



Carolina Power & Light Company

50-324
R

September 10, 1979

OFFICE OF THE SECRETARY
D.C.

FILE: NG-3513 (B)

SERIAL: GD-79-2267

Mr. Victor Stello, Jr., Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 & 2
LICENSE NOS. DPR-71 & 62
DOCKET NOS. 50-325 & 50-324
MONTHLY OPERATIONS REPORT

Dear Mr. Stello:

In accordance with Technical Specification 6.9.1.6 for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2, Carolina Power & Light Company herewith submits the report of operating statistics and shutdown experience for the month of August, 1979.

Yours very truly,

H. R. Banks

Manager

Nuclear Generation

SBT:men*

cc: Mr. R. A. Hartfield
Mr. J. P. O'Reilly

423
R

APPENDIX B
AVERAGE DAILY POWER LEVEL

DOCKET NO. 050-0325
UNIT BRUNSWICK UNIT 1
DATE 09/04/79
COMPLETED BY EULIS WILLIS
TELEPHONE 919-457-9521

AUGUST 79
DAY AVG. DAILY POWER LEVEL
(MWE-NET)

DAY AVG. DAILY POWER LEVEL
(MWE-NET)

1	559.
2	727.
3	730.
4	440.
5	188.
6	656.
7	723.
8	753.
9	225.
10	309.
11	657.
12	689.
13	737.
14	732.
15	709.
16	743.

17	744.
18	738.
19	490.
20	241.
21	650.
22	634.
23	723.
24	737.
25	715.
26	639.
27	679.
28	675.
29	657.
30	651.
31	654.

OPERATING DATA REPORT

DOCKET NO. 050-0325
DATE 09/04/79
COMPLETED BY EULIS MILLIS
TELEPHONE 919-457-9521

OPERATING STATUS

1. UNIT NAME: BRUNSWICK UNIT 1
2. REPORTING PERIOD: AUGUST 79
3. LICENSED THERMAL POWER (MWT): 2435
4. NAMEPLATE RATING (GROSS MWE): 867.0
5. DESIGN ELECTRICAL RATING (NET MWE): 821.0
6. MAX DEPENDABLE CAPACITY (GROSS MWE): 815.0
7. MAX DEPENDABLE CAPACITY (NET MWE): 790.0
8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS 3 THRU 7) SINCE LAST REPORT, GIVE REASONS:

I NOTES

I

I

I

I

I

9. POWER LEVEL TO WHICH RESTRICTED IF ANY (NET MWE): NONE
10. REASONS FOR RESTRICTION IF ANY:

	THIS MONTH	YR TO DATE	CUMUL YTD
11. HOURS IN REPORTING PERIOD	744.0	5331.0	21521.7
12. NUMBER OF HOURS REACTOR WAS CRITICAL	722.3	3177.1	15417.7
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	1547.1
14. HOURS GENERATOR ON LINE	700.9	3005.6	14555.7
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MMB)	1419400.7	6198352.9	30145274.1
17. GROSS ELECTRICAL ENERGY GENERATED (MMH)	477437.0	2065642.0	9993712.7
18. NET ELECTRICAL ENERGY GENERATED (MMH)	459924.0	1262642.0	9521212.8
19. UNIT SERVICE FACTOR	94.2	51.5	57.3
20. UNIT AVAILABILITY FACTOR	94.2	51.5	57.5
21. UNIT CAPACITY FACTOR (USING MDC NET)	78.3	43.0	55.6
22. UNIT CAPACITY FACTOR (USING DER NET)	75.3	41.4	54.4
23. UNIT FORCED OUTAGE RATE	5.8	6.0	22.5
24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH)			

Snubber Inspection 790907 168 Hours

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF START UP: 07/07/80
26. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): FORECAST
- INITIAL CRITICALITY
- INITIAL ELECTRICITY
- COMMERCIAL OPERATION

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 050-0325

UNIT NAME Brunswick #1

DATE September 1979

COMPLETED BY Eulis A. Willis

TELEPHONE (919) 457-9521

REPORT MONTH August 1979

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
015	790804	F	15.3	A	3	N/A	HB	VALVEX	Reactor scram was caused by a turbine control valve failing shut, causing a pressure spike and APRM increase. A LVDT (linear variable differential transformer) rod had come loose on No. 4 control valve causing a loss of position feedback thus causing it to go shut. The LVDT rod was screwed back into the spring plate. A surveillance was initiated on each shift to assure that the rod remained tight during operation.

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 I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979DOCKET NO. 050-0325UNIT NAME Brunswick #1DATE September 1979COMPLETED BY Eulis A. WillisTELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
016	790809	F	15.9	A	3	N/A	HB	VALVEX	Reactor scram was caused by a turbine control valve failing shut, causing a pressure spike and APRM increase. A LVDT (linear variable differential transformer) rod had come loose on No. 4 control valve causing a loss of position feedback thus causing it to go shut. The LVDT rod was tightened and then tack-welded in place. The LVDT rods on the other three control valves were also tack-welded to prevent loosening. The Unit No. 2 control valve LVDT rods were checked and no problems were found.

¹
F: Forced
S: Scheduled

²
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)

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

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

⁵
Exhibit I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979

DOCKET NO. 050-0325
 UNIT NAME Brunswick #1
 DATE September 1979
 COMPLETED BY Eulis A. Willis
 TELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
017	790819	F	12.0	B	3	N/A	ID	INSTRU	A reactor scram occurred when a technician placed level instrument B21-LITS-N037 in service following PT 3.1.5 on the instrument. The scram occurred when the low side root valve was opened apparently causing pressure perturbations through the instrument diaphragm and to the reference leg level instruments B21-LS-N017C and D. No procedural or personnel error occurred. A plant modification which adds additional instrument reference legs will be installed during the 1980 refueling outage. On both units these additional reference legs will prevent instruments in both trip systems from receiving perturbations at the same time. A plant modification which replaces the existing instruments with

¹
 F: Forced
 S: Scheduled

²
 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)

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 I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979

LOCKET NO. 050-0325
UNIT NAME Brunswick #1
DATE September 1979
COMPLETED BY Eulis A. Willis
TELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
017 (Cont'd)									analog instruments will be installed during the 1980 refueling outages on both units. This will allow functional checks without valve manipulations. All future periodic tests on instruments which share reference legs with reactor level instruments will have a jumper installed on one reactor vessel level channel in one trip system to prevent inadvertent scram.

¹
F: Forced
S: Scheduled

²
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)

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 I - Same Source

APPENDIX

Docket No. 050-0325
Unit Brunswick No. 1
Date September 1979
Completed By Eulis A. Willis

OPERATIONS SUMMARY

Brunswick No. 1

Brunswick Unit No. 1 operated at a 78.3% capacity factor for the month of August. The following power changes and shutdowns occurred during the month:

- August 4 Reactor scram caused by a turbine control valve failing shut, causing a pressure spike and APRM increase.
- August 9 Reactor scram because of same reasons as on August 4.
- August 19 Reactor scram apparently because of pressure perturbations through an instrument diaphragm while a technician was performing a periodic test.

For more information on the individual outages, see the Unit Shutdowns and Power Reductions Log for the month of August.

Availability factor for the month was 94.2%.

There are 154 PWR spent fuel assemblies and 320 BWR spent fuel assemblies stored in the BSEP #1 spent fuel pool.

APPENDIX B
AVERAGE DAILY POWER LEVEL

DOCKET NO. 050-0324
UNIT BRUNSWICK UNIT 2
DATE 09/04/79
COMPLETED BY EULIS WILLIS
TELEPHONE 919-457-9521

AUGUST 79				
DAY	AVG. DAILY POWER LEVEL (MWE-NET)		DAY	AVG. DAILY POWER LEVEL (MWE-NET)
1	0.		17	666.
2	0.		18	275.
3	195.		19	514.
4	491.		20	709.
5	614.		21	726.
6	589.		22	552.
7	210.		23	510.
8	204.		24	715.
9	322.		25	739.
10	548.		26	738.
11	670.		27	739.
12	743.		28	737.
13	544.		29	732.
14	735.		30	733.
15	736.		31	640.
16	736.			

OPERATING DATA REPORT

DOCKET NO. 060-0324

DATE 09/04/79

COMPLETED BY EULIS MILLIS

TELEPHONE 919-457-9521

OPERATING STATUS

1. UNIT NAME: BROOKSHICK UNIT 2
2. REPORTING PERIOD: AUGUST 79
3. LICENSED THERMAL POWER (NET): 2436
4. MAX PLANT RATING (GROSS NET): 867.0
5. DESIGN ELECTRICAL RATING (NET MWE): 821.0
6. MAX DEPENDABLE CAPACITY (GROSS NET): 815.0
7. MAX DEPENDABLE CAPACITY (NET MWE): 790.0
8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS 3 THRU 7) SINCE LAST REPORT, GIVE REASONS:

NOTES

9. POWER LEVEL TO WHICH RESTRICTED IF ANY (NET MWE): NONE
- REASONS FOR RESTRICTION IF ANY:

	THIS MONTH	YR TO DATE	CUMULATIVE
11. HOURS IN REPORTING PERIOD	744.0	5631.0	33832.0
12. NUMBER OF HOURS REACTOR WAS CRITICAL	722.3	3442.7	22777.9
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON LINE	488.3	3229.4	21757.7
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MMBtu)	1293212.0	6745721.0	33493112.1
17. GROSS ELECTRICAL ENERGY GENERATED (MMWh)	425816.0	2734101.0	12490377.0
18. NET ELECTRICAL ENERGY GENERATED (MMWh)	408848.0	1946453.0	12354347.0
19. UNIT SERVICE FACTOR	92.5	55.4	63.7
20. UNIT AVAILABILITY FACTOR	92.5	55.4	63.7
21. UNIT CAPACITY FACTOR (USING MDC NET)	69.6	42.3	45.5
22. UNIT CAPACITY FACTOR (USING DER NET)	66.9	40.7	44.3
23. UNIT FORCED OUTAGE RATE	7.5	5.8	13.0
24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH)	Refueling: 800209; 1680 Hours.		

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF START UP: 7/6/79
26. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): FORECAST ACQUIRED

INITIAL CRITICALITY

INITIAL ELECTRICITY

COMMERCIAL OPERATION

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979

DOCKET NO. 050-0324
 UNIT NAME Brunswick #2
 DATE September 1979
 COMPLETED BY Eulis A. Willis
 TELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
013	790801	F	55.5	A	3	N/A	HF	CKBRK	Two circulating water intake pumps tripped followed by a turbine trip on low vacuum and a reactor scram. The cause of the pump trip was a leak in circ. water outlet piping spraying on the electrical connection box that contains part of the circuit for tripping the circ. water pumps. (The flood status circuit for the condenser circ. water inlet pit Hi was sprayed by the water.) Extended shutdown was due to HPCI F001 valve motor having burned up on 7-21-79 and still had not been received on site. Before an increase >113 psi could be made, this valve had to be repaired per technical specifications. Hi flood level trip of circ. water intake pumps is presently bypassed. The electrical connection box

¹
 F: Forced
 S: Scheduled

²
 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)

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 I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979

DOCKET NO. 050-0324
 UNIT NAME Brunswick #2
 DATE September 1979
 COMPLETED BY Eulis A. Willis
 TELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
013	(Cont'd)								which contains the high water level trip terminals is to be relocated and rewired prior to putting trip circuit in operation during an available outage. The circ. water outlet pipe was temporarily repaired by welding a plate over the hole. An interim fix will be made during the next outage by welding a plate on the inside of the pipe over the corroded area. For long-term fix, the outlet circ. water pipe will be fiberglass coated after removing the existing cement lining.

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 I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August 1979

DOCKET NO. 050-0324
 UNIT NAME Brunswick #2
 DATE September 1979
 COMPLETED BY Eulis A. Willis
 TELEPHONE (919) 457-9521

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
014	790831	S	.2	D	2	N/A	ZZ	SUPPORT	Separated from grid for pipe support inspections and modifications. Snubber inspection was per Technical Specification 3/4.7.5.

¹
 F: Forced
 S: Scheduled

²
 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)

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 I - Same Source

(9/77)

APPENDIX

Docket No. 050-0324
Unit Brunswick No. 2
Date September 1979
Completed By Eulis A. Willis

OPERATIONS SUMMARY

Brunswick No. 2

Brunswick Unit No. 2 operated at a 69.6% capacity factor for the month of August. The following changes and shutdowns occurred during the month:

- July 31 Water spraying on an electrical connection box caused a circulating water intake pump trip and a subsequent reactor scram.
- August 6 Reactor power was reduced for approximately 57.5 hours to clean debris filters.
- August 13 Reduced power because of high reactor water conductivity.
- August 17 Reduced power for condenser work and to repair a leak on second stage reheat drain tank manway.
- August 31 Unit separated from grid for pipe support inspections.

Monthly availability factor was 92.5%. The unit is expected back on line September 5.

There are 132 BWR spent fuel assemblies and 56 PWR spent fuel assemblies stored in the BSEP #2 spent fuel pool.