

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9003290147    DOC. DATE: 90/02/28    NOTARIZED: NO    DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania    05000387  
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania    05000388  
 AUTH. NAME    AUTHOR AFFILIATION  
 YOUNG, K.A.    Pennsylvania Power & Light Co.  
 KEISER, H.W.    Pennsylvania Power & Light Co.  
 RECIP. NAME    RECIPIENT AFFILIATION

SUBJECT: Monthly operating repts for Feb 1989 for Susquehanna SES  
 Units 1 & 2.W/900315 ltr.

DISTRIBUTION CODE: IE24D    COPIES RECEIVED: LTR 1 ENCL 1    SIZE: 10  
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NOTES: LPDR 1 cy Transcripts.    05000387  
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	NRR/DREP/PRPB11		1	1	NUDOCS-ABSTRACT		1	1
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**Pennsylvania Power & Light Company**

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Harold W. Keiser  
Senior Vice President-Nuclear  
215/770-4194

Submitted pursuant to  
Technical Specifications  
Section 6.9.1.6

MAR 15 1990

Mr. William G. McDonald  
Director, Office of Administration  
and Resources Management  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
MONTHLY OPERATING REPORTS  
PLA-3360 FILE R41-2A

Docket Nos. 50-387/NPF-14  
and 50-388/NPF-22

Dear Mr. McDonald:

The February 1990 monthly operating reports for Susquehanna SES  
Units 1 and 2 are attached.

Very truly yours,

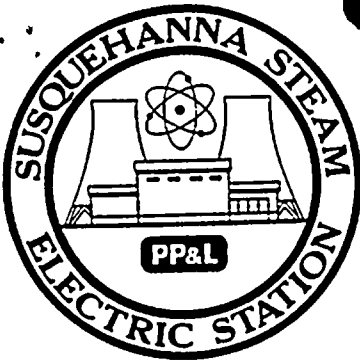
H. W. Keiser

Attachment

cc: Document Control Desk (original)  
NRC Region I  
Mr. G.S. Barber, NRC Resident Inspector  
Mr. M.C. Thadani, NRC Project Manager

9003290147 900228  
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R PIC

IE24  
1/1



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-387

UNIT One

DATE 3-6-90

COMPLETED BY K.A. Young

TELEPHONE (717) 542-3251

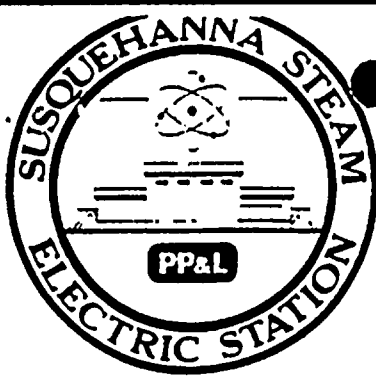
MONTH February 1990

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	445
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	38
12	378
13	918
14	1052
15	1038
16	1050

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	1054
18	1052
19	1051
20	1055
21	1054
22	1054
23	1050
24	1055
25	1015
26	1056
27	1050
28	1056
29	
30	
31	

**INSTRUCTIONS**

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.



OPERATING DATA REPORT

DOCKET NO. 50-387  
 DATE 3-6-90  
 COMPLETED BY K. A. Young  
 TELEPHONE (717) 542-3251

OPERATING STATUS

Unit One

1. Unit Name: Susquehanna Steam Electric Station
2. Reporting Period: February 1990
3. Licensed Thermal Power (MWt): 3293
4. Nameplate Rating (Gross MWe): 1152
5. Design Electrical Rating (Net MWe): 1050
6. Maximum Dependable Capacity (Gross MWe): 1069.3
7. Maximum Dependable Capacity (Net MWe): 1032.7

Notes

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report. Give Reasons:

No changes were made.

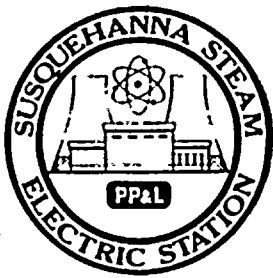
9. Power Level To Which Restricted, If Any (Net MWe): None
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	<u>672</u>	<u>1,416</u>	<u>58,993</u>
12. Number Of Hours Reactor Was Critical	<u>466.2</u>	<u>1,210.2</u>	<u>44,744.5</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>1,032</u>
14. Hours Generator On-Line	<u>432.4</u>	<u>1,176.4</u>	<u>43,777.8</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,324,274</u>	<u>3,726,089</u>	<u>136,896,735</u>
17. Gross Electrical Energy Generated (MWH)	<u>436,254</u>	<u>1,228,736</u>	<u>44,686,576</u>
18. Net Electrical Energy Generated (MWH)	<u>416,910</u>	<u>1,181,842</u>	<u>42,896,514</u>
19. Unit Service Factor	<u>64.4</u>	<u>83.1</u>	<u>74.2</u>
20. Unit Availability Factor	<u>64.4</u>	<u>83.1</u>	<u>74.2</u>
21. Unit Capacity Factor (Using MDC Net)	<u>60.1</u>	<u>80.8</u>	<u>70.4</u>
22. Unit Capacity Factor (Using DER Net)	<u>59.1</u>	<u>79.5</u>	<u>69.3</u>
23. Unit Forced Outage Rate	<u>35.7</u>	<u>16.9</u>	<u>9.7</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):  
None scheduled.

25. If Shut Down At End Of Report Period, Estimated Date of Startup: \_\_\_\_\_

26. Units In Test Status (Prior to Commercial Operation):	Forecast	Achieved
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____



UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH February 1990

DOCKET NO. 50-387  
 UNIT NAME One  
 DATE 3-6-90  
 COMPLETED BY K.A. Young  
 TELEPHONE (717) 542-3251

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
2	900201	F	239.6	A	1	90-005-00	TG JC	FCV 52	Unit One manually shutdown for a full forced outage at 1332 hours February 1. Outage was caused by an Electrical Hydraulic Control (EHC) oil leak on the "D" turbine control valve. Repairs were completed on EHC oil leak. During startup preparation on February 3, unit entered an alert status when an electrical short circuit occurred in a circuit breaker panel on the reactor protection system (RPS). Outage length was extended to allow for the development and installation of a RPS modification that would prevent recurrence of identified root cause. Unit returned to service at 1311 hours February 11 and reached 100% power at 0110 hours February 14.

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

<sup>2</sup>  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance of Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error (Explain)  
 H-Other (Explain)

<sup>3</sup>  
 Method:  
 1-Manual  
 2-Manual Scram.  
 3-Automatic Scram.  
 4-Continuation  
 from previous month  
 5-Reduction  
 9-Other

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

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

SUSQUEHANNA STEAM ELECTRIC STATION

Docket Number 50-387

Date February, 1990

Completed by K.A. Young

Telephone (717) 542-3251

Challenges to Main Steam Safety Relief Valves

While Unit 1 was in Condition 4 (Cold Shutdown), three SRV's were manually actuated on February 3, 1990. During a Reactor Protection System (RPS) Surveillance, an electrical short to ground caused loss of RHR Shutdown cooling mode. As Reactor coolant temperature exceeded 200°F, per plant procedures, Reactor coolant temperature was controlled using SRV blow down to the suppression pool with makeup inventory via Control Rod Drive System. Data for SRV Actuation follows:

<u>Valve Number</u>	<u>Length of Time Open</u>	<u>Rx Pressure/Open</u>	<u>Rx Pressure/Closed</u>
1F013A	4 Hr 51 min	10 psig	11 psig
1F013B	4 hr 1 min	15 psig	12 psig
1F013C	3 hr 35 min	19 psig	12 psig

All three SRV's properly reseated upon closing as evidenced by accoustical monitor readings and tail pipe temperatures. SRV tail pipe temperature after reactor returned to service indicated these valves are properly reseated.

Changes to the Offsite Dose Calculation Manual

None

Major Changes to Radioactive Waste Treatment Systems

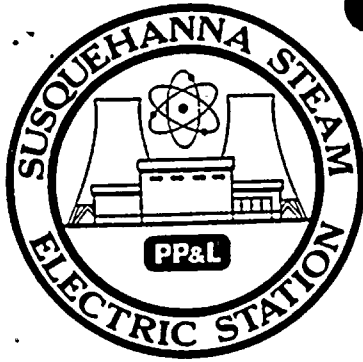
None



10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-388

UNIT Two

DATE 3-6-90

COMPLETED BY K.A. Young

TELEPHONE (717) 542-3251

MONTH February 1990

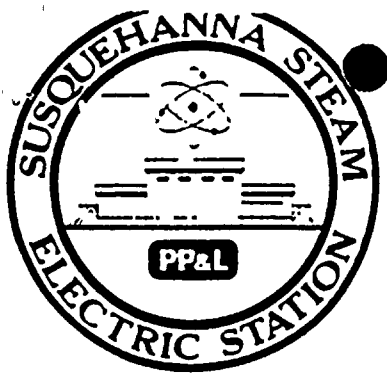
DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1053
2	1053
3	1052
4	1051
5	1056
6	385
7	0
8	0
9	0
10	0
11	0
12	0
13	151
14	810
15	966
16	1049

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	1056
18	1056
19	1056
20	1056
21	1056
22	1053
23	1053
24	1057
25	1056
26	1057
27	1056
28	1055
29	
30	
31	

**INSTRUCTIONS**

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.





OPERATING DATA REPORT

DOCKET NO. 50-388  
 DATE 3-6-90  
 COMPLETED BY K.A. Young  
 TELEPHONE (717) 542-3251

OPERATING STATUS

Unit Two

1. Unit Name: Susquehanna Steam Electric Station
2. Reporting Period: February 1990
3. Licensed Thermal Power (MWt): 3293
4. Nameplate Rating (Gross MWe): 1152
5. Design Electrical Rating (Net MWe): 1050
6. Maximum Dependable Capacity (Gross MWe): 1074.6
7. Maximum Dependable Capacity (Net MWe): 1038.2
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report. Give Reasons:  
No changes were made

Notes

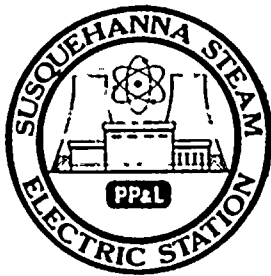
9. Power Level To Which Restricted, If Any (Net MWe): None
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	<u>672</u>	<u>1,416</u>	<u>44,232</u>
12. Number Of Hours Reactor Was Critical	<u>523.3</u>	<u>1,267.3</u>	<u>35,932.6</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>717.9</u>
14. Hours Generator On-Line	<u>504</u>	<u>1,248</u>	<u>35,143.3</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,608,770</u>	<u>4,032,579</u>	<u>110,840,554</u>
17. Gross Electrical Energy Generated (MWH)	<u>530,538</u>	<u>1,333,846</u>	<u>36,321,759</u>
18. Net Electrical Energy Generated (MWH)	<u>508,208</u>	<u>1,283,764</u>	<u>34,944,445</u>
19. Unit Service Factor	<u>75.0</u>	<u>88.1</u>	<u>79.5</u>
20. Unit Availability Factor	<u>75.0</u>	<u>88.1</u>	<u>79.5</u>
21. Unit Capacity Factor (Using MDC Net)	<u>72.9</u>	<u>87.3</u>	<u>76.1</u>
22. Unit Capacity Factor (Using DER Net)	<u>72.0</u>	<u>86.3</u>	<u>75.2</u>
23. Unit Forced Outage Rate	<u>25.0</u>	<u>11.9</u>	<u>6.8</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):  
None scheduled.

25. If Shut Down At End Of Report Period, Estimated Date of Startup: \_\_\_\_\_
26. Units In Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____



UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH February 1990

DOCKET NO. 50-388  
 UNIT NAME Two  
 DATE 3-6-90  
 COMPLETED BY K.A. Young  
 TELEPHONE (717) 542-3251

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
1	900206	F	168.0	A	3	90-002-00	FK	87	At 0906 hours on February 6, Unit 2 experienced an auto scram from 100% power. During pre-planned maintenance work in the 500KV switchyard, a loose "states" link in the differential current relay circuit caused a generator load reject, main turbine trip, and reactor auto scram. Faulted "states" link was replaced and checks were made of the wiring terminations and "states" links on all related accessible relay and control panels to confirm that the connections were in proper order to preclude a recurrence. Management decision was made to enter a seven day outage to install a RPS Mod developed as a result of Unit 1's February 3rd alert. (Cont'd)

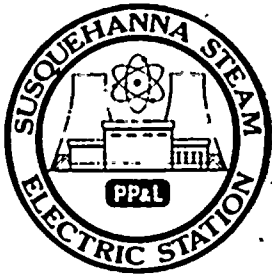
<sup>1</sup>  
 F: Forced  
 S: Scheduled

<sup>2</sup>  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance of Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error (Explain)  
 H-Other (Explain)

<sup>3</sup>  
 Method:  
 1-Manual  
 2-Manual Scram.  
 3-Automatic Scram.  
 4-Continuation  
 from previous month  
 5-Reduction  
 9-Other

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

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



UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH February 1990

DOCKET NO. 50-388  
 UNIT NAME Two  
 DATE 3-6-90  
 COMPLETED BY K.A. Young  
 TELEPHONE (717) 542-3251

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
									(Continued from Page 1)  Unit Two returned to service at 0904 hours February 13 and reached 100% power at 2000 hours February 15.

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

<sup>2</sup>  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance of Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error (Explain)  
 H-Other (Explain)

<sup>3</sup>  
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<sup>4</sup>  
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 0161)

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



100-100000

100-100000

100-100000

SUSQUEHANNA STEAM ELECTRIC STATION

Docket Number 50-388 Date February 1990

Completed by K.A. Young Telephone (717) 542-3251

Challenges to Main Steam Safety Relief Valves

Unit Two experienced an auto scram from full power at 0906 hours February 6. Cause of scram was a generator load reject and main turbine trip. Three SRV's actuated per design for this transient. Data for SRV actuations follows:

<u>Valve Number</u>	<u>Length of Time Open</u>	<u>Rx Pressure Open</u>	<u>Rx Pressure Closed</u>
2F013B	8.2 sec	1075 psig	976 psig
2F013D	7.2 sec	1061 psig	998 psig
2F013E	7.2 sec	1061 psig	976 psig

All three SRV's reseated properly upon closing as evidenced by accoustical readings, tail pipe temperatures and normal shutdown activities. SRV tailpipe temperatures after reactor returned to service indicated these valves are properly reseated.

Changes to the Offsite Dose Calculation Manual

None

Major Changes to Radioactive Waste Treatment Systems

None



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