

**ENCLOSURE 1**

**MONTHLY OPERATING REPORT  
FOR JANUARY 1993**

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# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 1
2. Reporting Period: January 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	744	744	61,464
12.	Hours Reactor was Critical	702.1	702.1	35,877.7
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	702.1	702.1	35,035.9
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,645,967	2,645,967	128,424,978
17.	Gross Electrical Energy Generated (MWH)	900,200	900,200	44,530,400
18.	Net Electrical Energy Generated (MWH)	846,804	846,804	41,790,400
19.	Unit Service Factor (%)	94.4%	94.4%	57.0%
20.	Unit Availability Factor (%)	94.4%	94.4%	57.0%
21.	Unit Capacity Factor (Using MDC Net)	93.2%	93.2%	55.7%
22.	Unit Capacity Factor (Using DER Net)	89.6%	89.6%	53.5%
23.	Unit Forced Outage Rate (%)	5.6%	5.6%	17.9%

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 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

MONTH: January 1993

DAY	AVERAGE DAILY POWER LEVEL
1	<u>1249</u>
2	<u>1248</u>
3	<u>1249</u>
4	<u>1249</u>
5	<u>1248</u>
6	<u>1245</u>
7	<u>1241</u>
8	<u>1241</u>
9	<u>1245</u>
10	<u>1242</u>
11	<u>1244</u>
12	<u>1250</u>
13	<u>1247</u>
14	<u>1246</u>
15	<u>1246</u>
16	<u>910</u>

DAY	AVERAGE DAILY POWER LEVEL
17	<u>1184</u>
18	<u>1188</u>
19	<u>1192</u>
20	<u>1193</u>
21	<u>1193</u>
22	<u>1193</u>
23	<u>1195</u>
24	<u>1196</u>
25	<u>1196</u>
26	<u>1195</u>
27	<u>1195</u>
28	<u>1195</u>
29	<u>1164</u>
30	<u>253</u>
31	<u>0</u>



REFUELING INFORMATION

DOCKET NO. 50-528  
UNIT NAME PVNGS-1  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

1. Scheduled date for next refueling shutdown.  
09/18/93, 4th refueling
2. Scheduled date for restart following refueling.  
12/07/93
3. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?  
  
The need for a Technical Specification change or other license amendment has not yet been determined.
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.  
  
N/A
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 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

## January 1993

01/01	0000	Unit began the month in Mode 1; 100% RX power.
01/16	0100	Commenced power reduction to 65% for FWPT A power supply replacement.
01/16	0617	RX power stabilized at 65%
01/16	1603	Commenced RX power ascension to 100%.
01/17	0033	RX power stabilized at 100%.
01/30	0603	RX manually tripped following main turbine trip on MSR D high level. Unit entered Mode 3.
01/31	1220	RX critical, Unit entered Mode 2.
01/31	1602	Unit entered Mode 1.
01/31	2400	Unit ended the month in Mode 1 at 12% RX power, turbine startup in progress.

SHUTDOWNS AND POWER REDUCTIONS  
January 1993

DOCKET NO 50-528  
UNIT NAME PVNGS-1  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Recurrence
93-01	01/16/93	S	N/A	B	5	N/A	N/A	N/A	Power reduction to 65% for FWPT A power supply replacement.
93-02	01/31/93	F	41.9	A	2	N/A	N/A	N/A	RX manually tripped following a main turbine trip on MSR D high level.

<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>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)

<sup>3</sup>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)

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

<sup>5</sup>Exhibit H-Same Source



# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 2
2. Reporting Period: January 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	744	744	55,848
12.	Hours Reactor was Critical	744.0	744.0	40,569.4
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	744.0	744.0	39,800.6
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,825,987	2,825,987	146,862,943
17.	Gross Electrical Energy Generated (MWH)	980,000	980,000	51,146,070
18.	Net Electrical Energy Generated (MWH)	920,839	920,839	47,915,558
19.	Unit Service Factor (%)	100.0%	100.0%	71.3%
20.	Unit Availability Factor (%)	100.0%	100.0%	71.3%
21.	Unit Capacity Factor (Using MDC Net)	101.4%	101.4%	70.3%
22.	Unit Capacity Factor (Using DER Net)	97.5%	97.5%	67.6%
23.	Unit Forced Outage Rate (%)	0.0%	0.0%	6.3%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date and Duration of Each): Refueling outage, March 20, 1993, 80 days.
25. If Shutdown At End of Report Period, Estimated Date of Start-up: N/A

	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 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

MONTH: January 1993

DAY AVERAGE DAILY POWER LEVEL

1	<u>1242</u>
2	<u>1243</u>
3	<u>1245</u>
4	<u>1245</u>
5	<u>1243</u>
6	<u>1238</u>
7	<u>1236</u>
8	<u>1235</u>
9	<u>1239</u>
10	<u>1239</u>
11	<u>1240</u>
12	<u>1242</u>
13	<u>1237</u>
14	<u>1236</u>
15	<u>1236</u>
16	<u>1238</u>

DAY AVERAGE DAILY POWER LEVEL

17	<u>1236</u>
18	<u>1237</u>
19	<u>1240</u>
20	<u>1241</u>
21	<u>1241</u>
22	<u>1240</u>
23	<u>1240</u>
24	<u>1242</u>
25	<u>1242</u>
26	<u>1241</u>
27	<u>1241</u>
28	<u>1242</u>
29	<u>1241</u>
30	<u>1238</u>
31	<u>1236</u>

# REFUELING INFORMATION

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

1. Scheduled date for next refueling shutdown.

03/20/93, 4th refueling

2. Scheduled date for restart following refueling.

06/08/93

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

No, however, a change to the moderator temperature coefficient curve will occur in the Unit 2 Cycle 5 Core Operating Limits Report.

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.

Minor modifications to the fuel pellet design is considered to be within the current Technical Specifications and no revision is required.

6. The number of fuel assemblies.

a) In the core. 241

b) In the spent fuel storage pool. 288

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).

SECRET



SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-529  
UNIT NAME PVNGS-2  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

January 1993

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



SHUTDOWNS AND POWER REDUCTIONS  
January 1993

DOCKET NO 50-529  
UNIT NAME PVNGS-2  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Recurrence
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No reactor shutdowns or significant power reductions occurred during the month.

<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>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)

<sup>3</sup>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)

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

<sup>5</sup>Exhibit H-Same Source



# NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-530  
 UNIT NAME PVNGS-3  
 DATE 02/08/93  
 COMPLETED BY B. S. Ecklund  
 TELEPHONE (602) 340-4068

## OPERATING STATUS

1. Unit Name: Palo Verde Nuclear Generating Station, Unit 3
2. Reporting Period: January 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	744	744	44,424
12.	Hours Reactor was Critical	744.0	744.0	31,751.7
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator was On-Line	744.0	744.0	31,268.2
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	2,825,604	2,825,604	114,842,609
17.	Gross Electrical Energy Generated (MWH)	992,400	992,400	40,220,200
18.	Net Electrical Energy Generated (MWH)	939,359	939,359	37,842,679
19.	Unit Service Factor (%)	100.0%	100.0%	70.4%
20.	Unit Availability Factor (%)	100.0%	100.0%	70.4%
21.	Unit Capacity Factor (Using MDC Net)	103.4%	103.4%	69.8%
22.	Unit Capacity Factor (Using DER Net)	99.4%	99.4%	67.1%
23.	Unit Forced Outage Rate (%)	0.0%	0.0%	7.8%

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>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 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

MONTH: January 1993

DAY	AVERAGE DAILY POWER LEVEL
1	<u>1267</u>
2	<u>1258</u>
3	<u>1258</u>
4	<u>1268</u>
5	<u>1268</u>
6	<u>1266</u>
7	<u>1263</u>
8	<u>1265</u>
9	<u>1267</u>
10	<u>1266</u>
11	<u>1266</u>
12	<u>1268</u>
13	<u>1265</u>
14	<u>1265</u>
15	<u>1264</u>
16	<u>1263</u>

DAY	AVERAGE DAILY POWER LEVEL
17	<u>1261</u>
18	<u>1264</u>
19	<u>1264</u>
20	<u>1263</u>
21	<u>1263</u>
22	<u>1262</u>
23	<u>1263</u>
24	<u>1262</u>
25	<u>1261</u>
26	<u>1263</u>
27	<u>1265</u>
28	<u>1263</u>
29	<u>1261</u>
30	<u>1259</u>
31	<u>1258</u>





REFUELING INFORMATION

DOCKET NO. 50-530  
UNIT NAME PVNGS-3  
DATE 02/08/93  
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?  
  
Unknown at this time. Unit 3 Cycle 5 is presently in the preliminary design stages.
4. Scheduled date for submitting proposed licensing action and supporting information.  
  
Mid 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.  
  
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 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4718

January 1993

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

SHUTDOWNS AND POWER REDUCTIONS  
January 1993

DOCKET NO 50-530  
UNIT NAME PVNGS-3  
DATE 02/08/93  
COMPLETED BY B. S. Ecklund  
TELEPHONE (602) 340-4068

No.	Date	Type <sup>1</sup>	Outage Duration Hours	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Recurrence
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No reactor shutdowns or significant power reductions occurred during the month.

<sup>1</sup>F-Forced  
S-Scheduled

<sup>2</sup>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)

<sup>3</sup>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)

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

<sup>5</sup>Exhibit H-Same Source