

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-272

UNIT Salem #1

DATE October 10, 1978

COMPLETED BY L.K. Miller

TELEPHONE 609-365-7000 X507

MONTH September, 1978

## DAY AVERAGE DAILY POWER LEVEL (MWe-NET)

1	1066
2	1052
3	1062
4	1078
5	1073
6	1095
7	1055
8	1066
9	980
10	1093
11	1113
12	1022
13	1072
14	1076
15	1131
16	1065

## DAY AVERAGE DAILY POWER LEVEL (MWE-NET)

17	1084
18	1087
19	1077
20	1089
21	1089
22	1077
23	0
24	20
25	0
26	614
27	231
28	505
29	661
30	809
31	---

# OPERATING DATA REPORT

DOCKET NO.: 50-272  
 DATE: October 10, 1978  
 COMPLETED BY: L.K. Miller  
 TELEPHONE: 609-365-7000 X507

## OPERATING STATUS

1. Unit Name: Salem #1
2. Reporting Period: September, 1978
3. Licensed Thermal Power (Mwt): 3338
4. Nameplate Rating (Gross MWe): 1135
5. Design Electrical Rating (Net MWe): 1090
6. Maximum Dependable Capacity (Gross MWe): 1124
7. Maximum Dependable Capacity (Net MWe): 1079
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reason:  
None

Notes:

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

	This Month	Year to Date	Cumulative
11. Hours In Reporting Period	720	6551	10,992
12. Number Of Hours Reactor Was Critical	663.6	3921.4	6,464.6
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	657.9	3726.9	6,157.5
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	1,988,978.4	11,146,972.6	17,842,192.6
17. Gross Electrical Energy Generated (MWH)	660,160	3,744,510	5,930,820
18. Net Electrical Energy Generated (MWH)	630,269	3,549,560	5,607,778
19. Unit Service Factor	91.4	56.9	56.0
20. Unit Availability Factor	91.4	56.9	56.0
21. Unit Capacity Factor (Using MDC Net)	81.1	50.2	47.3
22. Unit Capacity Factor (Using DER Net)	80.3	49.7	46.8
23. Unit Forced Outage Rate	8.6	43.1	34.07
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Unit Refueling 3/31/79 - 5/26/79			

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

INITIAL CRITICALITY  
 INITIAL ELECTRICITY  
 COMMERCIAL OPERATION

Forecast	Achieved
9/30/76	12/11/76
11/01/76	12/25/76
12/20/76	6/30/77

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH Sept. 1978DOCKET NO.: 50-272UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L.K. MillerTELEPHONE: 609-365-7000 X507

NO.	DATE	TYPE <sup>1</sup>	DURATION (HOURS)	REASON <sup>2</sup>	METHOD OF SHUTTING DOWN REACTOR	LICENSE EVENT REPORT #	SYSTEM CODE <sup>4</sup>	COMPONENT CODE <sup>5</sup>	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
78-181	9-9	F	0	(A)	4 (A)	-----	HH	FILTER	Clean Condensate Pump Suction Strainer
78-214	9-23	F	62.1	(A)	3	-----	HH	PUMPXX	Reactor Trip Due to Failure of #13 Condensate Pump.
78-221	9-26	F	0	A	4 (A)	-----	HH	PUMPXX	Failure of #12 Condensate Pump.
78-222	9-26	F	0	A	4 (A)	-----	HH	PUMPXX	Inspection of #13 Condensate Pump Lower Bearing.
78-223	9-26	F	0	A	4 (A)	-----	HH	PUMPXX	Inspection of #11 Condensate Pump Lube Oil.
78-224	9-28	F	0	A	4 (A)	-----	HH	PUMPXX	Inspection of #13 Condensate Pump Lower Bearing.
78-225	9-29	F	0	A	4 (A)	-----	HH	PUMPXX	Check #12 Condensate Pump Alignment.

<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 (Explain)  
H-Other (Explain)

<sup>3</sup>  
Method:  
1-Manual  
2-Manual Scram.  
3-Automatic Scram.  
4-Other (Explain)

<sup>4</sup>  
Exhibit G - Instructions  
for Preparation of Data  
Entry Sheets for Licensee  
Event Report(1ER) File  
(NUREG-0161)

<sup>5</sup>  
Exhibit 1-Same  
Source

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A. LOAD REDUCTION.  
B. CONTINUATION OF PREVIOUS OUTAGE.

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH September, 1978DOCKET NO.: 50-272UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L.K. MillerTELEPHONE: 609-365-7000 X507

NO.	DATE	TYPE <sup>1</sup>	DURATION (HOURS)	REASON <sup>2</sup>	METHOD OF SHUTTING DOWN REACTOR	LICENSE EVENT REPORT #	SYSTEM CODE <sup>4</sup>	COMPONENT CODE <sup>5</sup>	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
78-228	9-29	F	0	A	4 (A)	-----	HH	PUMPXX	#11 Steam Generator Feed Pump Vibrations.
78-229	9-30	F	0	A	4 (A)	-----	HH	PUMPXX	#11 Steam Generator Feed Pump Vibrations.
78-232	9-30	F	0	A	4 (A)	-----	HH	PUMPXX	#11 Steam Generator Feed Pump Vibrations.
78-233	9-30	F	0	A	4 (A)	-----	HH	PUMPXX	#11 Steam Generators Feed Pump Vibrations.

## MAJOR PLANT MODIFICATIONS

REPORT MONTH September, 1978DOCKET NO.: 50-272UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L.K. MillerTELEPHONE: (609) 365-7000 X507

*DCR NO.	PRINCIPLE SYSTEM	SUBJECT
ED-0110	Control Rod Drive Vent Fans	Various Structural Improvements.
ED-0281	Circulating Water	Install Entrainment Sampling Pipe.
ED-0364- 13	Service Water	Installed Modified No.13 Pump.
1-EC-0399	RMS (1-R-8)	Setpoint Change.
OD-0011	Component Cooling	Header Alarm Setpoint Change.

## MAJOR PLANT MODIFICATIONS

UNIT NAME:

Salem #1

REPORT MONTH September, 1978

DATE:

October 10, 1978

COMPLETED BY:

L. K. Miller

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*DCR NO.	10CFR50.59	SAFETY EVALUATION
ED-0110	An unreviewed safety question is not involved. Safety related equipment will not be affected.	
ED-0281	An unreviewed safety question is not involved. Safety related equipment will not be affected.	
ED-0364	A revised seismic analysis has been done on the new aluminum bronze column pipe. The impeller modification produced a flatter head-capacity curve without affecting design flow point. System still performs original design function. Probability of accidents has not increased, nor has the occurrence of new accidents been made possible. The Tech. Spec bases are unaffected.	
LED-0300	This monitor and its setting does not affect the safe operation or shutdown of the plant.	
OD-0011	The Design Change alters a non-safety related function of a circuit which is otherwise safety related. The Safety related functions of the circuit remains unmodified. The new design has been reviewed and determined not to create new potential malfunctions or increase the probability of previously analyzed malfunctions or accidents.	

## SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT PerformanceREPORT MONTH September, 1978DOCKET NO.: 50-212UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L. K. MillerTELEPHONE: (609) 365-7000 X507

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
PD-4967	Reactor Coolant System	Recalibrate 12 Reactor Coolant Loop to new $\Delta T$ /Tavg values.	Calibrated.
PD-4964	LBS532	1FC532 out of spec.	Replaced isolator and calibrated.
PD-4966	LBS510A	Console alarm failed to reset.	Repaired comparator.
OD-9968	#13 Steam Generator	High differential level between Channel IV and other channels.	Recalibrated.
PD-4969	Reactor Coolant System	Recalibrate 13 Reactor Coolant Loop to new $\Delta T$ /Tavg Values.	Calibrated.
PD-4973	LBS541B	Out of spec.	Calibrated.
PD-4974	Nuclear Instrumentation System	N43 isolation amplifier out of spec.	Calibrated.
PD-4989	Air Particulate Detection Unit	Investigate filter failure alarm.	Replaced filter paper and charcoal filter. Repaired capstan shear pins.
OD-10441	Valve 13AF11	No closed indication.	Adjusted limit switch.
PD-5057	Reactor Protection	Recalibrate LTC-505 for new Tavg program.	Calibrated.
PD-5058	Reactor Protection	Recalibrate LPT-505 and LPT-506.	Calibrated.
OD-9084	#12 Steam Generator	Low Channel III pressure indication.	Performed calibration check.
OD-9295	Valve 1SW169	Failed open.	Replaced control air supply solenoid valve SV598.

## SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT PerformanceREPORT MONTH September, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L. K. MillerTELEPHONE: (609) 365-7000 X507

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OD-9562	TL6339	Erroneous reading.	Tightened packing nut on root valve.
OD-9920	RMS 1R17A	Channel alarm sounded.	Detection tube cleaned and channel functionally checked.
OD-9934	Refueling Water Storage Tank	Erroneous high level overhead annunciator alarm.	Calibrated level transmitter.
OD-9966	#11 Steam Generator	High differential pressure between Channels I & II.	Calibrated.
OD-9986	#12 Service Water Pump	Back wash malfunctions in auto mode.	Strainer gages recalibrated.
OD-10009	Air Particulate Detection Unit	Low flow operation.	Gas pump replaced.
PD-4836	1LC102C	Out of spec.	Calibrated.
PD-4958	Nuclear Instrumentation System	Channel N44 NC307 Bistable malfunctioning.	Replaced bistable.
PD-4990	Control Bank A	Investigate alarm.	Replaced fuse.
OD-10330	#13 RCP Channel II	Channel out of adjustment.	Recalibrated.
OD-10389	1CV172 Valve	No open indication.	Adjusted limit switch.
OD-10134	Shutdown Bank A	Urgent alarm sounded.	Replaced fuse F3 on movable grippes.
PD-5053	1TE431A/B 1TC432C/D	1BS432C and 1BS432D are out of spec.	Adjusted gain and bias of 1TM432A
OD-8166	#11-14 Steam Generators	Mismatched readings between steam flow and F.W. flow.	Calibrated 1FT532. Calibrated 13&14 Steam Flow and Feed Flow recorder & Isolator



## SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT MaintenanceREPORT MONTH September, 1978DOCKET NO.: 50-272UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L. K. MillerTELEPHONE: (609) 365-7000 X507

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OD-10281	#12 Service Water Pump	Leak at bottom of strainer	Repaired leak by patch weld.
OD-10357	Boric Acid Evaporator	Leak on condenser head.	Replaced plug and tightened bolts.
OD-10363	#11 Service Water Pump	Leak in upper bearing cooler.	Replaced cooler.
MD-2966	#11 thru 15 Fan Coil Units	Weld couplings to motor cooler nozzles.	Complete.
OD-8722	#13 and #14 Residual Heat Removal Sump Pumps	Will not run in auto.	Dried and sealed motor lead terminations.
OD-10052	#12 Residual Heat Removal Sump Pump	Overhead Annunciator Alarm on.	Removed ground and repaired level switch.
MD-2441	Valves 1CV2, 5, 75, and 79.	Boric Acid around packing.	Repacked.
OD-10447	Valve 1CC131	Valve will not close electricity.	Replaced Aux. contact.
OD-10381	#13 Control Area Supply Unit	Auto roughing filter advance control inoperable. Filter moves constantly.	Repaired control and replaced filter.
OD-10331	Valve 1CC40	Leaks at flange connection.	Tightened bolts.
OD-10202	#12 Boric Acid Transfer Pump	Seals leaking.	Replaced mechanical seals. Replaced inboard and outboard bearings.
OD-10099	Valve 13MS168	Valve leaks.	Furmanited valve.

## SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT MaintenanceREPORT MONTH September, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1DATE: October 10, 1978COMPLETED BY: L.K. MillerTELEPHONE: (609) 365-7000 X507

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OD-10179	Valve 12CS1	Flange Leak	Tightened bolts.
OD-10203	EL 100' Cont. Personnel Air Lock.	High air leak rate.	Repaired poor seal.
OD-10204	#15 Service Water Strainer.	Backwash pipe leaks.	Temporary pipe patch.
OD-10243	#16 Service Water Strainer.	Packing gland leaks.	Adjusted packing gland.
OD-10250	Valve 2SW105	Packing leaks.	Replaced lubricator with pipe plug.
OD-10321	#14RHR Sump Pump	Fails to start in auto.	Cleared ground and cleaned wire terminals.
OD-10338	Valve 1CC196	Flange leaks.	Tightened bolts.
MD-2680	#13 Reactor Coolant Pump	Modify #3 Seal Ring Clamp I.A.W. DCR ED-0146-13	Completed DCR
MD-2837	#1 Unit Cask Handling Crane	Main hoist motor noisy.	Replaced worm gear shaft aligned clutch assembly.
MD-2895	#11 thru 15 Fan Coil Units	Weld couplings to motor cooler nozzles.	Completed.
MD-2923	#11 Concentrate Transfer Pump.	Repair heat trace.	Insulated exposed conductors.
MD-2996	#11 Component Cooling Pump	4KV Motor Breaker will not close.	Replaced breaker control relays.
OD-10368	#11 Fan Coil Unit	Motor Cooler leaks.	Replaced Motor Cooler.

UNIT NAME: Salem #1

DATE: October 10, 1978

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## SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT Maintenance

REPORT MONTH September, 1978

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OP-0346	#12 Reactor Coolant Pump	Modify #3 Seal Ring IAW DCR ED-0146-12.	Completed DCR.
OD-7992	#11 Steam Generator	Manway leaks.	Repaired gasket surface.
OD-8529	Valve 11NT22	Threaded connection leaking.	Replaced gasket.
OD-9488	Containment Spray System	Intermittent annunciator alarm.	Replaced circuit board.
OD-10024	#11 Gas Stripper Pump	Low discharge pressure.	Disassembled and cleaned.
OD-10042	#16 Service Water Pump	Packing gland leaks.	Repacked.
OD-10123	1A Vital Instrument Inverter	Blown fuse.	Replaced circuit board and fuses.
OD-10133	#26 Service Water Pump	4KV Breaker will not rack up.	Racking motor repaired.
OD-10141	#11 Service Water Pump	Flex Coupling leaks.	Replaced flex coupling.
OD-10146	#12 Service Water Pump	Flex Coupling leaks.	Replaced flex coupling.
OD-10147	#15 Service Water Strainer	Packing gland leaks.	Repacked.
OD-10158	#14 Fan Coil Unit	Motor cooler leak.	Replaced motor cooler.
OD-10163	Valve 11CS1	Flange leak.	Tightened bolts.

## DOCKET NO.: 50-272

UN7 NAME: Salem #1

DATE: October 10, 1978

TELEPHONE: (609) 365-7000 X507

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SALEM I OPERATING SUMMARY

SEPTEMBER, 1978

- 9-1      The unit remained at full load for the day.  
thru  
9-2
- 9-3      The unit was at full power until a vacuum leak required  
the load to be reduced at ~10%/hour to 94% load at 1105.  
The cause of the vacuum reduction was due to loss of  
seal water to #11 vacuum pump seals. The seal water  
was restored and the unit was increased to full load by  
1254. The unit remained at full load for the remainder  
of the day.
- 9-4      The unit remained at full load for the day.  
thru  
9-8
- 9-9      At 0035 a load decrease was initiated due to high differ-  
ential pressure across the condensate strainers. Load  
was decreased at ~5%/hour to 70%. The condensate strainers  
were cleaned and the load increased at ~5%/hour starting  
at 1155. The unit was at full load at 1825 and remained  
at full load for the remainder of the day.
- 9-10     The unit remained at full load for the day.  
thru  
9-22
- 9-23     At 0045 load was decreased with rods to 76% in an attempt  
to prevent a reactor trip due to loss of #13 Condensate  
Pump. At 0046 a Reactor/Turbine trip occurred from 76%.  
The trip was due to the loss of #11 Feed Pump on low  
suction pressure resulting in #11 Steam Generator Lo water  
level with steam flow/feed flow mismatch.

- 9-25 The unit was taken critical at 0904. The delay in going critical was caused by faulty pressurizer spray valve operation, repair on #13 Condensate Pump and other maintenance oriented repairs. The unit was synchronized at 1448. A load increase was initiated at 1500 and the unit reached 47% at 2400.
- 9-26 From 0001 to 1300 unit load was increased at 2-3% per hour to 83%. At 1325 unit load was decreased to 69% when #12 Condensate Pump was taken out of service due to high temperature. A load decrease was initiated at 1506 to 10% per hour and the unit reached 25% at 2010. Load was decreased to allow taking #11 Condensate Pump out of service for maintenance.
- 9-27 Commenced load increase at 0005 at 1% per hour to a level of ~32% at 0400. Load was held at 32% while maintenance on #11 and #12 Condensate Pump was performed.
- 9-28 Commenced load increase at 0240 from 31% at ~5% per hour to 55% at 0805. Load increase commenced at 1440 from 57% to 65% by 1610. Load remained at 65% for the remainder of the day while maintenance was being performed on #12 Condensate Pump.
- 9-29 Load remained at ~65% until 2320 when a load increase was commenced at a rate of ~5% per hour.
- 9-30 Load was increased at a rate of ~5% per hour. At 0300 load was leveled off at 81.5%. Load increase recommenced at 0840 to 85% at 0955. At 1600 #11 Steam Generator Feed Pump indicated bearing temperature problem. Load decrease was commenced at a rate of 5% per hour to a load of 50% at 2315.

# REFUELING INFORMATION

DOCKET NO.: 50-272  
 UNIT: Salem #1  
 DATE: October 10, 1978  
 COMPLETED BY: L.K. Miller  
 TELEPHONE: 609-365-7000  
X507

MONTH: September, 1978

1. Refueling information has changed from last month:

YES \_\_\_\_\_ NO X

2. Scheduled date of next refueling: March 31, 1979

3. Scheduled date for restart following refueling: May 26, 1979

4. A. Will Technical Specification changes or other license amendments be required? YES \_\_\_\_\_ NO \_\_\_\_\_

NOT DETERMINED TO-DATE September, 1978

B. Has the reload fuel design been reviewed by the Station Operating Review Committee? YES \_\_\_\_\_ NO X

If no, when is it scheduled? January, 1979

5. Scheduled date(s) for submitting proposed licensing action: February, 1979 if required.

6. Important licensing considerations associated with refueling: None

7. Number of Fuel Assemblies:

A. In-Core 193

B. In Spent Fuel Storage 0

8. Present licensed spent fuel storage capacity: 264

Future spent fuel storage capacity: 1,170

9. Date of last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity: April, 1982.