



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

MAR 03 1986

Docket No. 50-352

Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

SUBJECT: ISSUANCE OF AMENDMENT NO. 2 TO FACILITY OPERATING LICENSE NO. NPF-39,
LIMERICK GENERATING STATION, UNIT 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 2 to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. This amendment is in response to your letters dated December 18, 1985, January 29, February 5, February 25 and March 3, 1986. The amendment extends on a one-time-only basis the surveillance requirements in the Technical Specifications for containment isolation valves which must be performed nominally every eighteen or twenty-four months and which can be done only when the plant is shutdown. Your reason for this extension is that Limerick, Unit 1 has experienced an extended startup program schedule and has been shutdown for much of the first surveillance interval. Therefore you have requested a temporary extension of twelve weeks in the surveillance testing to allow the testing to be performed during a maintenance and surveillance testing outage which will begin on or before May 26, 1986. A copy of the related safety evaluation supporting Amendment No. 2 to Facility Operating License NPF-39 is enclosed.

The approval of these amendments also requires a one-time exemption from certain Type C local leakage rate test requirements of 10 CFR Part 50, Appendix J. In response to your letter of December 18, 1985, such a one-time exemption is being issued separately.

Sincerely,

A handwritten signature in cursive script that reads "Walter R. Butler".

Walter R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing

Enclosures:

1. Amendment No. 2 to NPF-39
2. Safety Evaluation

cc: See next page

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PDR ADDCK 05000352
P PDR

Mr. Edward G. Bauer, Jr
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Limerick Generating Station
Units 1 & 2

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Philadelphia Electric Company

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Limerick Generating Station 1/2

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Docket No. 50-352

MAR 03 1986

Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

SUBJECT: ISSUANCE OF AMENDMENT NO. 2 TO FACILITY OPERATING LICENSE NO. NPF-39,
LIMERICK GENERATING STATION, UNIT 1

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The approval of these amendments also requires a one-time exemption from certain Type C local leakage rate test requirements of 10 CFR Part 50, Appendix J. In response to your letter of December 18, 1985, such a one-time exemption is being issued separately.

Sincerely,

Original signed by

Walter R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing

Enclosures:

1. Amendment No. 2 to NPF-39
2. Safety Evaluation

cc: See next page

DISTRIBUTION

See next page

PD#4/PM
REMartin:lb
02/03/86

PD#4/LA
EHylton
02/ /86

EB/DBL/C
BDLiaw
02/ /86

OELD
02/ /86

PD#4/D
WButler
02/3/86

WB

3. This amendment is effective immediately and is to be fully implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Walter R. Butler, Director
Project Directorate No. 4
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MAR 03 1986

PD#4/PM
RE Martin:1b
02/16/86

PD#4/LA
Elyton
02/15/86

EB/DBL/c
BDL law
02/1/86

OELD
02/19/86

PD#4/D
WButler
02/26/86

*Not required
to provide SED to
provide amendment*

2/25/86

W. Butler

WB



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 2
License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Philadelphia Electric Company dated December 18, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this amendment and Paragraph 2.C(2) of Facility Operating License No. NPF-39 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 2, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective immediately and is to be fully implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate No. 4
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MAR 03 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 2

FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Also to be replaced are the following overleaf pages to the amended pages.

Amendment Pages

Overleaf Pages

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CONTAINMENT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- b. The combined leakage rate for all penetrations and all valves listed in Table 3.6.3-1, except for main steam line isolation valves* and valves which are hydrostatically tested per Table 3.6.3-1, subject to Type B and C tests to less than or equal to $0.60 L_a$, and
- c. The leakage rate to less than or equal to 11.5 scf per hour for any one main steam line through the isolation valves, and
- d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves, prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The primary containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using the methods and provisions of ANSI 45.4-1972 and BN-TOP-1 and verifying the result by the Mass Point Methodology described in ANSI N56.8-1981:

- a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals during shutdown at P_a , 44.0 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.
- b. If any periodic Type A test fails to meet $0.75 L_a$, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet $0.75 L_a$, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet $0.75 L_a$, at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
 - 1. Confirms the accuracy of the test by verifying that the difference between the supplemental data and the Type A test data is within $0.25 L_a$. The formula to be used is: $[L_o + L_{am} - 0.25 L_a] \leq L_c \leq [L_o + L_{am} + 0.25 L_a]$ where L_c = supplemental test result; L_o = superimposed leakage; L_{am} = measured Type A leakage.
 - 2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
 - 3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be between $0.75 L_a$ and $1.25 L_a$.

*Exemption to Appendix "J" to 10 CFR Part 50.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- d. Type B and C tests shall be conducted with gas at P_a , 44.0 psig*, at intervals no greater than 24 months** except for tests involving:
 - 1. Air locks,
 - 2. Main steam line isolation valves,
 - 3. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment, and
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.**
- h. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2a., 4.6.1.2b., 4.6.1.2c., 4.6.1.2d., and 4.6.1.2e.

*Unless a hydrostatic test is required per Table 3.6.3-1.

**A Type C test interval extension to May 26, 1986 is permissible for primary containment isolation valves identified by an asterisk in the inboard and outboard isolation barrier columns of Table 3.6.3-1, Part A, as discussed in Application for Amendment of Facility Operating License dated December 18, 1985.

TABLE 3.6.3-1

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
003B	CONTAINMENT INSTRUMENT GAS SUPPLY - HEADER 'B'	59-1005B (CK)	HV59-129B	NA 7	C,H,S		59
003D-2	CONTAINMENT INSTRUMENT GAS SUPPLY TO ADS VALVES E & K	59-1112*(CK)	HV59-151B*	NA 45	M		59
007A(B,C,D)	MAIN STEAM LINE 'A' (B,C,D)	HV41-1F022A (B,C,D)		5*	C,D,E,F,P,Q	6	41
			HV41-1F028A (B,C,D)	5*	C,D,E,F,P,Q	6	
			HV40-1F001B (F,K,P)	45	EA	6	
			(XV40-101B (F,K,P)	NA		6,1	
			SEE PART B, THIS TABLE)				
008	MAIN STEAM LINE DRAIN	HV41-1F016	HV41-1F019	30 30	C,D,E,F,P,Q C,D,E,F,P,Q	4	41
009A	FEEDWATER	41-1F010A(CK)		NA			41
			HV41-1F074A(CK)	NA			
			41-1036A(CK)	NA			
			HV41-130B	45			
			HV41-133A	45			
			HV41-109A	NA		32	
			HV41-1F032A(CK)	NA			
			HV55-1F105	30		7	
			HV44-1F039(CK)	NA			
			(X-9B)				
			41-1016(X-9B, X-44)	NA		31	

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
009B	FEEDWATER	41-1F010B(CK)	NA HV41-1F074B(CK) 41-1036B(CK) HV41-130A HV41-133B HV41-109B HV41-1F032B(CK) HV49-1F013 HV44-1F039(CK) (X-9A) 41-1016(X-9A, X-44)	NA NA NA 45 45 NA NA 23 NA NA NA	LFCC	32 31	41
010	RCIC STEAM SUPPLY	HV49-1F007	HV49-1F008 HV49-1F076	7.2* 7.2* 45	K, KA K, KA K, KA	5	49
011	HPCI STEAM SUPPLY	HV55-1F002	HV55-1F003 HV55-1F100	12* 12* 45	L, LA L, LA L, LA	5	55
012	RHR SHUTDOWN COOLING SUPPLY	HV51-1F009 PSV51-155	HV51-1F008	100 NA 100	A,V A,V	9,22	51
013A(B)	RHR SHUTDOWN COOLING RETURN	HV51-1F050A*(B*) (CK) HV51-151A*(B*)	HV51-1F015A(B)	NA 20 45	A,V A,V A,V	9,22	51
014	RWCU - SUCTION	HV44-1F001*	HV44-1F004*	10* 10*	B,J,Y B,J,Y		44

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
016A	CORE SPRAY INJECTION	HV52-1F006A(CK) HV52-1F039A	HV52-1F005	NA 7 18		9,22 9,22	52
016B	CORE SPRAY INJECTION	HV52-1F006B(CK) HV52-1F039B	HV52-108(CK)	NA 7 NA		9,22 9,22	52
017	RPV HEAD SPRAY	HV51-1F022 PSV51-122	HV51-1F023	60 NA 135	A,V A,V	4,9,22 9,22	51
021	SERVICE AIR TO DRYWELL	15-1140	15-1139	NA NA			15
022	DRYWELL PRESSURE INSTRUMENTATION		HV42-147C	45		10	42
023	RECW SUPPLY TO RECIRC PUMPS	HV13-106*	HV13-108*	40 30		11,28, 29 11,28 29	13
			HV13-109*	NA		11,13	
024	RECW RETURN FROM RECIRC PUMPS	HV13-107*	HV13-111*	40 30		11,28, 29 11,28, 29	13
			HV13-110*	NA		11,13	

LIMERICK - UNIT 1

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Amendment No. 2

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
025	DRYWELL PURGE SUPPLY	HV57-121(X-201A) HV57-123 HV57-163	HV57-109 (X-201A) HV57-131 (X-201A) HV57-135	5** 5** 9 6** 5** 6**	B,H,S,U,W B,H,S,U,W B,H,R,S B,H,S,U,W B,H,S,U,W B,H,S,U,W	3,11,14,25 57 3,11,14,25 3,11,14 11,25 11,25 11,25	
026	DRYWELL PURGE EXHAUST	HV57-114 HV57-111 HV57-161 SV57-139	HV57-115 HV57-117 SV57-145	5** 15** 9 5 6** 5** 5	B,H,S,U,W B,H,S,U B,H,R,S B,H,S,U,W B,H,S,U B,H,R,S	3,11,14,25 57 5,11,25 3,11,14 10 11,25 11,25 11	
027A	CONTAINMENT INSTRUMENT GAS SUPPLY TO ADS VALVES H,M,&S	59-1128(CK)	HV59-151A	NA 45	M		59
028A-1	RECIRC LOOP SAMPLE	HV43-1F019	HV43-1F020	10 10	B,D B,D		43
028A-2	DRYWELL H2/O2 SAMPLE	SV57-132	SV57-142	5 5	B,H,R,S B,H,R,S	11 11	57
028A-3	DRYWELL H2/O2 SAMPLE	SV57-134	SV57-144	5 5	B,H,R,S B,H,R,S	11 11	57

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
028B	DRYWELL H2/O2 SAMPLE	SV57-133		5	B,H,R,S	11	57
			SV57-143	5	B,H,R,S	11	
			SV57-195	5	B,H,R,S	11	
030B-1	DRYWELL PRESSURE INSTRUMENTATION		HV42-147A	45		10	47
035A	TIP PURGE	59-1056(CK) (DOUBLE "O" RING)		NA			59
			HV59-131	7	B,H,S	16	
035C-G	TIP DRIVES	XV59-141A-E (DOUBLE "O" RING)		NA	B,H	11,16,21	59
			XV59-140A-E	NA		11,16	
037A-D	CRD INSERT LINES	BALL CHECK		NA		12	47
			HCU	NA		12	
038A-D	CRD WITHDRAW LINES SDV VENTS & DRAINS		HCU	NA		12	47
			XV47-1F010	25		30	
			XV47-1F180	30		30	
			XV47-1F011	25		30	
			XV47-1F181	30		30	
039A(B)	DRYWELL SPRAY	HV51-1F021A(B)		160		4,11	51
			HV51-1F016A(B)	160		11	
040E	DRYWELL PRESSURE INSTRUMENTATION		HV42-147D	45		10	42
040F-2	CONTAINMENT INSTRUMENT GAS -SUCTION	HV59-101		45	C,H,S	5	59
			HV59-102	7	C,H,S		

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
040G-1	ILRT DATA ACQUISITION	60-1057	60-1058	NA NA		5,11 11	60
040G-2	ILRT DATA ACQUISITION	60-1071	60-1070	NA NA		5,11 11	6
040H-1	CONTAINMENT INSTRUMENT GAS SUPPLY - HEADER 'A'	59-1005A(CK)	HV59-129A	NA 7	C,H,S		59
042	STANDBY LIQUID CONTROL	48-1F007(CK) (X-116)	HV48-1F006A	NA 60		29	48
043B	MAIN STEAM SAMPLE	HV41-1F084	HV41-1F085	10 10	B,D B,D		41
044	RWCU ALTERNATE RETURN	41-1017	41-1016(X-9A, X-9B) PSV41-112	NA NA NA		5,31	41
045A(B,C,D)	LPCI INJECTION 'A'(B,C,D)	HV51-1F041A*(B,C*, D*)(CK) HV51-142A*(B,C*, D*)	HV51-1F017A* (B,C*,D*)	7 38	NA	9,22	9, 2 51
050A-1	DRYWELL PRESSURE INSTRUMENTATION		HV42-147B	45		10	42
053	DRYWELL CHILLED WATER SUPPLY - LOOP 'A'	HV87-128*	HV87-120A* HV87-125A*	60 60 60	C,H	11 11,28, 29 11,28,29	87

LIMERICK - UNIT 1

3/4 6-24

Amendment No. 2

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
054	DRYWELL CHILLED WATER RETURN - LOOP 'A'	HV87-129*	HV87-121A* HV87-124A*	60 60 60	C,H	11 11,28, 29 11,28, 29	87
055	DRYWELL CHILLED WATER SUPPLY - LOOP 'B'	HV87-122*	HV87-120B* HV87-125B*	60 60 60	C,H	11 11,28, 29 11,28,29	87
056	DRYWELL CHILLED WATER RETURN - LOOP 'B'	HV87-123*	HV87-121B* HV87-124B*	60 60 60	C,H	11 11,28,29 11,28,29	87
061-1	RECIRC PUMP 'A' SEAL PURGE	43-1004A(CK)	(XV43-103A - SEE PART B, THIS TABLE)	NA NA		15 1	43
061-2	RECIRC PUMP 'B' SEAL PURGE	43-1004B*(CK)	(XV43-103B - SEE PART B, THIS TABLE)	NA NA		15 1	43
062	DRYWELL H2/O2 SAMPLE RETURN, N2 MAKE-UP	SV57-150(X-220A)	SV57-159 (X-220A) HV57-116 (X-220A) SV57-190 (X-220A)	5 5 30** 5	B,H,R,S B,H,R,S B,H,R,S B,H,R,S	11 11 11 11	57

LIMERICK - UNIT 1

3/4 6-25

Amendment No. 2

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
			SV57-191 (X-220A)	5	B,H,R,S	11	
116	STANDBY LIQUID CONTROL	48-1F007(CK) (X-42)	HV48-1F006B	NA 60		29	3
117B-1	DRYWELL RADIATION MONITORING SUPPLY	SV26-190A	SV26-190B	5 5	B,H,R,S B,H,R,S	11 11	26
117B-2	DRYWELL RADIATION MONITORING RETURN	SV26-190C	SV26-190D	5 5	B,H,R,S B,H,R,S	11 11	26
201A	SUPPRESSION POOL PURGE SUPPLY	HV57-124 HV57-131(X-25) HV57-164	HV57-109(X-25) HV57-147 HV57-121(X-25)	5** 5** 9 6** 6** 5**	B,H,S,U,W B,H,S,U,W B,H,R,S B,H,S,U,W B,H,S,U,W B,H,S,U,W	3,11,14,25 3,11,14,25 3,11,14 11,25 11,25 11,25	57
202	SUPPRESSION POOL PURGE EXHAUST	HV57-104 HV57-105 HV57-162	HV57-112 HV57-118 SV57-185	5** 15** 9 6** 5** 5	B,H,S,U,W B,H,S,U B,H,R,S B,H,S,U,W B,H,S,U B,H,R,S	3,11,14,25 5,11,25 3,11,14 11,25 11,25 11	57
203A(B,C,D)	RHR PUMP SUCTION		HV51-1F004A(B, C,D)	240		4,22, 19,29	51
			PSV51-1F030A(B, C,D)	NA		22	

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
204A(B)	RHR PUMP TEST LINE AND CONTAINMENT COOLING		HV51-125A(B)	180		4,22,29	51
205A(B)	SUPPRESSION POOL SPRAY		HV51-1F027A*(B)	45	C,G	11	51
206A(B,C,D)	CS PUMP SUCTION		HV52-1F001A (B,C,D)	160		4,22,29	52
207A(B)	CS PUMP TEST AND FLUSH		HV52-1F015A(B)	23	C,G	5,22	52
208B	CS PUMP MINIMUM RECIRC		HV52-1F031B	45	LFCH	5,22,29	52
209	HPCI PUMP SUCTION		HV55-1F042	160	L,LA	4,22	55
210	HPCI TURBINE EXHAUST		HV55-1F072	120		4,22,29	55
212	HPCI PUMP TEST AND FLUSH		HV55-1F071	40	B,H	4,22	55
214	RCIC PUMP SUCTION		HV49-1F031	60		4,22,29	49
215	RCIC TURBINE EXHAUST		HV49-1F060	80		4,22,29	49
216	RCIC MINIMUM FLOW		HV49-1F019	8	LFRC	5,22	49

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Amendment No. 2

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	FUNCTION	INBOARD ISOLATION BARRIER	OUTBOARD ISOLATION BARRIER	MAX. ISOL. TIME. IF APP. (SEC)(26)	ISOL. SIGNAL(S), IF APP. (20)	NOTES	P&ID
217	RCIC VACUUM PUMP DISCH	HV49-1F002	49-1F028(CK)	60 NA		5,29	49
218	INSTRUMENT GAS TO VACUUM RELIEF VALVES	59-1001(CK)	HV59-135	NA 7	C,H,S		5
219A	INSTRUMENTATION - SUPPRESSION POOL LEVEL	--	HV55-121	45		10	55
219B	INSTRUMENTATION - SUPPRESSION POOL LEVEL	--	HV55-120	45		10	55
220A	H2/O2 SAMPLE RETURN	SV57-191(X-62)	SV57-190(X-62) HV57-116(X-62) SV57-150(X-62) SV57-159(X-62)	5 5 30** 5 5	B,H,R,S B,H,R,S B,H,R,S B,H,R,S B,H,R,S	11 11 11 11 11	57
220B	INSTRUMENTATION - SUPPRESSION POOL PRESSURE SUPPRESSION POOL LEVEL	--	SV57-101	5		10	57
221A	WETWELL H2/O2 SAMPLE	SV57-181	SV57-141 SV57-184	5 5 5	B,H,R,S B,H,R,S B,H,R,S	11 11 11	57
221B	WETWELL H2/O2 SAMPLE	SV57-183	SV57-186	5 5	B,H,R,S B,H,R,S	11 11	57



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORT AMENDMENT NO. 2 TO FACILITY OPERATING LICENSE NO. NPF-39
PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION, UNIT NO. 1
DOCKET NO. 50-352

1.0 Introduction

By letter dated December 18, 1985, the Philadelphia Electric Company (the licensee) requested a one-time-only approval to temporarily extend certain surveillance requirements in the Technical Specifications, which must be performed nominally every 18 or 24 months and which can only be done when the plant is shutdown. The change would extend the 18 or 24 month surveillance intervals for leakage testing of selected containment isolation valves by up to 12 weeks beyond the time allowed by the Technical Specifications. This would permit the licensee to delay performing this testing until a maintenance and surveillance outage which will begin on or before May 26, 1986.

By letters dated January 29, February 5, February 25, and March 3, 1986 the licensee provided additional information in support of the proposed changes. Technical Specification (TS) 4.6.1.2.d requires that Type C tests shall be conducted at intervals no greater than 24 months except for tests involving valves in hydrostatically tested lines. The 24 month interval for this Type C testing is consistent with the requirements of 10 CFR Part 50, Appendix J, paragraph III.D.3 which specifies that Type C tests shall be performed at intervals no greater than 2 years. The licensee's letter of December 18, 1985 requested an extension of the 24 month TS testing requirement by a maximum of 12 weeks for a group of 27 isolation valves. In addition, in the December 18, 1985 letter the licensee requested a one-time exemption from the Appendix J 24 month testing requirements for these 27 valves. The related exemption is the subject of a separate Safety Evaluation dated March 3, 1986.

Technical Specification 4.6.1.2.g requires that local leak rate tests on containment isolation valves in hydrostatically tested lines shall be leak tested at least once per 18 months. The licensee's letter of December 18, 1985 requested an extension of this 18 month TS testing requirement by a maximum of 12 weeks for a group of 10 isolation valves.

2.0 Evaluation

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Since the Limerick Unit 1 plant has been through an extended startup program schedule, which included relatively little startup testing program activity from about April to early August 1985, the scheduled surveillance tests fall in a period of what would otherwise be a continuation of first fuel cycle power operations. Since the plant must be shutdown for about two weeks to perform these tests and since the licensee plans to shut the plant down on or before May 26, 1986 to perform other surveillance tests and maintenance activities the licensee proposes to extend the surveillance interval for these isolation

valves to allow those tests to also be performed during the outage to begin on or before May 26, 1986.

The 18 and 24 month surveillance intervals were selected to provide flexibility in scheduling these tests for execution during refueling outages. Technical Specification 4.0.2 does allow the 18 month TS interval between surveillance testing to be extended by 25 percent in order to provide flexibility in operations scheduling. The end of the most limiting surveillance interval, considering the 24 month limit and the 18 month limit extended by the allowable 25 percent, is March 3, 1986.

The requirements of the TS for testing nominally every 18 or 24 months for which extensions are proposed and the reason these tests can only be performed while the reactor is shutdown are as follows.

General Design Criterion 56, Primary Containment Isolation, requires that lines to be isolated be provided with an isolation valve inside containment and an isolation valve outside containment. The design of the isolation valves and their associated piping and test connections requires personnel access to the primary containment to isolate the valve inside the containment from the balance of its associated system and to implement the test procedure. Entry into containment during power operations would expose personnel to the hazards of high air temperature (about 120°F), radiation exposure that is high with respect to as-low-as-reasonably-achievable (ALARA) standards (about 10 R/hour in representative areas) and the nitrogen environment of the inerted containment atmosphere for which self contained breathing apparatus (SCUBA) would be required. The licensee has stated orally that they consider the hazard of the inerted containment atmosphere to be too great to permit personnel access for routine plant operational tasks. The licensee has also stated that further factors which preclude testing these valves at power include the need to depressurize the reactor, drain the reactor enclosure chilled water (RECW) system, drain the drywell chilled water (DCW) system, drain the emergency service water (ESW) loop, remove the reactor recirculation pumps from service or a combination of the above. The staff concludes that the licensee has shown that it is not practical or feasible to test these valves at power and that the plant would be required to shutdown for about two weeks to cooldown, depressurize and conduct the tests beginning on March 3, 1986 unless the requested extension in surveillance test periods is granted.

The licensee has stated that the types of valves subject to this surveillance schedule extension request have traditionally good maintenance histories and do not include those valves known to be maintenance intensive in boiling water reactors such as the main steam isolation valves or the feedwater check valves. The licensee also points out that these valves are used in applications where they are either normally open or normally closed and are not used in a modulating mode to control flow rates. The licensee further states that such valves when used in non-modulating applications tend not to have problems meeting leakage criteria. In this regard, the licensee has also considered the leak rate information reported in Licensee Event Report (LER) No. 352/85-102. This LER deals with a valve that is not within the scope of the Limerick surveillance schedule extension request. The licensee has reached a determination, with which the staff concurs, that the LER 85-102 event was an isolated event and as such has no significant effect upon the conclusions and basis for the request for extension.

In support of the position that these valves are reliable in meeting leakage criteria the licensee has interrogated the Nuclear Plant Reliability Data System (NPRDS) for similar types of valves and has reviewed these specific valves' previous leakrate test histories.

The NPRDS query serves as a useful qualitative estimation of these valves' reliability since the reporting of data to the system is on a voluntary basis and therefore there is no representation that the data from the system represents all of the valves in the industry of that specific valve type. Nevertheless, the data as presented in the licensee's letter dated January 29, 1986, is useful in considering whether these valve types are generally reliable in meeting their leakage criteria. The licensee notes that the valves in the NPRDS data base have been in service for significant periods whereas the Limerick valves will have experienced only a part of the first fuel cycle's operating time by the date of the next planned surveillance test. The NPRDS data does not suggest that these valves, either individually or collectively, should be expected to experience undue difficulties in meeting the leakage criteria.

The licensee states that testing has been performed on those valves that can be tested at power such that only 37 valves out of a total of 245 valves in Part A of TS Table 3.6.3-1 require the one-time extension of the surveillance interval. This is reflected in the following specific system discussions wherein, as applicable, it is noted that the extension request does not apply to all of the valves in a given system since the other valves have been tested on a more recent schedule which does not require their retest until after May 26, 1986.

Technical Specification 4.6.1.2.d-Twenty-Four Month Tests

There are 27 valves subject to this specification for which the licensee has requested one time extension of no more than 12 weeks in the surveillance test schedule. These valves are as listed below.

<u>System</u>	<u>Valve Number</u>	<u>Size/Type</u>
° LPCI injection loops A,C,D	HV-51-1F017A,C,D	12" gate
° Suppression Pool Spray	HV-51-1F027A	6" globe
° Reactor enclosure cooling water		
- supply line	HV-13-106,108,109	3" and 4" gate
- return line	HV-13-107,110,111	3" and 4" gate
° Drywell Chilled Water, Loops A and B		
- Supply lines	HV-87-120A, 125A, 128 and 120B, 125B, 122	8" gate
- Return lines	HV-87-121A, 124A, 129 and 121B, 124B, 123	8" gate
° Reactor Water Cleanup supply line	HV-44-1F001, 1F004	6" globe

Technical Specification 4.6.1.2.d-Twenty-Four Month Tests (cont'd.)

<u>System</u>	<u>Valve Number</u>	<u>Size/Type</u>
° Recirculation Pump B seal purge	43-1004B	1" check
° Instrument Gas Supply to ADs valves E and K	HV-59-151B 59-1112	1" globe 1" check

The licensee's letter of January 29, 1986 also provides information on the previous leakage testing for the specific valves which are subject to this amendment request. As indicated in the licensee's letters the total leakage measured as a result of the previous tests on all applicable Type C valve tests is about 22,000. standard cubic centimeters per minute (SCCM) which is about 23% of the total allowed by the Technical Specifications. Of this 22,000. SCCM only about 3800. SCCM (or 4% of the TS limit) was contributed by the 27 valves subject to the amendment application. Thus, it may be seen that leakage through these valves would have to increase many times before they contributed a large portion of either (1) the total measured leakage from all such valves or (2) the TS limit value. Some discussion of the individual valves is provided below.

LPCI Injection

Valves HV51-1F017A, C and D require an extension of less than 10 weeks in a 24 month surveillance interval. The comparable valve in the B loop was tested on a schedule which does not require its retest until after May 26, 1986. The leakage from these three valves during the previous tests totaled 1210 SCCM or 1% of the TS limit valve. The line in which these valves are located is provided with instrumentation which will detect and annunciate excessive leakage past the valves.

Suppression Pool Spray

Valve HV-51-1F027A requires an extension of about 8 weeks in a 24 month surveillance interval. The comparable valve in the B loop of suppression pool spray was tested on a schedule which does not require its retest until after May 26, 1986. The leakage from this valve during the previous test was 2.25 SCCM or 0.002% of the TS limit valve.

Reactor Enclosure Cooling Water (RECW)

Valves HV-13-106, 108, 109 in the RECW supply line and HV-13-107, 110, 111 in the RECW return line require an extension of 12 weeks in a 24 month surveillance interval. The leakage from these valves during the previous tests was 145 SCCM or 0.15% of the TS limit for the supply valves and 9 SCCM or 0.01% of the TS limit for the return valves.

Drywell Chilled Water

The valves in loops A and B of the drywell chilled water system, each loop having 3 involved valves in the supply line and 3 involved valves in the return line, require an extension of up to 12 weeks in a 24 month surveillance interval. The leakage from these valves during the initial tests was 203 SCCM for loop A supply valves, 653 SCCM for loop A return valves, 668 SCCM for loop B supply valves and 338 SCCM for loop B return valves for a total of 1862 SCCM or 2% of the TS limit.

Reactor Water Cleanup

Valves HV-44-1F001, 1F004 in the RWCU supply line require an extension of less than 10 weeks in a 24 month surveillance interval. The leakage from these valves from previous tests was 510 SCCM or 0.5% of the TS limit value.

Recirculation Pump B Seal Purge

Valve 43-1004B in the reactor recirculation pump seal purge line requires an extension of 3 weeks in a 24 month surveillance interval. The comparable valve in the A loop line was tested on a schedule which does not require its retest until after May 26, 1986. The leakage from this valve from previous tests was 76 SCCM or 0.1% of the TS limit value.

Instrument Gas Supply to ADS Valves

Valves HV-59-151B and 59-1112 in the instrument gas supply to automatic depressurization system (ADS) valves E and K require an extension of less than 2 weeks in a 24 month surveillance interval. Comparable valves in the gas supply line for ADS valves H, M and S and other instrument gas supply and return lines were tested on a schedule which does not require retest until after May 26, 1986. The leakage from these valves during the previous tests was 9 SCCM or 0.01% of the TS limit value.

Summary for 24 Month Surveillance Interval Valves

In assessing whether an extension of 12 weeks in a 24 month surveillance interval would be appropriate for these valves the staff has considered the previous leak rate test results for these valves, their propensity for requiring extensive maintenance to maintain their leak tight integrity and the consequences of any additional degradation during the requested extension. Based on its review the staff finds that:

- (1) The previously measured Type C test leakage through these valves (3800 SCCM) constituted but 17% of the total measured Type C leakage. There is considerable margin between these values and the limit established by Appendix J and the technical specification of 0.6 L (94, 964 SCCM) for the Type B and C tests. These valves were not found to contribute either individually or collectively a disproportionate percentage of the total measured leakage or of the technical specification limit values.

- (2) To date these valves have not required maintenance, repairs or adjustments which would require reperformance of their Type C test. The licensee's review of similar valves via NPRDS provides a qualitative assessment that supports the licensee's findings that these valves typically have good maintenance histories, do not require intensive maintenance to ensure their leak tight integrity and thus are unlikely to degrade significantly in the period of the extension.
- (3) There is ample margin between the leakage previously measured during the Type C isolation valve tests, including the previous tests of the 27 valves subject to this amendment request, and the limiting leakage values in the technical specifications and in Appendix J to accommodate any degradation likely to be experienced by these 27 valves during the extension period. Therefore the consequences of leakage past these isolation valves is bounded by safety analyses previously performed which were based on the limiting leakage values in the technical specifications and in Appendix J.

The licensee has determined that the proposed changes will have little or no effect on containment integrity and that the proposed amendment will not alter any of the accident analyses. The staff has reviewed these determinations and the associated changes and concludes that, on the bases discussed above, they are acceptable.

Technical Specification 4.6.1.2.g - Eighteen Month Tests

There are 10 valves subject to this specification for which the licensee has requested a one time extension of no more than 10 weeks in the surveillance test schedule. Considering the 25% extension in the nominal 18 month period also provided for in the Technical Specifications these tests would be extended from about 22.5 months to 25 months. These valves are as listed below:

° Shutdown Cooling Return Loop A and B lines	HV-51-1F050A, B HV-51-151A, B	12" Check 1.5" Globe
° Low Pressure Coolant Injection Loop A, C and D lines	HV-51-1F041A, C, D HV-51-142A, C, D	12" Check 1.5" Globe

Shutdown Cooling Return

The extension request for the isolation valves in the shutdown cooling return lines apply only to the inboard valves since the outboard (outside containment) isolation valves were tested on a schedule which does not require their retest until after May 26, 1986. These lines are equipped with instrumentation which will annunciate leakage past the isolation valves to the operator. The leakage through these valves during the initial leak tests was 0.1 gallons per minute (gpm) for the loop A valves and no measured leakage for the loop B valves, well below the limit of 1.0gpm imposed by the Technical Specifications.

Low Pressure Coolant Injection

The extension request for these isolation valves in the low pressure coolant injection lines applies to the A, C and D loop valves since the B loop valves were tested on a schedule which does not require their retest until after May 26, 1986. These lines are equipped with instrumentation which will annunciate leakage past the isolation valves to the operator. The leakage through these valves during the initial leak tests was 0.2 gpm for the A loop, 0.002 gpm for the C loop, and 0.09 gpm for the D loop, all of which are well below the limit of 1.0gpm imposed by the Technical Specifications.

Summary for Eighteen Month Surveillance Interval Valves

In assessing whether an extension of 10 weeks in the 18 month surveillance interval, as extended by 25%, would be appropriate for these valves the staff has considered the previous leak rate test results for these valves, their propensity for requiring extensive maintenance to maintain their leak tight integrity and the consequences of any additional degradation during the requested extension. Based on its review the staff finds that:

- (1) The previously measured leakage for these valves (0.1 gallons per minute (gpm) maximum for any 1 valve) is well below the technical specification limit of 1 gpm for any 1 valve. Thus, ample margin exists between the previously measured leakage and the TS limiting value to accommodate any degradation likely to be experienced during the extension period.
- (2) The lines in which these valves are located are provided with instrumentation which will detect and annunciate excessive leakage past these valves.
- (3) The lines in which these valves are located are connected to closed systems outside of containment. Leakage out of those systems would be into the reactor enclosure thus facilitating collection and treatment.
- (4) The licensee's review of NPRDS data for similar valves provides a qualitative assessment that supports the licensee's findings that leakage rate test experience with these valves has been excellent.

The licensee has determined that these changes have little safety significance and that the proposed amendment will not alter any of the accident analyses. The staff has reviewed these determinations and the associated changes and concludes, on the bases stated above, that they are acceptable.

3.0 Environmental Consideration

This amendment changes some surveillance requirements on a one-time-only basis. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding within the

time provided by the Federal Register notice of consideration of the licensee's amendment request. Thus, there is no need to make a final determination regarding no significant hazards consideration. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of this amendment. However a related exemption from Appendix J to 10 CFR Part 50 is being processed relative to this action and a Notice of Environmental Assessment and Finding of No Significant Impact has been processed relative to the Exemption. This Notice of Environmental Assessment and Finding of No Significant Impact was published in the Federal Register on March 3, 1986 (51 FR 7344).

4.0 Conclusion

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security nor to the health and safety of the public.

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Dated: MAR 03 1986

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