

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION
P. O. BOX A
SANATOGA, PENNSYLVANIA 19464
(215) 327-1200, EXT. 3000

GRAHAM M. LEITCH
VICE PRESIDENT
LIMERICK GENERATING STATION

January 9, 1991

Docket Nos. 50-352
50-353
License Nos. NPF-39
NPF-85

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Limerick Generating Station Monthly Operating Report For
Units 1 and 2

Enclosed are the monthly operating reports for Limerick Units
1 and 2 for the month of December, 1990 forwarded pursuant to
Technical Specification 6.9.1.6.

Very truly yours,



KWM/dms

Enclosure

cc: T. T. Martin, Administrator, Region I, USNRC
T. J. [unclear], USNRC Senior Resident Inspector

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PDR ADOCK 05000352
R PDR



Docket No. #50-352
Attachment to Monthly
Operating Report for
December 1990

LIMERICK GENERATING STATION
UNIT 1
DECEMBER 1 THROUGH DECEMBER 31, 1990

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 1 began the month of December in Cold Shutdown. Unit 1 startup commenced on December 6 at 0500 hours, and reactor criticality was achieved at 0652 hours. During the startup, the '1B' Residual Heat Removal Service Water (RHRSW) heat exchanger outlet valve was found to be inoperable. On December 9, at 1744 hours Unit 1 Reactor was shutdown from a nominal 7% of rated thermal power to comply with the Technical Specifications. On December 14, following repairs to the RHRSW valve, Unit 1 entered startup and power ascension. Following startup testing, the main turbine-generator was synchronized to the grid on December 17 at 0026 hours. Several hours later the turbine was tripped due to a main generator stator water cooling leak. The reactor remained critical with main steam bypassed to the condenser. The leak was repaired and the turbine placed back in service for trip testing. Following turbine trip testing, the turbine-generator was re-synchronized with the grid later that day. Limerick Unit 1 ended the month of December at a nominal 100% of rated thermal power except for a load drop to 85% for a Control Rod Pattern Adjustment and Main Turbine Control Valve testing on December 28.

Operational events that occurred during the month of December included:

- On December 2 with startup preparations in progress, a Reactor Protection System (RPS) actuation occurred due to an unexpected Main Turbine low condenser vacuum trip concurrent with performance of the Main Turbine Stop Valve RPS Surveillance Test. The vacuum trip occurred during vacuum pull when vacuum reached the trip/reset point. The trip is automatically armed at the reset point. Due to the sensitivity of the sensors, the logic generated reset and trip signals, resulting in a turbine trip. A 4 hour notification was made for an ESF actuation.

II. CHALLENGES TO THE MAIN STEAM SAFETY RELIEF VALVES

There were no challenges to the Main Steam Safety Relief Valves during the month of December.

AVERAGE DAILY UNIT POWER LEVEL

3917008870

DOCKET NO. 50 - 352

UNIT LIMERICK UNIT 1

DATE JANUARY 1, 1991

COMPANY PHILADELPHIA ELECTRIC COMPANY

KARL MECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION

TELEPHONE (215) 327-1200 EXTENSION 3320

MONTH DECEMBER 1990

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	0	17	59
2	0	18	127
3	0	19	128
4	0	20	558
5	0	21	886
6	0	22	1010
7	0	23	1019
8	0	24	1040
9	0	25	1045
10	0	26	1047
11	0	27	1048
12	0	28	1033
13	0	29	1047
14	0	30	1037
15	0	31	1043
16	0		

DOCKET NO. 50 - 352
 DATE JANUARY 1, 1991
 COMPLETED BY PHILADELPHIA ELECTRIC COMPANY
 KARL MECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION
 TELEPHONE (215) 327-1200 EXTENSION 3320

OPERATING STATUS

1. UNIT NAME: LIMERICK UNIT 1
 2. REPORTING PERIOD: DECEMBER, 1990
 3. LICENSED THERMAL POWER (MWT): 3293
 4. NAMEPLATE RATING (GROSS MWE): 1138
 5. DESIGN ELECTRICAL RATING (NET MWE): 1055
 6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWE): 1092
 7. MAXIMUM DEPENDABLE CAPACITY (NET MWE): 1055

NOTES: 3RD REFUEL OUTAGE ENDED
 DECEMBER 17, 1990. THERE
 WERE TWO TURBINE TRIPS
 THIS REPORT PERIOD.

8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS NUMBER 3 THROUGH 7) SINCE LAST REPORT, GIVE REASONS.

9. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWE):

10. REASONS FOR RESTRICTIONS, IF ANY:

	THIS MONTH	YR-TO-DATE	CUMULATIVE
11. HOURS IN REPORTING PERIOD	744	8,760	43,080
12. NUMBER OF HOURS REACTOR WAS CRITICAL	492.6	6,002.8	33,131.6
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	351.6	5,725.4	32,397.0
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	948,014	18,118,672	96,082,132
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	303,343	5,859,330	31,045,900
18. NET ELECTRICAL ENERGY GENERATED (MWH)	287,413	5,621,211	29,677,607

	DATE JANUARY 1, 1991		
	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	47.3	65.1	75.2
20. UNIT AVAILABILITY FACTOR	47.3	65.4	75.2
21. UNIT CAPACITY FACTOR (USING MDC NET)	36.6	60.8	65.3
22. UNIT CAPACITY FACTOR (USING DER NET)	36.6	60.8	65.3
23. UNIT FORCED OUTAGE RATE	34.1	6.2	3.5

24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:

26. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION)	FORECAST	ACHIEVED
INITIAL CRITICALITY	12/19/84	12/22/84
INITIAL ELECTRICITY	MID APRIL 85	4/13/85
COMMERCIAL OPERATION	1ST QTR 86	2/01/86

UNIT NAME LIMERICK UNIT 1

DATE JANUARY 7, 1991

REPORT MONTH DECEMBER, 1990

COMPLETED BY PHILADELPHIA ELECTRIC COMPANY

KARL WECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION
 TELEPHONE (215) 927-1200 EXTENSION 3320

NO.	DATE	TYPE (1)	DURATION (HOURS) (2)	REASON (3)	METHOD OF SHUTTING DOWN REACTOR (3)	LICENSEE EVENT REPORT #	SYSTEM CODE (4)	COMPONENT CODE (5)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRANCE
35	901201	S	126.9	C	2	N/A	ZZ	ZZZZZ	UNIT IN REFUELING OUTAGE
36	901206	S	082.9	C	4	N/A	ZZ	ZZZZZ	UNIT IN STARTUP
37	901209	F	174.7	A	2	1-90-034	WA	VALVEK	RH. SERVICE WATER HEAT EXCHANGER OUTLET VALVE FAILURE REQUIRED SHUTDOWN FOR REPAIRS.
38	901217	F	007.2	A	4	N/A	HJ	MTECH	TURBINE WAS TRIPPED FOLLOWING DISCOVERY OF A MAIN GENERATOR STATOR WATER COOLING LEAK. REACTOR POWER WAS MAINTAINED AT 20%.
39	901217	S	006.7	B	4	N/A	ZZ	ZZZZZ	TURBINE WAS TRIPPED FOR TESTING. REACTOR POWER WAS MAINTAINED AT 20%.
40	901228	S	000.0	F	4	N/A	ZZ	ZZZZZ	LOAD WAS REDUCED 15% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT AND MAIN TURBINE CONTROL VALVE TESTING.

(1)

(2)

(3)

(4)

F - FORCED
 S - SCHEDULED

REASON
 A - EQUIPMENT FAILURE (EXPLAIN)
 B - MAINTENANCE OR TEST
 C - REFUELING
 D - REGULATOR RESTRICTION
 E - OPERATOR TRAINING + LICENSE EXAMINATION
 F - ADMINISTRATIVE
 G - OPERATIONAL ERROR (EXPLAIN)
 H - OTHER (EXPLAIN)

METHOD
 1 - MANUAL
 2 - MANUAL SCRAM
 3 - AUTOMATIC SCRAM
 4 - OTHER (EXPLAIN)

EXHIBIT G - INSTRUCTIONS FOR PREPARATION OF DATA ENTRY SHEETS FOR LICENSEE EVENT REPORT (LER) FILE (NUREG-0161)

(5)

EXHIBIT I - SAME SOURCE

Docket No. #50-353
Attachment to Monthly
Operating Report for
December 1990

LIMERICK GENERATING STATION
UNIT 2
DECEMBER 1 THROUGH DECEMBER 31, 1990

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 2 began the month of December at a nominal 100% of rated thermal power. On December 1, reactor power was reduced to 87% to repair an electro-hydraulic control (EHC) fluid leak on the #4 Main Turbine Control Valve. On December 7, reactor power was reduced to 86% to perform a control rod pattern adjustment. On December 14, reactor power was reduced to 85% to support repairs of an EHC fluid leak on the #4 Main Turbine Control Valve. On December 15, power was reduced an additional 5% to 80% to reduce EHC piping vibration. After discovering that the EHC leak repair was not holding, on December 19, Unit 2 reactor power was reduced to a nominal 15% of rated thermal power and the main turbine was taken off line. This allowed a small section of EHC piping to be replaced. The main turbine-generator was synchronized to the grid at 2010 hours on December 21. On December 23, Unit 2 reactor power was restored to 100% of rated thermal and then reduced briefly to 87% to perform a control rod pattern adjustment. On December 30, reactor power was briefly reduced to 90% to perform a Main Turbine Control valve exercise test.

II. CHALLENGES TO MAIN STEAM SAFETY RELIEF VALVES

There were no challenges to the Main Steam Safety Relief Valves during the month of December.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50 - 353
 UNIT LIMERIC UNIT 2
 DATE JANUARY 1, 1991
 COMPANY PHILADELPHIA ELECTRIC COMPANY
 KARL MECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERIC GENERATING STATION
 TELEPHONE (215) 327-1200 EXTENSION 3320

MONTH DECEMBER 1990

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	1033	17	828
2	1039	18	823
3	1044	19	720
4	1040	20	0
5	1044	21	16
6	1043	22	529
7	1038	23	1012
8	1048	24	1052
9	1040	25	1058
10	1047	26	1059
11	1051	27	1058
12	1052	28	1061
13	1050	29	1052
14	1037	30	1039
15	848	31	1051
16	831		

DOCKET NO. 50 - 353
 DATE JANUARY 1, 1991
 COMPLETED BY PHILADELPHIA ELECTRIC COMPANY
 KARL MECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION
 TELEPHONE (215) 327-1200 EXTENSION 3320

OPERATING STATUS

- 1. UNIT NAME: LIMERICK UNIT 2
- 2. REPORTING PERIOD: DECEMBER, 1990
- 3. LICENSED THERMAL POWER (MW): 3293
- 4. NAMEPLATE RATING (GROSS MWE): 1138
- 5. DESIGN ELECTRICAL RATING (NET MWE): 1055
- 6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWE): 1092
- 7. MAXIMUM DEPENDABLE CAPACITY (NET MWE): 1055

NOTES: MAIN TURBINE-GENERATOR
 WAS TRIPPED DUE TO AN EHC
 PIPING LEAK.

8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS NUMBER 3 THROUGH 7) SINCE LAST REPORT, GIVE REASONS:

9. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWE):

10. REASONS FOR RESTRICTIONS, IF ANY:

	THIS MONTH	YR-TO-DATE	CUMULATIVE
11. HOURS IN REPORTING PERIOD	744	8,592	8,592
12. NUMBER OF HOURS REACTOR WAS CRITICAL	744.0	7,559.3	7,559.3
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	697.6	7,177.6	7,177.6
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	2,185,083	22,857,790	22,857,790
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	714,720	7,523,016	7,523,016
18. NET ELECTRICAL ENERGY GENERATED (MWH)	687,159	7,232,596	7,232,596

	DATE	JANUARY 1, 1991	
	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	92.8	83.5	83.5
20. UNIT AVAILABILITY FACTOR	93.8	83.5	83.5
21. UNIT CAPACITY FACTOR (USING MDC NET)	87.5	79.8	79.8
22. UNIT CAPACITY FACTOR (USING DER NET)	87.5	79.8	79.8
23. UNIT FORCED OUTAGE RATE	6.2	10.5	10.5

24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):
 REFUELING OUTAGE: MARCH 22, 1991; 75 DAYS

25. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:

26. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION):	FORECAST	ACHIEVED
INITIAL CRITICALITY	08/12/89	08/12/89
INITIAL ELECTRICITY	09/01/89	09/01/89
COMMERCIAL OPERATION	02/01/90	01/08/90

UNIT NAME LIMERICK UNIT 2
 DATE JANUARY 1, 1991
 COMPLETED BY PHILADELPHIA ELECTRIC COMPANY
 KARL WECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION
 TELEPHONE (215) 327-1200 EXTENSION 3320

REPORT MONTH DECEMBER, 1990

NO.	DATE	TYPE (1)	DURATION (HOURS)	REASON (2)	METHOD OF SHUTTING DOWN REACTOR (3)	LICENSEE EVENT REPORT #	SYSTEM CODE (4)	COMPONENT CODE (5)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE	
38	901201	F	000.0	A	4	N/A	HA	PIPEXX	LOAD WAS REDUCED 13% TO REPAIR AN EHC PIPING LEAK.	
39	901207	S	000.0	F	4	N/A	ZZ	ZZZZZZ	LOAD WAS REDUCED 14% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT.	
40	901214	F	000.0	A	4	N/A	HA	PIPEXX	LOAD WAS REDUCED 15% DUE TO AN EHC PIPING LEAK.	
41	901215	F	000.0	A	4	N/A	HA	PIPEXX	LOAD WAS FURTHER REDUCED 5% TO MINIMIZE VIBRATION ON EHC PIPING.	
42	901219	F	046.4	A	4	N/A	HA	PIPEXX	TURBINE WAS TRIPPED DUE TO AN EHC PIPING LEAK. REACTOR POWER WAS MAINTAINED AT 15% WITH STEAM BYPASSED TO THE CONDENSER	
43	901223	S	000.0	F	4	N/A	ZZ	ZZZZZZ	LOAD WAS REDUCED 13% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT	
44	901230	S	000.0	F	4	N/A	ZZ	ZZZZZZ	LOAD WAS REDUCED 10% TO PERFORM A MAIN TURBINE CONTROL VALVE EXERCISE TEST	
			46.4							

(1) REASON
 F - FORCED
 S - SCHEDULED

(2)

(3)

(4)

(5)

METHOD
 1 - MANUAL
 2 - MANUAL SCRAM
 3 - AUTOMATIC SCRAM
 4 - OTHER (EXPLAIN)

EXHIBIT G - INSTRUCTIONS FOR PREPARATION OF DATA ENTRY SHEETS FOR LICENSEE EVENT REPORT (LER) FILE (NUREG-0161)

EXHIBIT I - SAME SOURCE