

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

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SANATOGA, PA 19464-2300

(215) 327-1200, EXT. 3000

DAVID R. HELWIG
VICE PRESIDENT
LIMERICK GENERATING STATION

April 13, 1993

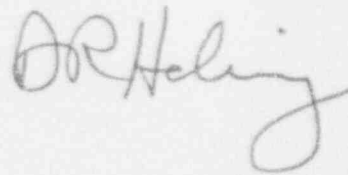
Docket Nos. 50-352
50-353
License Nos. NPF-39
NPF-85

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 March, 1993 forwarded pursuant to
Technical Specification 6.9.1.6.

Very truly yours,

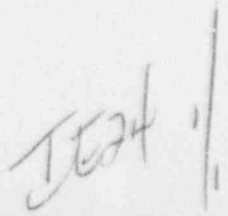


KWM/dtc

Enclosures

cc: T. T. Martin, Administrator, Region I, USNRC (w/enclosures)
N. S. Perry, USNRC Senior Resident Inspector LGS
(w/enclosures)

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PDR ADOCK 05000352
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LIMERICK GENERATING STATION
UNIT 1
MARCH 1 THROUGH MARCH 31, 1993

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 1 began the month of March at a nominal 100% of rated thermal power. On Sunday, March 12, at 0540 hours power was reduced to 68% of rated to perform scram time and main turbine control valve testing and a rod pattern adjustment. At 1211 hours power was restored to 100% of rated. At 1450 hours, power was reduced to 95% due to thermal limits concerns caused by erroneous TIP data obtained during LPRM calibrations. At 1715 hours, power was returned to 100% of rated thermal power. Unit 1 ended this operating period at 100% of rated thermal power.

Unit 1 occurrences during the operating period included:

At 1534 hours on March 28, Unit 1 entered Tech. Spec. 3.0.3 due to both trains of the Standby Gas Treatment System being inoperable. The "A" filter train was blocked to support the Unit 2 drywell purge and the "B" filter train became inoperable when the filter outlet valve was found in mid position and tripped on thermals. Tech. Spec. 3.0.3 was exited when the valve was reset and the "B" filter train was declared operable.

II. CHALLENGES TO MAIN STEAM SAFETY RELIEF VALVES

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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50 - 352

UNIT LIMERICK UNIT 1

DATE APRIL 10, 1993

COMPANY PHILADELPHIA ELECTRIC COMPANY

KARL MECK
REPORTS SUPERVISOR
BUSINESS UNIT
LIMERICK GENERATING STATION

TELEPHONE (215) 327-1200 EXTENSION 3320

MONTH MARCH 1993

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	1057	17	1048
2	1059	18	1059
3	1057	19	1101
4	1049	20	1018
5	1052	21	1055
6	1056	22	1061
7	1059	23	1049
8	1050	24	1056
9	1052	25	1057
10	1048	26	1054
11	1057	27	1039
12	978	28	1046
13	1046	29	1049
14	1066	30	1051
15	1034	31	1046
16	1056		

OPERATING DATA REPORT

DOCKET NO. 50 - 352

DATE APRIL 10, 1993

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: MARCH, 1993
 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: THERE WAS ONE LOAD DROP

GREATER THAN 20% DUE TO

SCRAM TIME, AND MAIN

TURBINE CONTROL VALVE

TESTING AND CONTROL ROD

PATTERN ADJUSTMENT.

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	2,160	62,784
12. NUMBER OF HOURS REACTOR WAS CRITICAL	744.0	2,160.0	49,709.2
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	744.0	2,160.0	48,718.2
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	2,442,523	7,090,517	148,823,982
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	809,730	2,352,210	48,328,350
18. NET ELECTRICAL ENERGY GENERATED (MWH)	781,536	2,269,185	46,309,702

 DATE APRIL 10, 1993

	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	100.0	100.0	77.6
20. UNIT AVAILABILITY FACTOR	100.0	100.0	77.6
21. UNIT CAPACITY FACTOR (USING MDC NET)	99.6	99.6	69.9
22. UNIT CAPACITY FACTOR (USING DER NET)	99.6	99.6	69.9
23. UNIT FORCED OUTAGE RATE	0.0	0.0	5.1
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

UNIT NAME LIMERICK UNIT 1

DATE APRIL 10, 1993

REPORT MONTH MARCH, 1993

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 (3)	METHOD OF SHUTTING DOWN REACTOR (4)	LICENSEE EVENT REPORT #	SYSTEM CODE (5)	COMPONENT CODE (6)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
4	930312	S	000.0	B	4	N/A	RB	CRDRVE	LOAD WAS REDUCED 32% FOR CONTROL ROD SCRAM TIME TESTING, MAIN TURBINE CONTROL VALVE TESTING AND CONTROL ROD PATTERN ADJUSTMENT
5	930312	F	000.0	B	4	N/A	RB	INSTRU	REACTOR POWER WAS REDUCED TO 95% DUE TO THERMAL LIMITS CONCERNS CAUSED BY ERRONEOUS TIP DATA OBTAINED DURING LPRM CALIBRATIONS

(1)

(2)

(3)

(4)

F - FORCED
 S - SCHEDULED

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)

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

LIMERICK GENERATING STATION
UNIT 2
MARCH 1 THROUGH MARCH 31, 1993

I. NARRATIVE SUMMARY OF OPERATING EXPERIENCES

Limerick Unit 2 began the month of March in Refuel, OPCIION 5, with reassembly in progress during the unit's second refueling outage. On March 3 at 1130 hours, Unit 2 entered OPCIION 4 with the RPV head fully tensioned. On March 13 at 1652 hours, the MODE switch was placed in start-up and Unit 2 entered OPCIION 2. By 2245 hours, the reactor was critical. On March 16 at 1410 hours OPCIION 1 was entered and at 2026 hours the generator was synchronized for the warming period prior to the overspeed test. At 2346 hours the generator was resynchronized following overspeed trip testing. At 0039 hours on March 17, the main turbine tripped due to a stator water cooling runback caused by a low flow to the generator bushings. The generator was synchronized at 0559 hours on the same day.

Unit 2 achieved 100% of rated thermal power on March 19. On March 20, power was reduced to 90% for a rod pattern adjustment. On March 21, power was reduced to 97% for a rod pattern adjustment.

On March 26 at 1343 hours, the Unit 2 reactor scrammed during turbine valve testing. On March 27 at 1250 hours, OPCIION 2 was entered and by 2118 hours the reactor was critical. On March 28 at 0731 hours the main turbine generator was synchronized to the grid and Unit 2 was returned to 100% of rated thermal power on March 29. On March 30, power was reduced to 90% for a rod pattern adjustment. Unit 2 ended the operating period at 100% of rated thermal power.

Unit 2 occurrences during the operating period included:

On March 3 an inadvertent start of D22 Diesel Generator occurred during performance of the D22 Loss of Power Logic System Functional Test. The cause of this event was misunderstood verbal communications, in that during the test, a member of the test team reported that the engine had been shutdown for 150 seconds and the engine could be reset. At 2000 hours, the test director believed that 101/D22 breaker had been tripped after seeing the operator manipulate 101/D22 breaker. Hearing that the engine could be reset, he gave direction to the test team member in the D22 Bay to reset the engine using the ENGINE SHUTDOWN/ RESET push button. This action skipped the step to place the 101/D22 breaker to Trip, which would have removed the LOOP signal from the D22 bus. As a consequence, the D22 Diesel Generator started.

At 1342 hours on March 26, 1993 the Unit 2 Main Turbine tripped during performance of the Main Turbine Stop and Combined Intermediate Valve (CIV) Exercise Test. The turbine trip resulted in a reactor scram. TRIP procedures and normal shutdown procedures were executed. The cause of the turbine trip was due to air entrapment in the Electro Hydraulic Control (EHC) system at a CIV. The presence of air in the EHC system led to a perturbation of the Emergency Trip System fluid, which resulted in the Turbine Stop Valves closing.

At 1534 on March 28, Unit 2 entered Tech. Spec. 3.0.3 due to both trains of the Standby Gas Treatment System being INOPERABLE. The "A" filter train was blocked to support the Unit 2 drywell purge and the "B" filter train became inoperable when the filter outlet valve was found in mid position and tripped on thermals. Tech. Spec. 3.0.3 was exited when the valve was reset and the "B" filter train was declared operable.

II. CHALLENGES TO MAIN STEAM SAFETY RELIEF VALVES

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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50 - 353

UNIT LIMERICK UNIT 2

DATE APRIL 10, 1993

COMPANY PHILADELPHIA ELECTRIC COMPANY

KARL MECK
REPORTS SUPERVISOR
BUSINESS UNIT
LIMERICK GENERATING STATION

TELEPHONE (215) 327-1200 EXTENSION 3320

MONTH MARCH 1993

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	0	17	106
2	0	18	559
3	0	19	1006
4	0	20	1062
5	0	21	1073
6	0	22	1077
7	0	23	1067
8	0	24	1074
9	0	25	1073
10	0	26	610
11	0	27	0
12	0	28	354
13	0	29	1043
14	0	30	1030
15	0	31	1064
16	4		

OPERATING DATA REPORT

DOCKET NO. 50 - 353

DATE APRIL 10, 1993

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: MARCH, 1993
 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: THE UNIT WAS IN A REFUEL

OUTAGE UNTIL MARCH 16TH.

THE TURBINE CAME OFF-LINE

3 TIMES DURING THE MONTH

TURBINE TRIP TESTING. STATOR

WATER COOLING LOW FLOW, AND

AIR ENTRAINED IN EHC SYSTEM.

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	2,160	28,296
12. NUMBER OF HOURS REACTOR WAS CRITICAL	401.7	801.8	24,042.6
13. REACTOR RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
14. HOURS GENERATOR ON-LINE	315.9	697.9	23,354.4
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	952,102	1,769,096	73,735,246
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	303,570	563,670	24,316,776
18. NET ELECTRICAL ENERGY GENERATED (MWH)	290,359	536,045	23,399,092

DATE APRIL 10, 1993

	THIS MONTH	YR-TO-DATE	CUMULATIVE
19. UNIT SERVICE FACTOR	42.5	32.3	82.5
20. UNIT AVAILABILITY FACTOR	42.5	32.3	82.5
21. UNIT CAPACITY FACTOR (USING MDC NET)	37.0	23.5	78.4
22. UNIT CAPACITY FACTOR (USING DER NET)	37.0	23.5	78.4
23. UNIT FORCED OUTAGE RATE	13.0	20.0	5.2
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	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

UNIT NAME LIMERICK UNIT 2

DATE APRIL 10, 1993

REPORT MONTH MARCH, 1993

COMPLETED BY PHILADELPHIA ELECTRIC COMPANY

KARL MECK
 REPORTS SUPERVISOR
 BUSINESS UNIT
 LIMERICK GENERATING STATION
 TELEPHONE (215) 327-1200 EXTENSION 332

NO.	DATE	TYPE (1)	DURATION (HOURS) (2)	REASON (3)	METHOD OF SHUTTING DOWN REACTOR (4)	LICENSEE EVENT REPORT #	SYSTEM CODE (5)	COMPONENT CODE (6)	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
3	930301	S	380.4	C	A	N/A	ZZ	ZZZZZZ	THE UNIT REMAINED IN THE SECOND REFUELING OUTAGE
4	930316	S	000.6	B	A	N/A	HA	TURBIN	THE MAIN TURBINE TRIP TEST WAS PERFORMED AND THE GENERATOR SYNCHRONIZED TO THE GRID
5	930317	F	005.3	A	A	N/A	WG	HTEXCH	THE MAIN TURBINE TRIPPED OFF-LINE DUE TO LOW FLOW IN THE STATOR WATER COOLING SYSTEM
7	930320	S	000.0	B	A	N/A	RB	CONROD	REACTOR POWER WAS REDUCED TO 90% TO PERFORM REACTOR CONTROL ROD PATTERN ADJUSTMENTS
8	930321	S	000.0	B	A	N/A	RB	CONROD	REACTOR POWER WAS REDUCED TO 97% TO PERFORM REACTOR CONTROL ROD PATTERN ADJUSTMENTS
8	930326	F	041.8	A	3	7-93-005	HA	TURBIN	THE UNIT AUTOMATICALLY SHUTDOWN DUE TO AIR ENTRAINED IN THE MAIN TURBINE ELECTRO HYDRAULIC CONTROL SYSTEM
9	930330	S	000.0	B	A	N/A	RB	CONROD	REACTOR POWER WAS REDUCED TO 90% TO PERFORM REACTOR CONTROL ROD PATTERN ADJUSTMENTS
			428.1						

(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