode 1 at 100% RX power.
08/10	1549	RX tripped due to grid disturbance, Mode 3.
08/11	1017	Commenced RX startup.
08/11	1118	Entered Mode 2.
08/11	1202	RX is Critical.
08/11	1452	Entered Mode 1.
08/11	1756	Synchronized main generator to grid.
08/11	2200	RX power at 20%. Commenced RX power increase to 100%.
08/12	0745	Stopped RX power increase at 77% for performance of 40ST-9NI01.
08/12	0950	Commenced RX power increase to 100%.
08/12	1406	RX power at 100%.
08/31	2359	Unit ended the month in Mode 1 at 100% power.

SHUTDOWNS AND POWER REDUCTIONS  
August 1996

DOCKET NO        50-530  
UNIT NAME        PVNGS-3  
DATE                9/11/96  
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
96-04	8/10/96	F	26.1	H	3	N/A	N/A	N/A	RX tripped due to grid disturbance.

<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



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