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STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
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SUBJECT: Monthly operating repts for Nov 1994 for PVNGS.
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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

443-00089-JML/BSE
January 11, 1995

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 December 1994
File: 95-024-404; 95-056-026

Enclosed are the Monthly Operating Reports for December 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) 393-6221.

Sincerely,

James M. Levine

JML/BSE/plv
Enclosures: December 1994 Monthly Operating Reports

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

190065

IE24

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: December 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 1 Generating Statistics	This Month	Yr. to Date	Cumulative
11.	Hours in Reporting Period	744	8,760	78,240
12.	Hours Reactor was Critical	744.0	8,675.4	50,632.8
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	744.0	8,656.7	49,656.6
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,718,645	30,051,470	179,082,018
17.	Gross Electrical Energy Generated (MWH)	937,200	10,391,900	62,046,500
18.	Net Electrical Energy Generated (MWH)	886,253	9,772,545	58,230,906
19.	Unit Service Factor (%)	100.0%	98.8%	63.5%
20.	Unit Availability Factor (%)	100.0%	98.8%	63.5%
21.	Unit Capacity Factor (Using MDC Net)	97.6%	91.4%	61.0%
22.	Unit Capacity Factor (Using DER Net)	93.8%	87.8%	58.6%
23.	Unit Forced Outage Rate (%)	0.0%	1.2%	13.6%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Refueling outage scheduled to begin 4/1/95 with a 70 day duration.

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

	Forecast	Achieved
INITIAL CRITICALITY	05/85	05/25/85
INITIAL ELECTRICITY	06/85	06/10/85
COMMERCIAL OPERATION	11/85	01/28/86

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

MONTH: December 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	313	17	1220
2	1027	18	1222
3	1223	19	1232
4	1223	20	1247
5	1220	21	1248
6	1218	22	1246
7	1219	23	1241
8	1221	24	1243
9	1222	25	1244
10	1223	26	1245
11	1223	27	1244
12	1222	28	1245
13	1223	29	1245
14	1220	30	1246
15	1221	31	1243
16	1222		

REFUELING INFORMATION

DOCKET NO.	50-528
UNIT NAME	PVNGS-1
DATE	01/10/95
COMPLETED BY	B. S. Ecklund
TELEPHONE	(602) 393-6221

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 bumable 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 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

December 1994

12/01	0000	Unit began the month in Mode 1 with power ascension in progress.
12/02	1511	Stabilized reactor power at 98%.
12/14	0126	Unit experienced 25 to 80 MWe swings in load due to grid disturbance caused by a fire near Bakersfield, California.
12/19	1919	Raised reactor power to 100% upon receiving Amendment #87 to the Unit 1 License allowing operation at 100% for the remainder of the fuel cycle with the two MSSV's out of service.
12/30	0048	Performed a 1% power reduction to 99% as required to perform HI Rate Steam Generator Blow Down.
12/30	0358	Raised Rx power to 100%.
12/31	1025	Reduced power to 99% for ADV Testing.
12/31	1339	Raised Rx power to 100%.
12/31	2400	Ended month in Mode 1 at 100% power.

SHUTDOWNS AND POWER REDUCTIONS
December 1994

DOCKET NO 50-528
UNIT NAME PVNGS-1
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602)393-6221

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

No reactor shutdowns or significant power reductions occurred during the month of December, 1994.

[1]F-Forced
S-Scheduled

[2]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)

[3]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)

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

[5]Exhibit H-Same Source

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: December 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	744	8,760	72,624
12.	Hours Reactor was Critical	744.0	6,103.2	50,651.7
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	744.0	5,921.0	49,600.9
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,817,816	20,409,662	180,243,907
17.	Gross Electrical Energy Generated (MWH)	974,700	7,068,500	62,731,470
18.	Net Electrical Energy Generated (MWH)	917,052	6,573,861	58,693,895
19.	Unit Service Factor (%)	100.0%	67.6%	68.3%
20.	Unit Availability Factor (%)	100.0%	67.6%	68.3%
21.	Unit Capacity Factor (Using MDC Net)	100.9%	61.5%	66.2%
22.	Unit Capacity Factor (Using DER Net)	97.1%	59.1%	63.6%
23.	Unit Forced Outage Rate (%)	0.0%	5.4%	6.0%

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

	Forecast	Achieved
INITIAL CRITICALITY	03/86	04/18/86
INITIAL ELECTRICITY	06/86	05/20/86
COMMERCIAL OPERATION	11/86	09/19/86

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

MONTH: December 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1243	17	1229
2	1241	18	1243
3	1235	19	1242
4	1240	20	1240
5	1236	21	1243
6	1226	22	1241
7	1227	23	1236
8	1228	24	1236
9	1234	25	1238
10	1239	26	1240
11	1240	27	1239
12	1237	28	1240
13	1237	29	1238
14	1237	30	1240
15	1233	31	1238
16	1232		

REFUELING INFORMATION

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

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 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

December 1994

12/01	0000	Unit began the month in Mode 1 at 100% power.
12/02	2305	Performed a 1% power reduction to 99% as required to perform HI Rate Steam Generator Blow Down.
12/03	0102	Increased Rx power to 100%.
12/03	1150	Rx is at 98.5% power and stable for ADV/SBCS Testing.
12/03	1545	Unit returned to 100% power.
12/04	1312	Commenced power reduction to 99% for SBCV-1001 Testing.
12/04	1343	Restored power to 100%.
12/14	0134	Reduced Rx power due to Unit experiencing grid disturbance caused by a fire near Bakersfield, California.
12/14	0303	Rx power at 100%.
12/17	1249	Commenced power reduction to 95% for Feedwater Flow Test.
12/17	1400	Stopped power reduction at 95%.
12/17	1740	Commenced power increase to 100%
12/17	2035	Rx power is at 100%.
12/23	2317	Performed a 1% power reduction to 99% as required to perform HI Rate Steam Generator Blow Down.
12/24	0152	Restored Rx power to 100%
12/31	2400	Ended month in Mode 1 with unit at 100% power.

SHUTDOWNS AND POWER REDUCTIONS
December 1994

DOCKET NO	50-529
UNIT NAME	PVNGS-2
DATE	01/10/95
COMPLETED BY	B. S. Ecklund
TELEPHONE	(602)393-6221

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

No reactor shutdowns or significant power reductions occurred during the month of December, 1994.

[1]F-Forced
S-Scheduled

[2]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)

[3]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)

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

[5]Exhibit H-Same Source

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: December 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	744	8,760	61,200
12.	Hours Reactor was Critical	348.0	5,998.1	45,014.0
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	337.5	5,923.4	44,347.5
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,224,032	21,105,673	161,776,933
17.	Gross Electrical Energy Generated (MWH)	424,400	7,309,800	56,531,700
18.	Net Electrical Energy Generated (MWH)	392,445	6,824,486	53,122,707
19.	Unit Service Factor (%)	45.4%	67.6%	72.5%
20.	Unit Availability Factor (%)	45.4%	67.6%	72.5%
21.	Unit Capacity Factor (Using MDC Net)	43.2%	63.8%	71.1%
22.	Unit Capacity Factor (Using DER Net)	41.5%	61.3%	68.3%
23.	Unit Forced Outage Rate (%)	0.0%	1.2%	6.2%

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	07/87	10/25/87
INITIAL ELECTRICITY	07/87	11/28/87
COMMERCIAL OPERATION	09/87	01/08/88

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

MONTH: December 1994

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	0	17	8
2	0	18	475
3	0	19	1190
4	0	20	1258
5	0	21	1258
6	0	22	1259
7	0	23	1256
8	0	24	1256
9	0	25	1255
10	0	26	1258
11	0	27	1259
12	0	28	1259
13	0	29	1259
14	0	30	1261
15	0	31	1260
16	0		

REFUELING INFORMATION

DOCKET NO.	50-530
UNIT NAME	PVNGS-3
DATE	01/10/95
COMPLETED BY	B. S. Ecklund
TELEPHONE	(602) 393-6221

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 01/10/95
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 393-6221

December 1994

12/01	0000	Began the month with unit in Mode 5, Steam Generator mid-cycle outage.
12/15	1328	Unit entered Mode 4.
12/16	0110	Entered Mode 3.
12/17	1011	Entered Mode 2.
12/17	1159	Reactor is critical.
12/17	1626	Entered Mode 1.
12/17	2231	Main Turbine synchronized to the grid.
12/17	2327	Commenced raising Rx power to pass thru swapover.
12/18	0322	Commenced power increase from 19%.
12/18	0514	Secured power increase at 38%.
12/18	1147	Commenced power increase from 39%.
12/18	1520	Commenced power increase to 70% from 49.2%.
12/18	2303	Commenced increasing power, current power is at 65%.
12/19	0222	Stopped power increase at 90%.
12/19	0605	Commenced power increase to 95%.
12/19	0715	Secured Rx power increase at 95%.
12/19	1050	Commenced Rx power increase to 100%.
12/19	1154	Rx is at 100%.
12/25	0119	Performed a 1% power reduction to 99% as required to perform HI Rate Steam Generator Blow Down.
12/25	0139	Rx power is at 99%.
12/25	0338	Commenced power increase from 99% to 100%.
12/31	2400	Ended month in Mode 1 @ 100% power.

SHUTDOWNS AND POWER REDUCTIONS
December 1994

DOCKET NO	50-530
UNIT NAME	PVNGS-3
DATE	01/10/95
COMPLETED BY	B. S. Ecklund
TELEPHONE	(602)393-6221

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
94-04	11/26/94	S	406.5	B	2	N/A	N/A	N/A	Continuation of planned mid-cycle outage for SG tube eddy current inspection

[1]F-Forced
S-Scheduled

[2]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)

[3]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)

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

[5]Exhibit H-Same Source