

PHILADELPHIA ELECTRIC COMPANY

3917022950

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

GRAHAM M. LEITCH  
VICE PRESIDENT  
LIMERICK GENERATING STATION

February 11, 1991

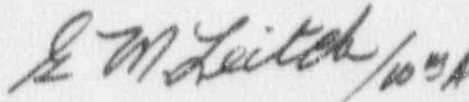
Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

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 January, 1991 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. Kenny, USNRC Senior Resident Inspector

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Docket No. #50-352  
Attachment to Monthly  
Operating Report for  
January 1991

LIMERICK GENERATING STATION  
UNIT 1  
JANUARY 1 THROUGH JANUARY 31, 1991

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 1 began the month of January at 100% of rated thermal power. Early on January 1, reactor power was reduced to 85% for approximately 8 hours in order to facilitate the precoating of condensate filter demineralizers. On January 3, reactor power was reduced to 84% to perform main turbine control valve, stop valve testing and a control rod pattern adjustment. A leaking O-ring on an electro-hydraulic control (EHC) fluid pump was also repaired at this time and work was completed on the condensate filter demineralizers with a return to 100% on January 4. On January 8, a loss of secondary containment integrity required operators to decrease reactor power to 65%. During increase in power on January 8, following restoration of secondary containment, an EHC fluid leak was discovered at an EHC pressure test connection. The main turbine-generator was taken off-line shortly thereafter. The leak was repaired and the turbine-generator was synchronized to the grid approximately four hours after being taken off-line, 100% power was achieved on January 10. On January 12, reactor power was reduced briefly to 80% to perform a control rod pattern adjustment. On January 19, reactor power was reduced briefly to 86% for main turbine control valve and stop valve testing. On January 22, an electrical fault resulted in a 75% recirculation pump runback and a reactor power decrease to 75%. On January 23, following recovery from the electrical fault a reactor feed pump controller failure resulted in a recirculation pump runback on low reactor vessel level and reactor power was decreased to 75%, 100% power was achieved on January 26. On January 28 reactor power was briefly reduced to 98% to perform a control rod exercise test. Limerick Unit 1 ended the month of January at a nominal 100% of rated thermal power.

Operational events that occurred during the month of January included:

- On January 7 while attempting to restart normal Reactor Enclosure (RE) HVAC following testing, the "1A" RE supply fan failed to trip automatically when all the exhaust fans tripped. The fan breaker was manually tripped. The HVAC transient resulted in a positive RE differential pressure and opening of a blowout panel. On January 8, a Unit 1 reactor shutdown was commenced to comply with the Secondary Containment Technical Specification shutdown action statement. A 1 hour NRC notification was made to report commencement of a shutdown required by Technical Specifications. The Unit 1 reactor shutdown was terminated at 65% power following repairs to the blowout panel.
- On January 22, a fault on the #135 circuit breaker in the 500 kV yard resulted in a voltage transient on the 201 safeguard bus. The condensate reject valve failed open on a loss of power causing a reactor level transient and reactor recirculation pump runback. The plant was stabilized at 75% power. Power was restored to 100% on January 23.
- On January 23, the "1A" reactor feed pump controller output signal drifted down to approximately 20% demand. The resulting reactor vessel level transient caused a reactor recirculation runback signal. The Reactor Operator immediately took manual control of the "1A" reactor feed pump controller. The plant was stabilized at 75% power. Power was restored to 100% on January 26. The feed pump control problem was traced to a failed card which was subsequently replaced.

II. Challenges to Main Steam Safety Relief Valves

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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50 - 352

UNIT LIMERICK UNIT 1

DATE FEBRUARY 4, 1991

COMPANY PHILADELPHIA ELECTRIC COMPANY

KARL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION

TELEPHONE (215) 327-1200 EXTENSION 3320

3917022950

MONTH JANUARY 1991

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	992	17	1044
2	1045	18	1049
3	898	19	1041
4	1026	20	1045
5	1046	21	1047
6	1045	22	956
7	1047	23	980
8	570	24	859
9	543	25	914
10	938	26	1041
11	1032	27	1046
12	1020	28	1041
13	1048	29	1044
14	1043	30	1041
15	1042	31	1043
16	1049		

OPERATING DATA REPORT

3917022950

DOCKET NO. 50 - 352  
 DATE FEBRUARY 4, 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: JANUARY, 1991
- 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: THERE WAS ONE TURBINE TRIP  
 THIS REPORT PERIOD DUE TO  
 AN EHC LEAK AND THERE WERE  
 THREE LOAD REDUCTIONS  
 GREATER THAN 20%.

- 8. IF CHANGES OCCUR IN CAPACITY RATINGS (ITEMS NUMBER 2 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	744	43,824
12. NUMBER OF HOURS REACTOR WAS CRITICAL	744.0	744.0	33,875.6
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	740.0	740.0	33,137.0
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	2,319,847	2,319,847	98,201,979
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	761,710	761,760	31,807,660
18. NET ELECTRICAL ENERGY GENERATED (MWH)	733,774	732,774	30,411,381



3917022950.

DATE FEBRUARY 4, 1991

	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	99.5	99.5	75.6
20. UNIT AVAILABILITY FACTOR	99.5	99.5	75.6
21. UNIT CAPACITY FACTOR (USING MDC NET)	93.5	93.5	65.8
22. UNIT CAPACITY FACTOR (USING DER NET)	93.5	93.5	65.8
23. UNIT FORCED OUTAGE RATE	0.5	0.5	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 SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50 - 352

REPORT MONTH: JANUARY, 1991

UNIT NAME: LIMERICK UNIT 1

DATE: FEBRUARY 4, 1991

COMPLETED BY: PHILADELPHIA ELECTRIC COMPANY

3917022950

KARL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION  
 TELEPHONE (215) 327-1200 EXTENSION 3320

NO.	DATE	TYPE (1)	DURATION (HOURS) (2)	REASON (2)	METHOD OF SHUTTING DOWN REACTOR (3)	LICENSEE EVENT REPORT #	SYSTEM CODE (4)	COMPONENT CODE (5)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
1	910101	F	000.0	F	4	N/A	WC	DEM1NX	LOAD WAS REDUCED 15% TO PERFORM REGENERATION OF THE CONDENSATE FILTER DEMINERALIZERS.
2	910103	S	000.0	B	4	N/A	CC	VALVEX	LOAD WAS REDUCED 16% TO PERFORM MAIN TURBINE CONTROL VALVE TESTING. CONTROL ROD PATTERN ADJUSTMENTS AND CONDENSATE FILTER DEMINERALIZER REGENERATION.
3	910111	F	000.0	D	4	1-91-001	SD	PENERA	LOAD WAS REDUCED 35% DUE TO LOSS OF SECONDARY CONTAINMENT WHEN A BLOWOUT PANEL RUPTURED.
4	910108	F	004.0	A	2	N/A	H6	PIPEXN	LOAD WAS REDUCED TO 24% DUE TO AN EHC LEAK. THE MAIN TURBINE WAS TRIPPED AND THE REACTOR REMAINED AT 18% IN BYPASS.
5	910112	S	000.0	F	4	N/A	RB	CONROD	LOAD WAS REDUCED 20% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT.
6	910119	S	000.0	A	3	N/A	CC	VALVEX	LOAD WAS REDUCED 14% TO PERFORM MAIN TURBINE CONTROL VALVE TESTING.

(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

DOCKET NO. 50 - 352

UNIT NAME LIMERICK UNIT 1

DATE FEBRUARY 4, 1991

3917022950

REPORT MONTH JANUARY, 1991

COMPLETED BY PHILADELPHIA ELECTRIC COMPANY

KARL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION  
 TELEPHONE (215) 327-1200 EXTENSION 3320

NO.	DATE	TYPE (1)	DURATION (HOURS) (2)	REASON (2)	METHOD OF SHUTTING DOWN REACTOR (3)	LICENSEE EVENT REPORT #	SYSTEM CODE (4)	COMPONENT CODE (5)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
7	910122	F	000.0	A	4	N/A	EA	ELECON	LOAD WAS REDUCED 25% DUE TO A 500KV BREAKER FAILURE COINCIDENT WITH REACTOR FEED PUMP CONTROL PROBLEMS.
8	910123	F	000.0 ----- 4.0	A	4	N/A	CH	INSTRU	LOAD WAS REDUCED 25% DUE TO A REACTOR FEED PUMP CONTROL PROBLEM.

(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

3917022950

Docket No. #50-353  
Attachment to Monthly  
Operating Report for  
January 1991

LIMERICK GENERATING STATION  
UNIT 2  
JANUARY 1 THROUGH JANUARY 31, 1991

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 2 began the month of January at 100% of rated thermal power. Reactor power was briefly reduced by less than 15% to perform control rod pattern adjustments on January 4, 11, and 18 respectively. On January 25, reactor power was reduced to 90% to perform a Main Turbine Control Valve test. On January 30, the turbine-generator was taken off-line due to an EHC fluid leak discovered at the #2 main turbine control valve servo with reactor power maintained at 17%. Repairs were completed approximately nine hours later and the main turbine generator resynchronized to the grid at 1410 hours on January 30. Early on January 31, 100% power was achieved and the unit ended the month at a nominal 100% or rated thermal power.

II. CHALLENGES TO MAIN STEAM SAFETY RELIEF VALVES

There were no challenges to the Main Steam Safety Relief Valves during January.



3917022950

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO 50 - 353  
 UNIT LIMERICK UNIT 2  
 DATE FEBRUARY 4, 1991  
 COMPANY PHILADELPHIA ELECTRIC COMPANY  
 KAPL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION  
 TELEPHONE (215) 327-1200 EXTENSION 3320

MONTH JANUARY 1991

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	1060	17	1051
2	1058	18	1054
3	1057	19	1055
4	1053	20	1054
5	1055	21	1056
6	1056	22	1058
7	1053	23	1064
8	1054	24	1055
9	1057	25	1046
10	1055	26	1057
11	1049	27	1055
12	1059	28	1055
13	1058	29	1059
14	1053	30	952
15	1052	31	1034
16	1056		

OPERATING DATA REPORT

DOCKET NO. 50 - 353

DATE FEBRUARY 4, 1991

COMPLETED BY PHILADELPHIA ELECTRIC COMPANY

KARL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION  
 TELEPHONE (215) 327-1200 EXTENSION 3320

3917022950

OPERATING STATUS

- 1. UNIT NAME: LIMERICK UNIT 2
- 2. REPORTING PERIOD: JANUARY, 1991
- 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: 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	744	8,336
12. NUMBER OF HOURS REACTOR WAS CRITICAL	744.0	744.0	8,303.3
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	734.7	734.7	7,812.3
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	2,399,424	2,399,424	25,257,214
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	793,470	793,470	8,316,486
18. NET ELECTRICAL ENERGY GENERATED (MWH)	767,984	767,984	8,600,580

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	DATE FEBRUARY 4, 1991		
	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	98.7	98.7	84.8
20. UNIT AVAILABILITY FACTOR	98.7	98.7	84.8
21. UNIT CAPACITY FACTOR (USING MDC NET)	97.8	97.8	81.2
22. UNIT CAPACITY FACTOR (USING DER NET)	97.8	97.8	81.2
23. UNIT FORCED OUTAGE RATE	1.3	1.3	5.7

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

DOCKET NO. 50 - 353

3917022950

UNIT NAME LIMERICK UNIT 2

DATE FEBRUARY 4, 1991

REPORT MONTH: JANUARY, 1991

COMPLETED BY PHILADELPHIA ELECTRIC COMPANY

KARL MECK  
 REPORTS SUPERVISOR  
 BUSINESS UNIT  
 LIMERICK GENERATING STATION  
 TELEPHONE (215) 327-1200 EXTENSION 3320

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
1	9/10/04	S	000.0	F	4	N/A	RB	CONROD	LOAD WAS REDUCED 10% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT.
2	9/10/11	S	000.0	F	4	N/A	RB	CONROD	LOAD WAS REDUCED 10% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT.
3	9/10/18	S	000.0	F	4	N/A	RB	CONROD	LOAD WAS REDUCED 15% TO PERFORM A CONTROL ROD PATTERN ADJUSTMENT.
4	9/10/25	S	000.0	B	4	N/A	CC	VALVE	LOAD WAS REDUCED 10% TO PERFORM MAIN TURBINE CONTROL VALVE TESTING
5	9/10/30	F	009.3	A	4	N/A	HA	PIPEXX	LOAD WAS REDUCED TO 21% DUE TO AN EHC LEAK. THE MAIN TURBINE WAS TRIPPED AND THE REACTOR REMAINED AT 18% IN BYPASS.

9.3

- (1)  
 F - FORCED  
 S - SCHEDULED
- (2)  
 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-D767)
- (5)  
 EXHIBIT I - SAME SOURCE