PSE&G

Public Service Electric and Gas Company P.O. Box 168 Hancocks Bridge, New Jersey 08038

Salem Nuclear Generating Station

September 12, 1978

Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

MONTHLY OPERATING REPORT
SALEM NO. 1
DOCKET NO. 50-272

In compliance with section 6.9, Reporting Requirements for the Salem Technical Specifications, 10 copies of the following monthly operating reports for the month of August, 1978 are being sent to you.

Average Daily Unit Power Level
Operating Data Report
Unit Shutdowns and Power Reductions
Major Plant Modification
Summary of Safety Related Maintenance
Operating Summary
Refueling Information

Sincerely yours,

H. J. Midura
Manager - Salem Generating Station

LKM:jcm
cc: Mr. Boyce H. Grier
Director of U. S. NRC
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pa. 19406

Director, Office of Management
Information and Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

1903-1978 75 YEARS OF SERVICE

Enc.

A008
S 1/1

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-272
UNIT Salem No. 1
DATE September 12, 1978
COMPLETED BY L. K. Miller
TELEPHONE 609-365-7000, X507

MONTH August 1978

DAY	AVERAGE DAILY POWER LEVEL (MWe-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	743	17	1073
2	1069	18	1092
3	1053	19	1076
4	1062	20	1102
5	1038	21	1373
6	948	22	0
7	925	23	313
8	496	24	783
9	1022	25	971
10	1066	26	1002
11	1053	27	535
12	1092	28	0
13	1077	29	117
14	1071	30	968
15	1045	31	1060
16	959		

OPERATING DATA REPORT

DOCKET NO.: 50-272
DATE : September 12, 1978
COMPLETED BY: L. K. Miller
TELEPHONE: 609-365-7000, X507

OPERATING STATUS

1. Unit Name: Salem No. 1
2. Reporting Period: August 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

Notes:

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reason:
None

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	744	5,831	10,272
12. Number Of Hours Reactor Was Critical	656.3	3,257.8	5,801.0
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	648.8	3,069.0	5,499.6
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	1,989,124.8	9,157,994.2	15,853,214.2
17. Gross Electrical Energy Generated (MWH)	657,860	3,084,350	5,270,660
18. Net Electrical Energy Generated (MWH)	626,775	2,919,291	4,977,509
19. Unit Service Factor	87.2	52.6	53.5
20. Unit Availability Factor	87.2	52.6	53.5
21. Unit Capacity Factor (Using MDC Net)	78.1	46.4	44.9
22. Unit Capacity Factor (Using DER Net)	77.3	45.9	44.5
23. Unit Forced Outage Rate	12.8	47.4	36.2

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

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	9/30/76	12/11/76
INITIAL ELECTRICITY	11/01/76	12/25/76
COMMERCIAL OPERATION	12/20/76	6/30/77

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August, 1978

DOCKET NO.: 50-272
UNIT NAME: Salem #1
DATE: September 12, 1978
COMPLETED BY: L. K. Miller
TELEPHONE: 609-365-7000 X507

NO.	DATE	TYPE[1]	DURATION (HOURS)	REASON[2]	METHOD OF SHUTTING DOWN REACTOR	LICENSE EVENT REPORT #	SYSTEM CODE[4]	COMPONENT CODE[5]	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
78-100	8-1-78	F	0	B	4	---	HH	FILTER	Clean Steam Generator Feed Pump and Condensate Pump Suction Strainers.
78-108	8-5-78	F	0	A	4	---	HH	FILTER	Clean Condensate Pump Suction Strainers.
78-115	8-7-78	F	0	A	4	---	HH	FILTER	Clean Steam Generator Feed Pump Suction Strainers and repair #11 Recirc. Valve.
78-116	8-8-78	F	0	A	4	---	HH	TURBIN	Turbine vibration caused by Governor Valve going open (due to blown O-ring on EH Oil Line).
78-129	8-15-78	F	0	A	4	---	HC	HTEXCH	12A Condenser leak.

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(Explain)
H-Other (Explain)

3
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Other (Explain)

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

5
Exhibit 1-Same Source

Load Reduction

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August, 1978

DOCKET NO.: 50-272
UNIT NAME: Salem #1
DATE: September 12, 1978
COMPLETED BY: L.K. Miller
TELEPHONE: 609-365-7000 X507

NO.	DATE	TYPE[1]	DURATION (HOURS)	REASON[2]	METHOD OF SHUTTING DOWN REACTOR	LICENSE EVENT REPORT #	SYSTEM CODE[4]	COMPONENT CODE[5]	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
78-137	8-21-78	F	45.75	G	1	---	IA	PUMPXX	Reactor trip due to loss of Reactor Coolant Pump. #12 Reactor Coolant Pump breaker was manually opened.
78-138	8-23-78	F	0	A	4	---	HH	FILTER	Clean #11 and #13 Condensate Pump Suction Strainers.
78-141	8-24-78	F	0	A	4	---	HC	HTEXCH	#11A Condenser leak.
78-142	8-24-78	F	0	A	4	---	HC	HTEXCH	#11A Condenser leak.
78-145	8-25-78	F	0	A	4	---	HC	HTEXCH	#12A Condenser leak.
78-154	8-27-78	F	49.43	H	3	---	HA	TURBIN	Reactor trip due to a Maintenance error on the part of outside contractor causing turbine trip.

MAJOR PLANT MODIFICATIONS

REPORT MONTH August 1978

DOCKET NO.: 50-272

UNIT NAME: Salem I

DATE: September 12, 1978

COMPLETED BY: L. K. Miller

TELEPHONE: 609-365-7000, X507

*DCR NO.	PRINCIPLE SYSTEM	SUBJECT
1-ED-0364	Service Water	Install Modified No. 14 S.W. Pump
1-ET-0400	4 kv Bus U.V. Relays	Install Temporary D. C. Feed
1-EX-0402	Circulating Water	Determine Reduced C.W. Flow by Throttling Discharge Valve
1-OD-0048	Waste Liquid	Replace Saunders Valves with Full Flow Plug Valves

* DESIGN CHANGE REQUEST
8-1-7.R1

MAJOR PLANT MODIFICATIONS
REPORT MONTH August 1978

DOCKET NO.: 50-272
UNIT NAME: Salem I
DATE: September 12, 1978
COMPLETED BY: L. K. Miller
TELEPHONE: 609-365-7000, X507

*DCR NO.	10CFR50.59 SAFETY EVALUATION
1-ED-0364	Setpoint change required to comply with new S.W. Pump performance curves. The change does not degrade system performance.
1-ET-0400	Addition of noise suppressor will not affect safety function of the relay. Safety analysis are not affected.
1-EX-0402	The implementation of this experiment does not affect any presently performed safety analysis nor does it create any new hazards. The basis of the Technical Specifications are not affected.
1-OD-0048	This DCR requests the substitution of plug-type valves for diaphragm-type valves. This change does not increase the probability or consequences of an accident, create a possibility for an accident or malfunction or reduce the margin of safety as previously defined.

* DESIGN CHANGE REQUEST

SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT Maintenance

REPORT MONTH August, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1

DATE: September 12, 1978

COMPLETED BY: L.K. Miller

TELEPHONE: 609-365-7000 (X507)

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
MD-2939	11RC17 Valve	Packing leak.	Tightened packing.
MD-2918	#14 Service Water Auto Strainer	Breaking shear keys.	Replaced bottom wear shears and keys.
OD-10033	#12 Service Water Strainer	Broken shear keys.	Replaced shear keys.
MD-2781	Cask Handling Crane	Worn cable.	Replaced cable.
OD-8878	1DDC #27 Breaker	Check for ground.	Replaced limit switch.
MD-2916	Containment Air Lock Inner Door	Failed leak test.	Adjusted locking device.
OD-9481	Service Water Piping	Pipe leak.	Installed temporary patch.
OP-9431	Service Water Piping	Pipe leak.	Installed temporary patch.
OD-9527	#16 Service Water Pump Strainer	Broken shear key.	Replaced distributor barrel O-ring and shear key.
OD-9909	13MS168 Valve	Packing leak.	Packing tightened.
OD-9474	#11 Chiller Unit	Leak.	Replaced tubing reducer to condenser.
OP-9885	12SW23 Valve	Valve leak.	Applied temporary patch and clamp.
OD-9535	#11 Service Water Pump Strainer	Housing leak.	Temporary patch installed.

SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT Performance

REPORT MONTH August, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1

DATE: September 12, 1978

COMPLETED BY: L. K. Miller

TELEPHONE: 609-365-7000 (X507)

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
PD-4930	13RC431C	Verify setpoint.	Adjusted calibration of Tavg.
PD-4934	1PM505B	Summator failed low.	Replaced summator.
PD-4937	1PC526C	Verify setpoints.	Adjusted trip and reset points.
PD-4939	1PT536A/B	Trips 8mv high.	Adjusted output #2 setpoint.
PD-4944	1LC461A/B	Verify setpoints.	Adjusted setpoints.
PD-4902	11 Steam Generator Steam Flow Channel II.	Steam flow failed low.	Repaired faulty connections on the PCB Elco connector.
PD-4904	1TM441E	High trip point.	Adjusted trip points.
PD-4917	1FC511A/B	Low setpoint.	Adjusted setpoint.
PD-4920	14 Steam Generator 1LT549	Out of calibration.	Installed and calibrated new PCB transmitter.
PD-4926	11 Boric Acid Tank level 1LT106.	Low setpoint.	Calibrated.
PD-4927	12 Batt. Level 1LT102.	High transmitter output.	Calibrated.
OD-9388	A.F.D. Recorder XA-8740.	Out of calibration.	Recalibrated recorder.
OD-9384	#13 Steam Generator Level	Verify stable operation.	Recalibrated transmitter.

SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT Maintenance

REPORT MONTH August, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1

DATE: September 12, 1978

COMPLETED BY: L.K. Miller

TELEPHONE: 609-365-7000(X507)

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OD-10051	#16 Service Water Pump Strainer	Strainer trips.	Replaced motor, seals, and fittings.
MD-8956	1CC190	Motor malfunctioning.	Replaced motor.
OD-10124	13RC26 Valve	Packing leak.	Tightened packing nut.
MD-2951	Airlock Door	Door leaks repacking needed.	Replaced two cam followers and two inner door gaskets.
MD-2851	4kV Group UF Relays 1H and 1F	Relays causing trips.	Replaced relays.
OD-10077	11MS169 Valve	Valve leaks through.	Replaced stem and seat disc.
MD-2892	1A Diesel Controls	Spike on D.C. feed.	Replaced power supply.
OD-9569	#12 RHR Room Cooler	Service Water leak.	Repaired plugs in coil.
MD-2846	13CV78 Valve	Bonnet leak.	Furmanited valve.
OD-10099	13MS168 Valve	Packing leak.	Furmanited packing gland.
OP-0311	#14 Service Water Pump	Replace pump.	Removed and installed rebuilt pump.
MD-2944	1CC190	Valve motor operator malfunctioning.	Replaced operator.
OD-10068	#13 Service Water Screen	Inch pushbutton not working.	Cleaned threads and hole on shaft.

SUMMARY OF SAFETY RELATED MAINTENANCE

DEPARTMENT Performance

REPORT MONTH August, 1978

DOCKET NO.: 50-272

UNIT NAME: Salem #1

DATE: September 12, 1978

COMPLETED BY: L.K. Miller

TELEPHONE: 609-365-7000 (X507)

WORK ORDER NO.	EQUIPMENT	FAILURE DESCRIPTION	CORRECTIVE ACTION
OD-9377	#11 Steam Gen. Low Low Level	Verify stable operation.	Replaced comparator and calibrated 1LC518A/B.
OD-9337	#12 Boric Acid Tank	Hi-Low Temp. Alarm is illuminated.	Inserted fuse.
OD-9117	Safety Inject. Accumulator	Calibrate 11 and 12 Accumulator level.	Recalibrated LT-934A, LT-935A, LT-935B, LT-934B.
OD-9260	Safety Injection 11 Accum.Ch.A	Channel A shows increase while Channel B is constant.	Repaired sticking indicator. Replaced strain gauge.
OD-9291	Safety Injection #11 Accum.	Channel A erratic.	Repaired and recalibrated indicator.

SALEM I OPERATING SUMMARY

AUGUST 1978

8-1 Unit load was reduced to 50% to clean feed pump suction strainers. At 0900 a load increase was started and the unit reached full output at 2200. The unit remained at full load until 8-5.

8-5 At 2124 a load reduction to 70% was initiated in order to clean condensate pump suction strainers.

8-6 The unit returned to full load at 1200 and operated there the remainder of the day.

8-7 At 1455 a load reduction was initiated in order to clean feed pump suction strainers. At 2400 the unit was at 45% load.

8-8 At 0030 the unit was at 40% load. At 0400 unit load reached 52%. This level was held while repairs were made to a feed pump recirculation valve. A load increase was started at 1200 but was terminated at 1448 due to turbine vibration. Load was decreased from 62% to 55% while the problem was analyzed. The vibration was caused by the failure of a turbine governor valve to open. The cause was a blown O-ring in the E-H oil line. Repairs were made and a load increase was started at 1900.

8-9 The unit reached full load at 0642. The unit remained at full power until 8-15.

8-15 At 2045 a load reduction at 15%/HR. was initiated because of condenser tube leaks. Load was stabilized at 70%.

8-16 At 0330 a load increase was initiated at 5%/HR. The unit reached full load at 1000. The unit remained at full load until 8-21.

8-21 At 0312 load was decreased to 97% due to condenser tube leaks. At 0915 a Reactor/Turbine Trip occurred from full load. The trip was caused by a loss of reactor coolant flow when a reactor coolant pump breaker opened.

8-23 The unit was taken critical at 0355. The delay in going critical was caused by repairs that had to be made to an inoperable fan coil unit. The unit was synchronized at 0700. A load increase was initiated and the unit reached 70% at 2000. The unit was held at this level while condensate suction strainers were cleaned. The load increase was continued at 2230.

8-24 The unit reached full load at 0600. At 0713 a load decrease was initiated due to high condenser backpressure. Load was reduced to 78%. At 1155 load was further reduced to 70% when a circulator was removed from service. A load increase was initiated 2040.

8-25 The unit reached full load at 0300. At 0424 load was reduced to 90% due to condenser tube leaks. At 1022 power was increased to full load. At 1648 load was reduced to 91% in order to remove a circulator from service.

8-26 At 1050 power was increased to full load and the unit operated at this level all day.

8-27 At 1257 a reactor/turbine trip occurred from full load when an outside contractor dropped an air horn on the turbine trip block.

8-29 The unit was taken critical at 1000. The delay in going critical was due to repairs to a containment fan coil unit, containment air lock door, 1A Vital Bus Instrument Inverter and the rod control system. The unit was synchronized at 1425 and at 2400 load had increased to 63%.

8-30 The unit reached full load at 0800 and remained at full load for the day.

8-31 The unit was at full load for the day.

REFUELING INFORMATION

DOCKET NO.: 50-272
UNIT: Salem No. 1
DATE: September 12,1978
COMPLETED BY: L.K. Miller
TELEPHONE: 609-365-7000
X507

MONTH: August, 1978

1. Refueling information has changed from last month:

   YES X NO ____

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 August, 1978

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

   If no, when is it scheduled? ____
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