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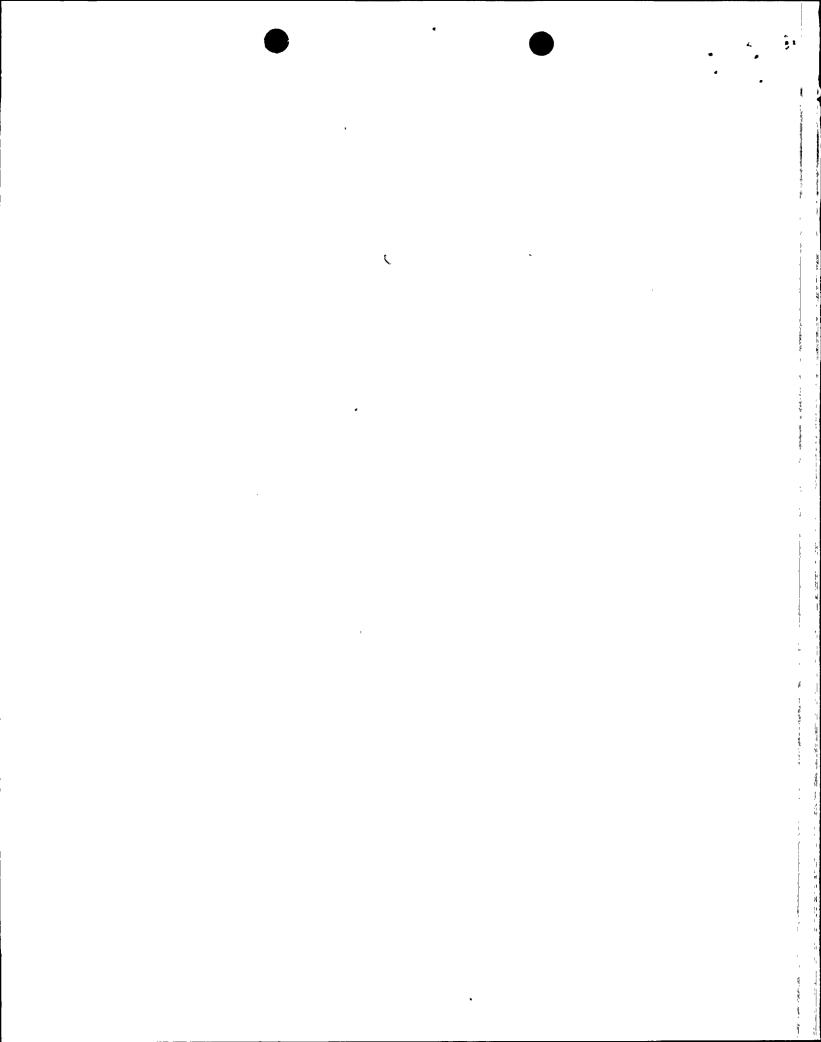
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Arizona Public Service Company

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

JAMES M. LEVINE VICE PRESIDENT NUCLEAR PRODUCTION 254-01321-JML/KAC January 14, 1991

Docket Nos. STN 50-528/529/530

Document Control Desk
U. S. Nuclear Regulatory Commission
Mail Station P1-37
Washington, D.C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)

Units 1, 2, and 3

Monthly Operating Reports for December 1990

File: 91-024-404

Attached are the Monthly Operating Reports for December 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. A. Chavet, at (602) 340-4718.

Very truly yours,

M. Levine

∜ice President

JML/KAC Attachments

cc: J. B. Martin

D. H. Coe

INPO Records Center

(all w/attachments)

Nuclear Production

9101170005 901231 PDR ADDCK 05000528 R PDR JE24

2000.75

NRC MONTHLY OPERATING REPORT

 DOCKET NO.
 50-528

 UNIT NAME
 PVNGS-1

 DATE
 1/9/91

 COMPLETED BY K.A. Chavet
 (602) 340-4718

OPERATING STATUS

- 1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
- 2. Reporting Period: <u>December 1990</u>
- 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	Yrto-Date	Cumulative
11.	Hours in Reporting Period	<u> </u>	8,760	43,176
12.	Number of Hours Reactor			
	Was Critical	744.0	4,198.1	21,460,2
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0,0
14.	Hours Generator On-Line	744.0	3,926.7	20,753,6
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy			
	Generated (MWH)	2,813,104	14,462,880	75,394,101
17.	Gross Electrical Energy			
	Generated (MWH)	989,400	5,009,500	26,172,600
18.	Net Electrical Energy			
	Generated (MWH)	936,387	4,719,462	24,512,652
19.	Unit Service Factor	100.0%	44,8%	48.1%
20.	Unit Availability Factor	100.0%	44.8%	48.1%
21.	Unit Capacity Factor			• • • • • • • • • • • • • • • • • • • •
	(Using MDC Net)	103,1%	44.1%	46.5%
22.	Unit Capacity Factor			
	(Using DER Net)	99.1%	42.48	44.7%
23.	Unit Forced Outage Rate	0.0%	8.9%	25.1 %
2/	Chutdorna Cohodulad Over Nove 6 Me		nd Duration of For	

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

<u>Maintenance Outage, January 12, 1991, 45 days</u>

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

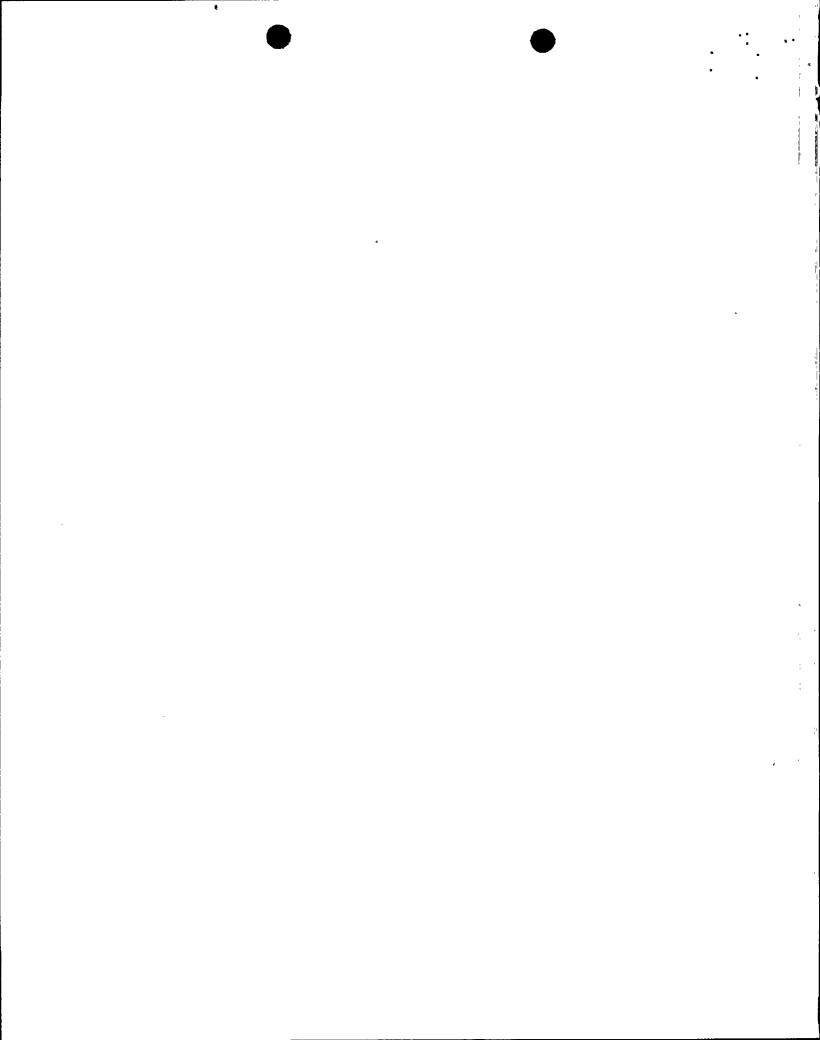
INITIAL	CRI	ITICALITY
INITIAL	ELE	ECTRICITY
COMMERCI	AL	OPERATION

Forecast
_05/85
06/85
11/85

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.	50-528
UNIT NAME	PVNGS-1
DATE	1/9/91
COMPLETED BY	K.A. Chavet
TELEPHONE	(602) 340-4718

MONT	H: December 1990		
DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1263	17	1168
2	1264	18	1262
3	1262	19	1261
4	1263		1260
5	1262	_ 21	1263
6	1262		1265
7	1261	23	1267
8	1262	_ 24	1265
9	1262	_ 25	1265
10	1262	26	1265
11	1261	_ 27	1262
12	1259	_ 28	1254
13	1256	_ 29	1256
14	1260	30	1260
15	1259	_ 31	1261
16	1259	_	



REFUELING INFORMATION

DOCKET NO.	50-528
UNIT 'NAME	PVNGS-1
DATE	1/9/91
COMPLETED BY	K.A. Chavet
TELEPHONE	(602) 340-4718

1.	Scheduled	date	for	next	refueling	shutdown
	02/01/92,	3rd	refue	eling.	•	

2. Scheduled date for restart following refueling.

04/11/92

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.

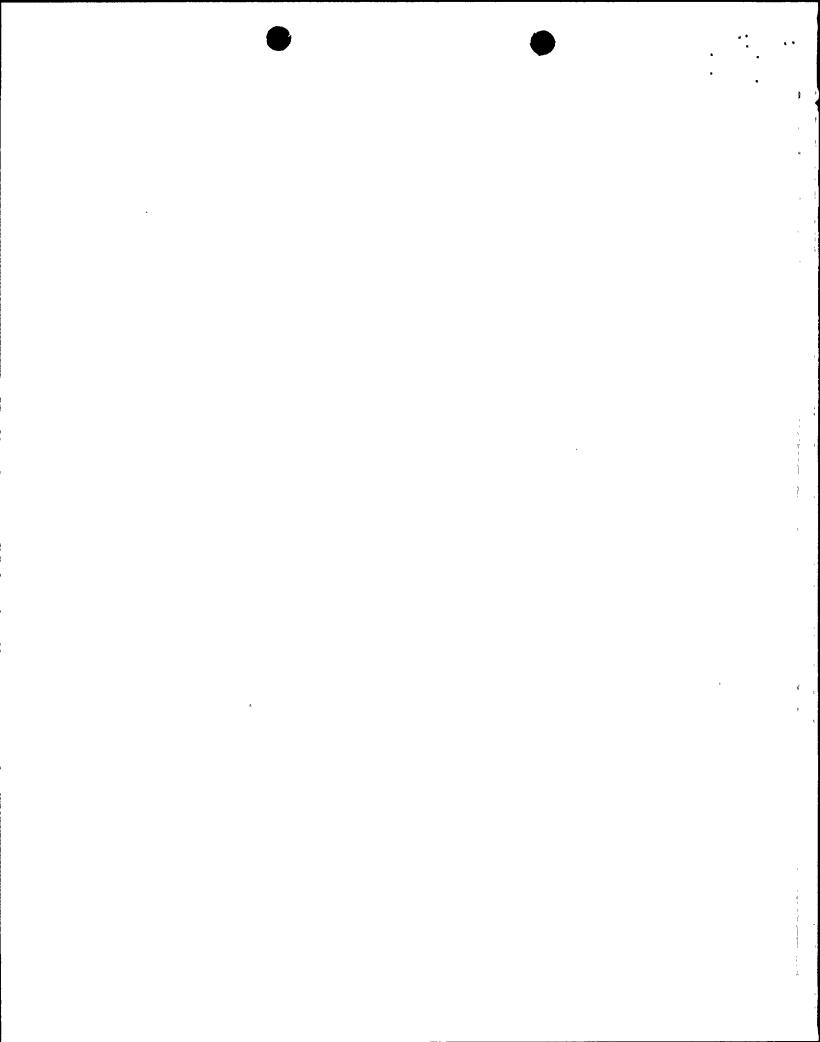
To be determined.

- 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.

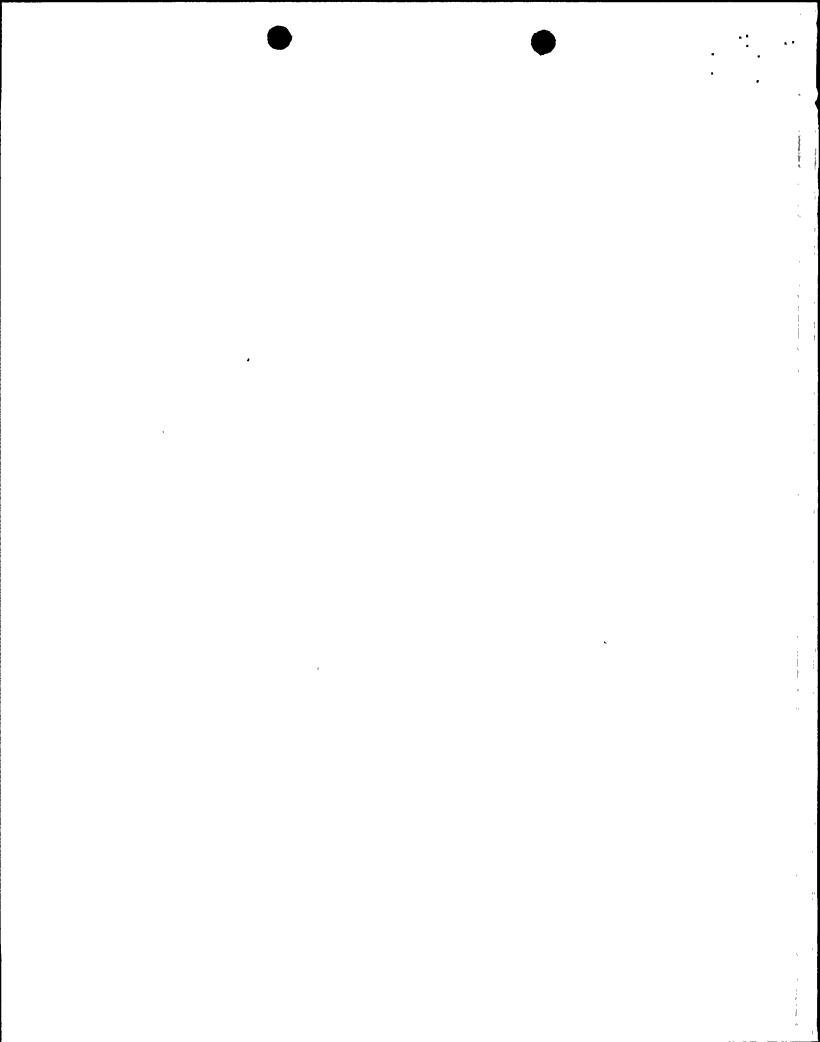
2004 (18 Month reloads and full core discharge capability).



SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO.	50-528
UNIT NAME	PVNGS-1
DATE	1/9/91
COMPLETED BY	K.A. Chavet
TELEPHONE	(602) 340-4718

December	<u>1990</u>	
12/01	00:00	Unit began the month in Mode 1, 100% RX power.
12/17	07:22	Commenced RX power reduction due to the Core Operating Limit Supervisory System (COLSS) being inoperable. RX power stabilized at 74.5%.
12/17	17:15	RX power back at 100%.
12/31	24:00	Unit ended the month in Mode 1, 100% RX power.



SHUTDOWNS AND POWER REDUCTIONS December 1990

No.	Date	Type¹	Outage Duratio Hours		Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
90/06	12/17/90	F	N/A	A	5	N/A	N/A	N/A	Power reduction to 74.5% d to Core Operating Limit Supervisory System (COLSS) being inoperable.

¹ F-Forced	²Reason:	Method:	Exhibit F-Instructions
S-Scheduled	A-Equipment Failure(Explain)	1-Manual	for Preparation of the Data
	B-Maintenance or Test	2-Manual Scram	Entry Sheets for Licensee
	C-Refueling	3-Automatic Scram	Event Report (LER) File
	D-Regulatory Restriction	4-Continuation from	(NUREG 0161)
	E-Operator Training & License Examination	Previous Month 5-Reduction of 20% or	
	F-Administrative	Greater in the Past	⁵ Exhibit H-Same Source
	G-Operational Error	24 Hours	
	H-Other (Explain)	9-Other-(Explain)	

NRC MONTHLY OPERATING REPORT

 DOCKET NO.
 50-529

 UNIT NAME
 PVNGS-2

 DATE
 1/9/91

 COMPLETED BY K.A. Chavet

 TELEPHONE
 (602) 340-4718

OPERATING STATUS

- 1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
- 2. Reporting Period: <u>December 1990</u>
- 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

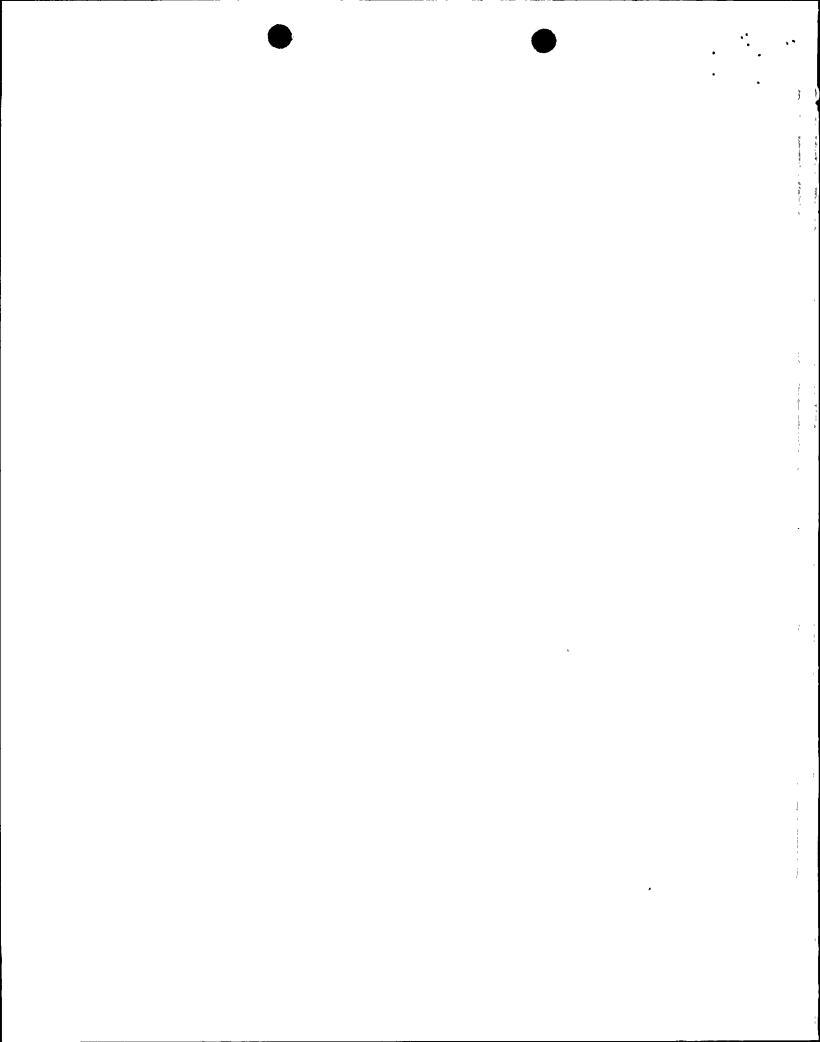
		This Month	Yrto-Date	Cumulative
11.	Hours in Reporting Period	744	<u>8,760</u>	37,560
12.	Number of Hours Reactor			
	Was Critical	744.0	5,376,2	24,627.3
13.	Reactor Reserve Shutdown Hours	0,0	0.0	0.0
14.	Hours Generator On-Line	744.0	5,276,2	24,023.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy			
	Generated (MWH)	2,809,763	19,093,048	87,721,401
17.	Gross Electrical Energy			
	Generated (MWH)	986,800	6,657,700	30,627,570
18.	Net Electrical Energy			
	Generated (MWH)	933,121	6,242,217	28,625,029
19.	Unit Service Factor	100.0%	60,2%	64.0%
20:	Unit Availability Factor	100,0%	60,2%	64.0%
21.	Unit Capacity Factor			
	(Using MDC Net)	<u>102.7%</u>	58.4%	62.4%
22.	Unit Capacity Factor			
	(Using DER Net)	98.8%	56.1%	60.0%
23.	Unit Forced Outage Rate	0.0%	0.0%	8.4%
24	Shutdowns Scheduled Over Next 6 Mont	hs (Type Date and	Duration of Each)	•

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

INITIAL	CRITICALITY
INITIAL	ELECTRICITY
COMMERCI	AL OPERATION

Forecast
_03/86
06/86
11/86



AVERAGE DAILY UNIT POWER LEVEL

 DOCKET NO.
 50-529

 UNIT NAME
 PVNGS-2

 DATE
 1/9/91

 COMPLETED BY TELEPHONE
 K.A. Chavet

 (602) 340-4718

MONT	H: December 1990	
DAY	AVERAGE DAILY POWER LEVEL	DAY AVERAGE DAILY POWER LEVEL
1	1259	171246
2	1260	18
3	1261	191245
4	1252	201245
5	1246	211077
6	1250	. 221245
7	1251	231248
8	1253	241247
9	1252	. 1249
10	1250	261247
11	1250	271248
12	1248	281243
13	1242	291242
14	1248	301245
15	1246	311255
16	1244	\$

REFUELING INFORMATION

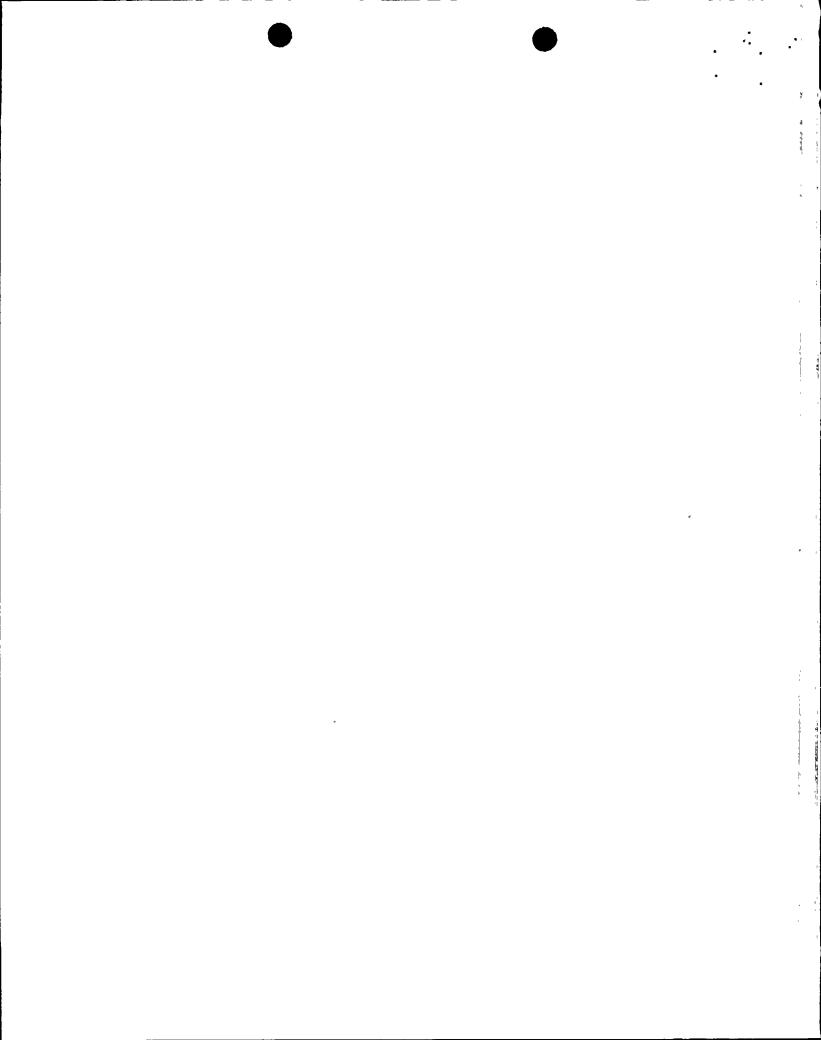
DOCKET NO. <u>50-529</u>

PVNGS-2 1/9/91

UNIT NAME

DATE

	COMPLETED BY K.A. Chavet TELEPHONE (602) 340-4718
1.	Scheduled date for next refueling shutdown.
	10/17/91, 3rd refueling.
2.	Scheduled date for restart following refueling.
	12/26/91
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 capacity1329
	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	1/9/91		
COMPLETED BY	K.A. Chavet		
TELEPHONE	(602) 340-4718		

December 1990	
12/01 00:00 Unit began the month in Mode 1, 100% RX power.	
12/21 05:44 Began power reduction to 70% due to unplanned MSIV	closure.
12/21 19:06 RX power back at 100%.	

Unit ended the month in Mode 1, 100% RX power.

12/31

24:00

SHUTDOWNS AND POWER REDUCTIONS December 1990

DOCKET NO 50-529

UNIT NAME PVNGS-2

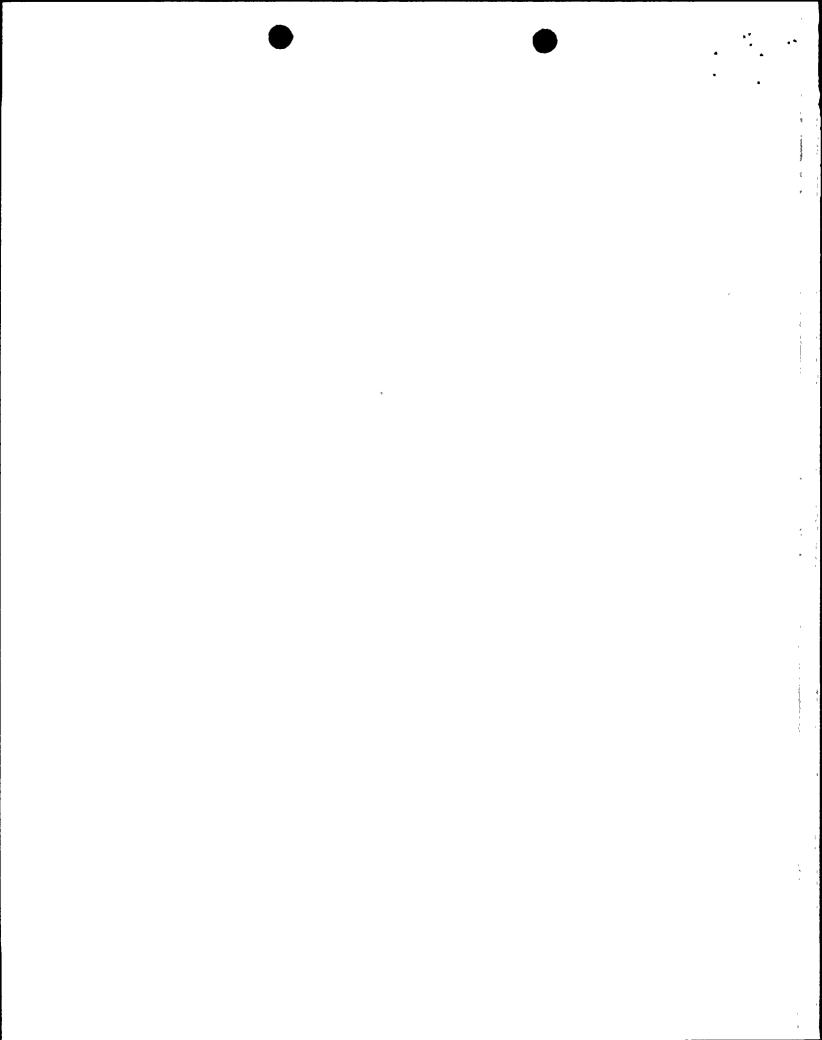
DATE 1/9/91

COMPLETED BY K.A. Chavet

TELEPHONE (602) 340-4718

No.	Date	Type ¹	Outage Duratio Hours		Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
90-10	12/21/90	F	N/A	A	5	N/A	N/A	N/A	Power reduction to 70% de to unplanned MSIV closure.

¹ F-Forced	² Reason:	Method:	Exhibit F-Instructions
S-Scheduled	A-Equipment Failure(Explain) B-Maintenance or Test C-Refueling D-Regulatory Restriction E-Operator Training & License Examination	1-Manual 2-Manual Scram 3-Automatic Scram 4-Continuation from Previous Month 5-Reduction of 20% or	for Preparation of the Data Entry Sheets for Licensee Event Report (LER) File (NUREG 0161)
	F-Administrative G-Operational Error H-Other (Explain)	Greater in the Past 24 Hours 9-Other-(Explain)	^S Exhibit H-Same Source



NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530
UNIT NAME PVNGS-3
DATE 1/9/91
COMPLETED BY K.A. Chavet
TELEPHONE (602) 340-4718

OPERATING STATUS

- 1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
- 2. Reporting Period: <u>December 1990</u>
- 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

9.7 0 3.2
<u> </u>
<u> </u>
3.2
<u></u>
.227
,300_
,
<u>.475</u>
3%
38
88
38
38

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

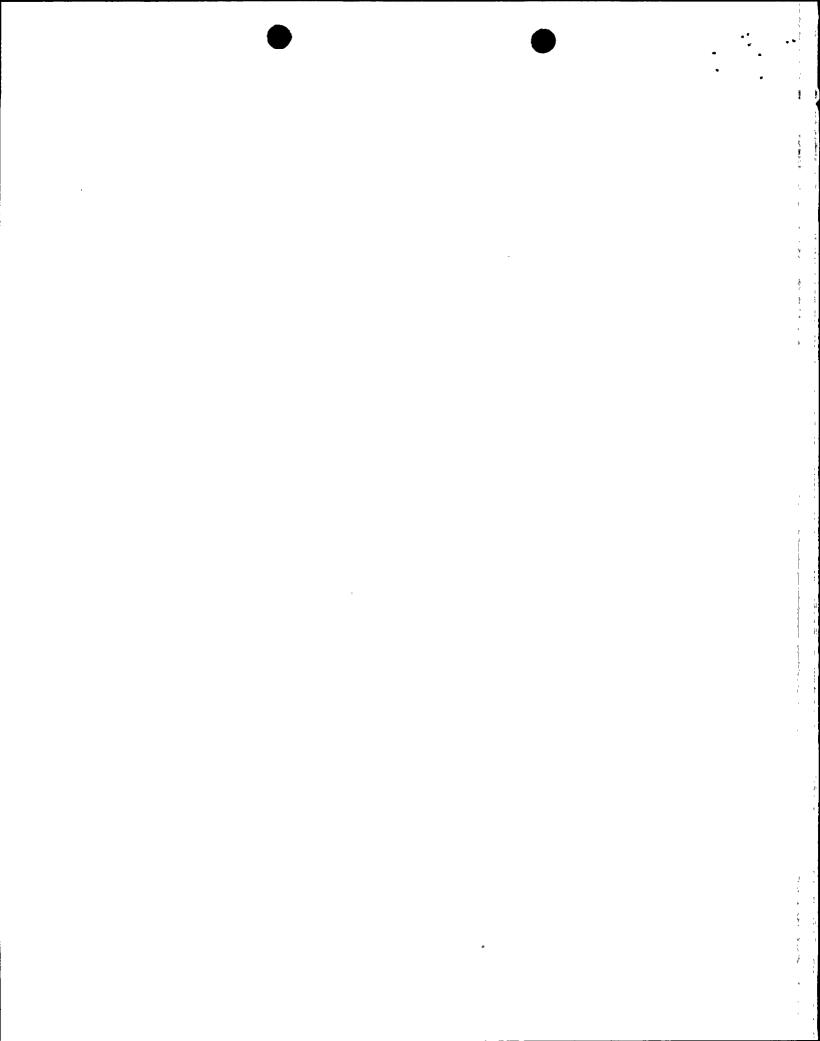
<u>Refueling outage, March 16, 1991, 70 days</u>

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

INITIAL	CRITICALITY
INITIAL	ELECTRICITY
COMMERC:	AL OPERATION

Forecast
07/87
07/87
09/87

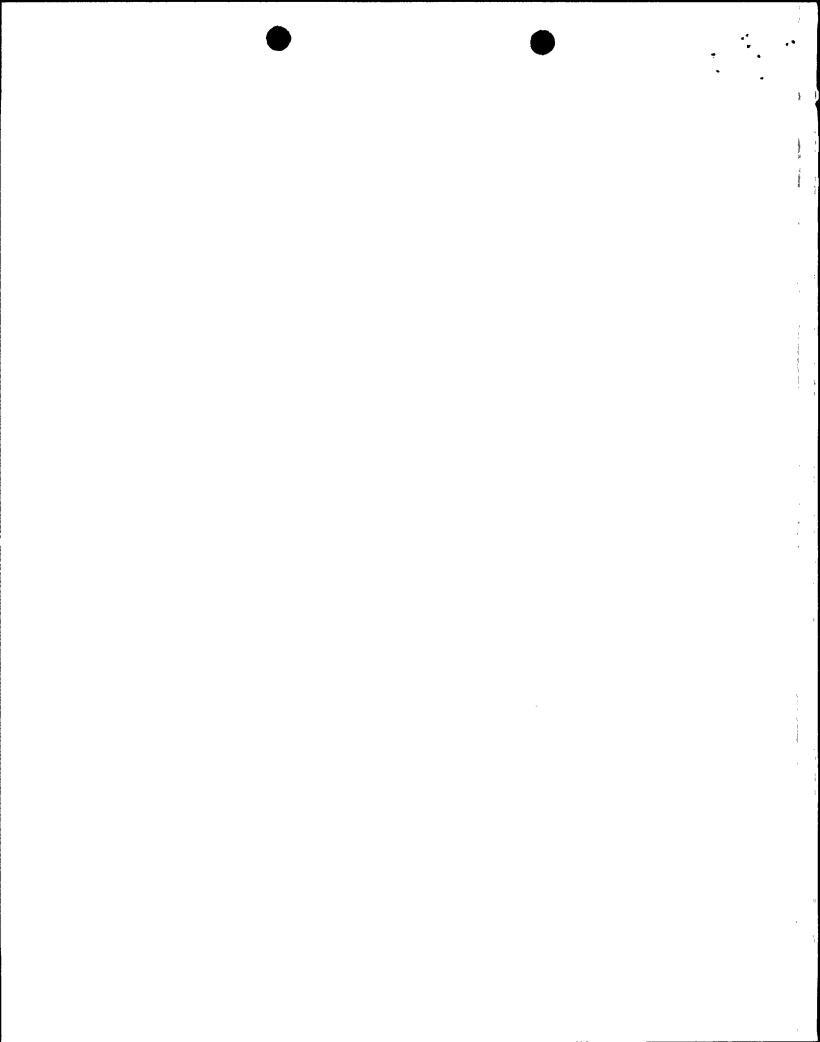
Achieved 10/25/87 11/28/87 01/08/88



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.	50-530		
UNIT NAME	PVNGS-3		
DATE	1/9/91		
COMPLETED BY	K.A. Chavet		
TELEPHONE	(602) 340-4718		

MONT	H: December 1990		•
DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	1272	17	1272
2	1271	18	1273
3	1270	19	1274
4	1271	20	1268
5	1275	21	1272
6	1273	22	1273
7	1269	23	1273
8	1270	24	1272
9	1270	25	1222
10	1270	26	438
11	1271	27 .	666
12	1268	28	1238
13	1266	29	1266
14	1270	30	1271
15	1270	31 .	1269
16	1268		



REFUELING INFORMATION

50-530

PVNGS-3

DOCKET NO.

UNIT NAME

DATE 1/9/91 COMPLETED BY K.A. Chavet (602) 340-4718 TELEPHONE 1. Scheduled date for next refueling shutdown. 03/16/91, 2nd refueling. 2. Scheduled date for restart following refueling. 05/25/91 Will refueling or resumption of operation thereafter require a Technical Specification 3. change or other license amendment? To be determined. Scheduled date for submitting proposed licensing action and supporting information. 4. 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. The number of fuel assemblies. 6. In the core. a) 104 In the spent fuel storage pool. ____ 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	1/9/91		
COMPLETED BY	K.A. Chavet		
TELEPHONE	(602) 340-4718		

Dec	ember	1990
pec	ember	1990

12/01	00:00	Unit began the month in Mode 1, 100% RX power.
12/25	20:00	Commenced RX power reduction to 40% to repair a condenser tube leak.
12/28	04:51	RX power back at 100%.
12/31	24:00	Unit ended the month in Mode 1, 100% RX power.

SHUTDOWNS AND POWER REDUCTIONS December 1990

DOCKET NO 50-530

UNIT NAME PVNGS-3

DATE 1/9/91

COMPLETED BY K.A. Chavet

TELEPHONE (602) 340-4718

No.	Date	Type ¹	Outage Duratio Hours		Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
90/13	12/25/90	F	N/A	A	5 .	N/A	N/A	N/A	Power reduction to 40% of to condenser tube leak.

¹ F-Forced	² Reason:	Method:	Exhibit F-Instructions		
S-Scheduled	A-Equipment Failure(Explain) B-Maintenance or Test C-Refueling D-Regulatory Restriction E-Operator Training & License Examination	1-Manual 2-Manual Scram 3-Automatic Scram 4-Continuation from Previous Month 5-Reduction of 20% or	for Preparation of the Data Entry Sheets for Licensee Event Report (LER) File (NUREG 0161)		
	F-Administrative G-Operational Error H-Other (Explain)	Greater in the Past 24 Hours 9-Other-(Explain)	⁵ Exhibit H-Same Source		

