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AUTH.NAME AUTHOR AFFILIATION
 PORTER,K.F. 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 May 1990 for Palo Verde Units 1,
 2 & 3.W/900615 Ltr.

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Arizona Public Service Company

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

June 15, 1990
254-00960-JML/KFP

Docket Nos. STN 50-528/529/530

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Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Monthly Operating Reports for May 1990
File: 90-024-404/90-056-026

Attached are the Monthly Operating Reports for May 1990 prepared and submitted pursuant to Specification 6.9.1.6 of Appendix A (Technical Specifications) to the Palo Verde Nuclear Generating Station, Units 1, 2, and 3 Operating Licenses. By copy of this letter, we are also forwarding the Monthly Operating Reports to the Regional Administrator of the Region V Office.

If you have any questions, please contact Mr. K. F. Porter, at (602) 340-4187.

Very truly yours,


J. M. Levine
Vice President
Nuclear Production

JML/KFP
Attachments

cc: T. L. Chan (all w/attachments)
J. B. Martin
D. H. Coe
INPO Records Center

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NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528
 UNIT NAME PVNGS-1
 DATE 06/08/90
 COMPLETED BY K.F. Porter
 TELEPHONE (602) 340-4187

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: May 1990
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
11. Hours in Reporting Period	<u>744</u>	<u>3,624</u>	<u>38,040</u>
12. Number of Hours Reactor Was Critical	<u>0.0</u>	<u>0.0</u>	<u>17,262.1</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>0.0</u>	<u>0.0</u>	<u>16,826.9</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>60,931,221</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>21,163,100</u>
18. Net Electrical Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>19,793,190</u>
19. Unit Service Factor	<u>0.0%</u>	<u>0.0%</u>	<u>44.2%</u>
20. Unit Availability Factor	<u>0.0%</u>	<u>0.0%</u>	<u>44.2%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0.0%</u>	<u>0.0%</u>	<u>42.6%</u>
22. Unit Capacity Factor (Using DER Net)	<u>0.0%</u>	<u>0.0%</u>	<u>41.0%</u>
23. Unit Forced Outage Rate	<u>0.0%</u>	<u>0.0%</u>	<u>28.1 %</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): <u>N/A</u>			

25. If Shutdown At End of Report Period, Estimated Date of Start-up:
June 18, 1990

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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

MONTH: MAY 1990

DAY AVERAGE DAILY POWER LEVEL

1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>0</u>
5	<u>0</u>
6	<u>0</u>
7	<u>0</u>
8	<u>0</u>
9	<u>0</u>
10	<u>0</u>
11	<u>0</u>
12	<u>0</u>
13	<u>0</u>
14	<u>0</u>
15	<u>0</u>
16	<u>0</u>

DAY AVERAGE DAILY POWER LEVEL

17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>0</u>
23	<u>0</u>
24	<u>0</u>
25	<u>0</u>
26	<u>0</u>
27	<u>0</u>
28	<u>0</u>
29	<u>0</u>
30	<u>0</u>
31	<u>0</u>

REFUELING INFORMATION

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

1. Scheduled date for next refueling shutdown.
01/04/92, 3rd refueling.
2. Scheduled date for restart following refueling.
04/09/92
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.
To be determined.
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.
To be determined.
6. The number of fuel assemblies.
a) In the core. 241
b) In the spent fuel storage pool. 188
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.
2004 (18 Month reloads and full core discharge capability).

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

May 1990

05/01	00:00	Unit began the month in Mode 3, 2nd Refueling Outage.
05/04	03:34	Unit entered Mode 4.
05/04	17:12	Unit entered Mode 5, for repair of a steam generator tube leak.
05/31	24:00	Unit ended the month in Mode 5, 2nd Refueling Outage.

SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO 50-528
UNIT NAME PVNGS-1
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

No.	Date	Type ¹	Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
89/03	04/08/89	S	744	C	4	N/A	N/A	N/A	Continuation of 2nd refueling 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. 50-529
 UNIT NAME PVNGS-2
 DATE 06/08/90
 COMPLETED BY K.F. Porter
 TELEPHONE (602) 340-4187

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: May 1990
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
11. Hours in Reporting Period	<u>744</u>	<u>3,624</u>	<u>32,424</u>
12. Number of Hours Reactor Was Critical	<u>0.0</u>	<u>1,295.0</u>	<u>20,546.1</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>0.0</u>	<u>1,295.0</u>	<u>20,042.2</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>0</u>	<u>4,870,700</u>	<u>73,499,053</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>1,712,500</u>	<u>25,682,370</u>
18. Net Electrical Energy Generated (MWH)	<u>0</u>	<u>1,614,008</u>	<u>23,996,820</u>
19. Unit Service Factor	<u>0.0%</u>	<u>35.7%</u>	<u>61.8%</u>
20. Unit Availability Factor	<u>0.0%</u>	<u>35.7%</u>	<u>61.8%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0.0%</u>	<u>36.5%</u>	<u>60.6%</u>
22. Unit Capacity Factor (Using DER Net)	<u>0.0%</u>	<u>35.1%</u>	<u>58.3%</u>
23. Unit Forced Outage Rate	<u>0.0%</u>	<u>0.0%</u>	<u>9.9%</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): <u>N/A</u>			

25. If Shutdown At End of Report Period, Estimated Date of Start-up:
June 24, 1990

	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 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

MONTH: MAY 1990

DAY AVERAGE DAILY POWER LEVEL

1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>0</u>
5	<u>0</u>
6	<u>0</u>
7	<u>0</u>
8	<u>0</u>
9	<u>0</u>
10	<u>0</u>
11	<u>0</u>
12	<u>0</u>
13	<u>0</u>
14	<u>0</u>
15	<u>0</u>
16	<u>0</u>

DAY AVERAGE DAILY POWER LEVEL

17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>0</u>
23	<u>0</u>
24	<u>0</u>
25	<u>0</u>
26	<u>0</u>
27	<u>0</u>
28	<u>0</u>
29	<u>0</u>
30	<u>0</u>
31	<u>0</u>

REFUELING INFORMATION

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

1. Scheduled date for next refueling shutdown.

09/15/91, 3rd refueling.

2. Scheduled date for restart following refueling.

12/19/91

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.

To be determined.

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.

To be determined.

6. The number of fuel assemblies.

a) In the core. 241

b) In the spent fuel storage pool. 204

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.

2004 (18 Month reloads and full core discharge capability).

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

May 1990

05/01	00:00	Unit began the month defueled, 2nd Refueling Outage.
05/13	14:41	Unit began reloading fuel, entered Mode 6.
05/31	24:00	Unit ended the month in Mode 5, 2nd Refueling Outage.

SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO 50-529
UNIT NAME PVNGS-2
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

No.	Date	Type ¹	Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
90/01	02/23/90	S	744	C	4	N/A	N/A	N/A	Continuation of 2nd Refueling 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 06/08/90
 COMPLETED BY K.F. Porter
 TELEPHONE (602) 340-4187

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: May 1990
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
11. Hours in Reporting Period	<u>744</u>	<u>3,624</u>	<u>21,000</u>
12. Number of Hours Reactor Was Critical	<u>744.0</u>	<u>3,093.2</u>	<u>12,504.4</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>744.0</u>	<u>2,994.7</u>	<u>12,268.7</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,788,121</u>	<u>10,338,214</u>	<u>44,748,605</u>
17. Gross Electrical Energy Generated (MWH)	<u>983,500</u>	<u>3,628,700</u>	<u>15,696,500</u>
18. Net Electrical Energy Generated (MWH)	<u>928,789</u>	<u>3,390,105</u>	<u>14,753,570</u>
19. Unit Service Factor	<u>100.0%</u>	<u>82.6%</u>	<u>58.4%</u>
20. Unit Availability Factor	<u>100.0%</u>	<u>82.6%</u>	<u>58.4%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>102.2%</u>	<u>76.6%</u>	<u>57.5%</u>
22. Unit Capacity Factor (Using DER Net)	<u>98.3%</u>	<u>73.7%</u>	<u>55.3%</u>
23. Unit Forced Outage Rate	<u>0.0%</u>	<u>17.2%</u>	<u>11.5%</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): <u>N/A</u>			

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 06/08/90
 COMPLETED BY K.F. Porter
 TELEPHONE (602) 340-4187

MONTH: MAY 1990

DAY AVERAGE DAILY POWER LEVEL

1	<u>1264</u>
2	<u>1266</u>
3	<u>1264</u>
4	<u>1261</u>
5	<u>1261</u>
6	<u>1263</u>
7	<u>1263</u>
8	<u>1261</u>
9	<u>1262</u>
10	<u>1263</u>
11	<u>1263</u>
12	<u>1234</u>
13	<u>1263</u>
14	<u>1264</u>
15	<u>1264</u>
16	<u>1266</u>

DAY AVERAGE DAILY POWER LEVEL

17	<u>1267</u>
18	<u>1267</u>
19	<u>1265</u>
20	<u>1266</u>
21	<u>1263</u>
22	<u>1261</u>
23	<u>1258</u>
24	<u>1260</u>
25	<u>1263</u>
26	<u>1261</u>
27	<u>1261</u>
28	<u>1260</u>
29	<u>1106</u>
30	<u>1021</u>
31	<u>1256</u>

REFUELING INFORMATION

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 06/08/90
COMPLETED BY K.F. Porter
TELEPHONE (602) 340-4187

1. Scheduled date for next refueling shutdown.
03/16/91, 2nd refueling.
2. Scheduled date for restart following refueling.
06/19/91
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.
To be determined.
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.
To be determined.
6. The number of fuel assemblies.
 - a) In the core. 241
 - b) In the spent fuel storage pool. 104
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.	<u>50-530</u>
UNIT NAME	<u>PVNGS-3</u>
DATE	<u>06/08/90</u>
COMPLETED BY	<u>K.F. Porter</u>
TELEPHONE	<u>(602) 340-4187</u>

May 1990

05/01	00:00	Unit began the month in Mode 1, 100% RX power.
05/29	15:56	RX power cutback to 52% when feedwater pump "A" tripped on a false high discharge pressure signal.
05/30	14:58	Unit back at 100% RX power.
05/31	24:00	Unit ended the month in Mode 1, 100% RX power.

SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO 50-530
 UNIT NAME PVNGS-3
 DATE 06/08/90
 COMPLETED BY K.F. Porter
 TELEPHONE (602) 340-4187

No.	Date	Type ¹	Duration Hours	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
90/08	05/29/90	F	N/A	A	5	N/A	N/A	N/A	Feedwater pump "A" tripped on high discharge pressure. The trip signal was caused by a pressure spike initiated by valving the pressure switches back into service after calibration.

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

