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SUBJECT: Monthly operating repts for June 1993 for PVNGS,units 1,2 & 3.W/930712 ltr.

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Arizona Public Service Company
PALO VERDE NUCLEAR GENERATING STATION
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JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

417-00084-JML/BSE/FHD
July 12, 1993

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 June 1993
File: 93-024-404; 93-056-026

Enclosed are the Monthly Operating Reports for June 1993, 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 V.

If you have any questions, please contact Brad S. Ecklund at (602) 340-4068.

Sincerely,

James M Levine

JML/BSE/FHD/gez
Enclosures

cc: J. B. Martin (all w/enclosures)
S. C. Thornton
A. H. Gutterman
NRC Senior Resident Inspector
INPO Records Center
Utility Data Institute

IE24 1/1

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: June 1993
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	720	4,344	65,064
12.	Hours Reactor was Critical	720.0	4,302.1	39,477.7
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	720.0	4,262.0	38,595.8
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,730,282	15,985,888	141,764,899
17.	Gross Electrical Energy Generated (MWH)	943,400	5,515,200	49,145,400
18.	Net Electrical Energy Generated (MWH)	891,253	5,198,522	46,142,118
19.	Unit Service Factor (%)	100.0%	98.1%	59.3%
20.	Unit Availability Factor (%)	100.0%	98.1%	59.3%
21.	Unit Capacity Factor (Using MDC Net)	101.4%	98.0%	58.1%
22.	Unit Capacity Factor (Using DER Net)	97.5%	94.2%	55.8%
23.	Unit Forced Outage Rate (%)	0.0%	1.9%	16.6%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Refueling outage, September 4, 1993, 80 days.

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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

MONTH: June 1993

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1238	17	1240
2	1239	18	1241
3	1241	19	1241
4	1241	20	1239
5	1242	21	1239
6	1245	22	1241
7	1246	23	1241
8	1245	24	1238
9	1244	25	1237
10	1242	26	1239
11	1241	27	1236
12	1241	28	1227
13	1243	29	1214
14	1241	30	1202
15	1240		
16	1237		

REFUELING INFORMATION

DOCKET NO. 50-528
UNIT NAME PVNGS-1
DATE 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

1. Scheduled date for next refueling shutdown.

   09/04/93, 4th refueling.

2. Scheduled date for restart following refueling.

   11/23/93.

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

   There will be no need for a Technical Specification change or other license amendment.

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.

   APS intends to use Guardian™ debris resistant grids in Unit 1 Batch G fuel and has submitted, for NRC review, a Topical Report, "System 80" Inlet Flow Distribution, Supplement 1-P to Enclosure 1-P to LD-82-054," that discusses a revision to the analysis method.

6. The number of fuel assemblies.

   a) In the core. 241
   b) In the spent fuel storage pool. 276

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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

June 1993

06/01	0000	Unit began the month in Mode 1, 100% RX power.
06/28	0049	Commenced end of core life coastdown to 89% RX power while maintaining T-cold at 565 deg. F and boron at 50 ppm.
06/30	2400	Unit ended the month in Mode 1 at approximately 96% RX power with end of core life coastdown in progress.

SHUTDOWNS AND POWER REDUCTIONS
June 1993

DOCKET NO 50-528
UNIT NAME PVNGS-1
DATE 07/08/93
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 Recurrence

No reactor shutdowns or significant power reductions occurred during the month.

[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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: June 1993
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	4,344	59,448
12.	Hours Reactor was Critical	0.0	1,732.8	41,558.2
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	0.0	1,732.8	40,789.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	0	6,557,946	150,594,902
17.	Gross Electrical Energy Generated (MWH)	0	2,276,500	52,442,570
18.	Net Electrical Energy Generated (MWH)	0	2,131,321	49,126,040
19.	Unit Service Factor (%)	0.0%	39.9%	68.6%
20.	Unit Availability Factor (%)	0.0%	39.9%	68.6%
21.	Unit Capacity Factor (Using MDC Net)	0.0%	40.2%	67.7%
22.	Unit Capacity Factor (Using DER Net)	0.0%	38.6%	65.1%
23.	Unit Forced Outage Rate (%)	0.0%	6.2%	6.4%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Refueling outage, March 20, 1993. 80 days. Outage extension to repair SG tubes.

25. If Shutdown At End of Report Period, Estimated Date of Start-up: 08/09/93

	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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

MONTH: June 1993

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

REFUELING INFORMATION

DOCKET NO. 50-529
UNIT NAME PVNGS-2
DATE 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

1. Scheduled date for next refueling shutdown.

   The 5th refueling outage is tentatively scheduled for 09/17/94.

2. Scheduled date for restart following refueling.

   12/06/94.

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

   A change may be required to Technical Specification 3.9.6 to raise the overload cutoff limit to accommodate the new fuel assembly modification.

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.

   The fuel assembly will consist of a denser fuel pellet, Erbia burnable absorber and guardian grid.

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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

June 1993

06/01	0000	Unit began the month in Mode 5, 4th refueling outage in progress.
06/30	2400	Unit ended the month in Mode 5, 4th refueling outage in progress.

SHUTDOWNS AND POWER REDUCTIONS
June 1993

DOCKET NO 50-529
UNIT NAME PVNGS-2
DATE 07/08/93
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 Recurrence
93-02	03/19/93	S	720.0	C	9	N/A	N/A	N/A	Fourth refueling outage continued.

[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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: June 1993
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	4,344	48,024
12.	Hours Reactor was Critical	720.0	4,272.5	35,280.2
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	720.0	4,210.8	34,735.0
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,726,251	15,703,390	127,720,395
17.	Gross Electrical Energy Generated (MWH)	952,600	5,486,200	44,714,000
18.	Net Electrical Energy Generated (MWH)	899,991	5,175,488	42,078,808
19.	Unit Service Factor (%)	100.0%	96.9%	72.3%
20.	Unit Availability Factor (%)	100.0%	96.9%	72.3%
21.	Unit Capacity Factor (Using MDC Net)	102.4%	97.6%	71.8%
22.	Unit Capacity Factor (Using DER Net)	98.4%	93.8%	69.0%
23.	Unit Forced Outage Rate (%)	0.0%	3.1%	7.4%

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	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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

MONTH: June 1993

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1244	17	1254
2	1243	18	1256
3	1245	19	1249
4	1244	20	1253
5	1233	21	1254
6	1210	22	1255
7	1187	23	1254
8	1246	24	1253
9	1246	25	1256
10	1243	26	1254
11	1243	27	1252
12	1243	28	1250
13	1243	29	1252
14	1243	30	1247
15	1241		
16	1248		

REFUELING INFORMATION

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

1. Scheduled date for next refueling shutdown.

   03/12/94, 4th refueling.

2. Scheduled date for restart following refueling.

   05/31/94.

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

   Yes.

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

   Mid to latter part of 1993.

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.

   U3C5 will incorporate a new higher maximum enrichment level of 4.30% U235 and will also utilize a new integral burnable absorber, Erbium.

   The NRC granted a license amendment (No. 35) which allows the use of 80 fuel rods clad with advanced zirconium based alloys (other than Zircaloy-4) in two fuel assemblies during Unit 3 Cycles 4, 5, and 6 for in-reactor performance evaluation. Date of issuance was July 20, 1992.

6. The number of fuel assemblies.

   a) In the core. 241
   b) In the spent fuel storage pool. 284

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 07/08/93
COMPLETED BY B. S. Ecklund
TELEPHONE (602) 340-4068

June 1993

05/01	0000	Unit began the month in Mode 1, 100% RX power.
05/31	2400	Unit ended the month in Mode 1, 100% RX power.

SHUTDOWNS AND POWER REDUCTIONS
June 1993

DOCKET NO 50-530
UNIT NAME PVNGS-3
DATE 07/08/93
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 Recurrence

No reactor shutdowns or significant power reductions occurred during the month.

[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