

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

JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

254-02807-JML/BSE
October 7, 1994

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, DC 20555

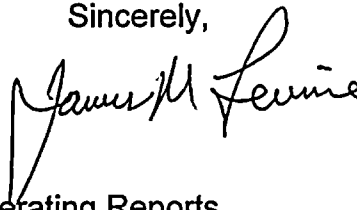
Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Monthly Operating Reports for September 1994
File: 94-024-404; 94-056-026

Enclosed are the Monthly Operating Reports for September 1994, 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 Brad S. Ecklund at (602) 340-4068.

Sincerely,



JML/BSE/plv

Enclosures: September 1994 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 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: September 1994
3. Licensed Thermal Power (MWT): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1270
6. Maximum Dependable Capacity (Gross MWe): 1303
7. Maximum Dependable Capacity (Net MWe): 1221
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

	This Month	Yr. to Date	Cumulative
Unit 1 Generating Statistics			
11. Hours in Reporting Period	720	6,552	76,032
12. Hours Reactor was Critical	720.0	6,552.0	48,509.4
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator was On-Line	720.0	6,552.0	47,551.9
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,669,901	22,306,593	171,337,141
17. Gross Electrical Energy Generated (MWH)	906,500	7,729,700	59,384,300
18. Net Electrical Energy Generated (MWH)	855,524	7,261,779	55,720,140
19. Unit Service Factor (%)	100.0%	100.0%	62.5%
20. Unit Availability Factor (%)	100.0%	100.0%	62.5%
21. Unit Capacity Factor (Using MDC Net)	97.3%	90.8%	60.0%
22. Unit Capacity Factor (Using DER Net)	93.6%	87.3%	57.7%
23. Unit Forced Outage Rate (%)	0.0%	0.0%	13.9%

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>05/85</u>	<u>05/25/85</u>
INITIAL ELECTRICITY	<u>06/85</u>	<u>06/10/85</u>
COMMERCIAL OPERATION	<u>11/85</u>	<u>01/28/86</u>



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-528
 UNIT NAME PVNGS-1
 DATE 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

MONTH: September 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1198	17	1196
2	1197	18	1196
3	1197	19	1199
4	1197	20	1196
5	1199	21	1192
6	1200	22	1194
7	1199	23	1198
8	1197	24	1200
9	1196	25	1201
10	1198	26	1202
11	1196	27	1203
12	1200	28	1203
13	1202	29	1201
14	1195	30	1203
15	1043		
16	1183		

REFUELING INFORMATION

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

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

The 5th refueling outage is tentatively scheduled for 04/01/95.

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

06/10/95.

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.**

12/28/94

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.**

The fuel assembly will utilize Erbium as a burnable absorber (as was done for Units 2 and 3).

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

- a) In the core. 241
b) In the spent fuel storage pool. 368

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 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

September 1994

09/01 0000 Unit began the month in Mode 1, 98% RX power, T-cold at ~556 degF.
09/14 2210 Heater Drain Pump A tripped. Rx power reduced to 76%
09/15 0257 RX power is at 92.4%.
09/16 0300 Commenced power ascension to 98%.
09/16 0345 Completed power ascension to 98%.
09/30 2400 Ended month in Mode 1, 98% RX power, T-cold at ~556 degF.

SHUTDOWNS AND POWER REDUCTIONS
September 1994

DOCKET NO 50-528
UNIT NAME PVNGS-1
DATE 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602)340-4068

No.		Type ¹	Outage Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Occurrence
94-03	09/14/94	F	N/A	A	5	N/A	N/A	N/A	Heater Drain Pump A tripped due to normal level control valve failure. Rx power reduced to 76%.

¹F-Forced
S-Scheduled

²Reason:
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)

³Method:
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)

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

⁵Exhibit H-Same Source

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-529
 UNIT NAME PVNGS-2
 DATE 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: September 1994
3. Licensed Thermal Power (MWt): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1270
6. Maximum Dependable Capacity (Gross MWe): 1303
7. Maximum Dependable Capacity (Net MWe): 1221
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	6,552	70,416
12.	Hours Reactor was Critical	384.0	4,297.9	48,846.4
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	384.0	4,220.4	47,900.3
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,479,547	14,065,141	173,899,386
17.	Gross Electrical Energy Generated (MWH)	497,900	4,879,200	60,542,170
18.	Net Electrical Energy Generated (MWH)	464,316	4,528,349	56,648,383
19.	Unit Service Factor (%)	53.3%	64.4%	68.0%
20.	Unit Availability Factor (%)	53.3%	64.4%	68.0%
21.	Unit Capacity Factor (Using MDC Net)	52.8%	56.6%	65.9%
22.	Unit Capacity Factor (Using DER Net)	50.8%	54.4%	63.3%
23.	Unit Forced Outage Rate (%)	0.0%	5.0%	6.0%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Mid-cycle outage
scheduled to begin 9/16/94 with a 28 day duration. Refueling outage scheduled to begin 2/4/95 with a 60 day
duration.

25. If Shutdown At End of Report Period, Estimated Date of Start-up: 10/15/94

	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 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

MONTH: September 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1226	17	6
2	1227	18	0
3	1224	19	0
4	1224	20	0
5	1228	21	0
6	1230	22	0
7	1230	23	0
8	1227	24	0
9	1225	25	0
10	1226	26	0
11	1220	27	0
12	1223	28	0
13	1226	29	0
14	1235	30	0
15	1236		
16	1191		

REFUELING INFORMATION

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

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

The 5th refueling outage is scheduled for 02/04/95.

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

04/05/95.

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

- a. Technical Specification 3.9.6 will be changed to raise the overload cutoff limit to accommodate the new fuel assembly modification.
- b. Technical Specification 3.4.2.1 will be modified to lower the PSV lift setting from 2500 psia to 2475 psia.
- c. Technical Specification change to Note 5 of Table 4.3-1 for the proposed installation of a cycle independent shape annealing matrix.

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

10/27/94.

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.**

The fuel assembly will consist of a denser fuel pellet, Erbium burnable absorber and guardian grid. A primary temperature drop of 10° F is currently planned.

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

- a) In the core. 241
- b) In the spent fuel storage pool. 384

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 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

September 1994

09/01	0000	Unit began the month in Mode 1, 100% RX power, T-cold at ~555 degF.
09/03	0151	Reduce power to 98% for weekly valve testing.
09/03	0321	Rx power at 100% power.
09/04	1227	Reduce power to 98% for SBCS valve testing.
09/04	1410	Rx power at 100% power.
09/09	0905	Reduce power to 98% for SBCS valve testing.
09/09	1110	Rx power at 100% power.
09/16	2000	Started down power for midcycle outage.
09/17	0023	Tripped the Rx per normal shutdown for steam generator midcycle outage.
09/17	1333	Entered Mode 4.
09/18	0310	Entered Mode 5.
09/30	2400	Ended month in Mode 5, midcycle outage in progress.

SHUTDOWNS AND POWER REDUCTIONS
September 1994

DOCKET NO 50-529
 UNIT NAME PVNGS-2
 DATE 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602)340-4068

No.	Date	Type ¹	Outage Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Occurrence
94-06	09/17/94	S	336.0	B	2	N/A	N/A	N/A	Manual Rx trip for planned mid-cycle outage.

¹F-Forced
S-Scheduled

²Reason:
 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)

³Method:
 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)

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

⁵Exhibit H-Same Source

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530
 UNIT NAME PVNGS-3
 DATE 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: September 1994
3. Licensed Thermal Power (MWt): 3800
4. Nameplate Rating (Gross MWe): 1403
5. Design Electrical Rating (Net MWe): 1270
6. Maximum Dependable Capacity (Gross MWe): 1303
7. Maximum Dependable Capacity (Net MWe): 1221
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	6,552	58,992
12.	Hours Reactor was Critical	720.0	4,305.4	43,321.3
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	718.8	4,241.2	42,665.3
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,677,769	14,776,904	155,448,164
17.	Gross Electrical Energy Generated (MWH)	923,500	5,115,300	54,337,200
18.	Net Electrical Energy Generated (MWH)	867,193	4,768,618	51,066,839
19.	Unit Service Factor (%)	99.8%	64.7%	72.3%
20.	Unit Availability Factor (%)	99.8%	64.7%	72.3%
21.	Unit Capacity Factor (Using MDC Net)	98.6%	59.6%	70.9%
22.	Unit Capacity Factor (Using DER Net)	94.8%	57.3%	68.2%
23.	Unit Forced Outage Rate (%)	0.2%	1.7%	6.4%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Mid-cycle outage
scheduled to begin 11/26/94 with a 23 day duration.
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 10/07/94
 COMPLETED BY B. S. Ecklund
 TELEPHONE (602) 340-4068

MONTH: September 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	526	17	1241
2	1102	18	1237
3	1231	19	1239
4	1231	20	1239
5	1233	21	1238
6	1235	22	1238
7	1235	23	1239
8	1233	24	1239
9	1233	25	1239
10	1231	26	1241
11	1232	27	1243
12	1238	28	1241
13	1241	29	1239
14	1245	30	1242
15	1246		
16	1243		

REFUELING INFORMATION

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

1. **Scheduled date for next refueling shutdown.**
10/14/95 5th refueling.
2. **Scheduled date for restart following refueling.**
12/23/95.
3. **Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?**
To be determined.
4. **Scheduled date for submitting proposed licensing action and supporting information.**
June 1995, if required.
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. 380
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 10/07/94
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

September 1994

09/01 0000 Unit began the month in Mode 1, 10% RX power.

09/01 0112 Paralleled the Main Generator with the Grid and raised power to pass through swapover

09/01 0333 Completed Mode 1 greater than 20% power checklist.

09/01 0347 Commenced raising power to 100% at rate of < 5% per hour.

09/01 2110 Stopped Rx power increase at 79% due to B MFWP control problem.

09/02 0034 Rx power reduced to 70%.

09/02 1421 Rx power at 100%.

09/07 2353 Reduced Rx power to 98% for turbine valve testing.

09/08 0106 Rx power returned to 100%

09/30 2400 Ended Month in Mode 1 at 100% Rx power.



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SHUTDOWNS AND POWER REDUCTIONS
September 1994

DOCKET NO 50-530
 UNIT NAME PVNGS-3
 DATE 10/07/94
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 TELEPHONE (602)340-4068

No.	Date	Type ¹	Outage Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Occurrence
94/03	08/30/94	F	1.2	A	3	N/A	N/A	N/A	Continuation of SG#2 HI level (MSIS) trip. Rx trip. Control Card Failure in FWCS #2.

¹F-Forced
S-Scheduled

²Reason:
 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)

³Method:
 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)

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

⁵Exhibit H-Same Source



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