

January 11, 1989

Docket No.: 50-352

DISTRIBUTION:

Mr. George A. Hunger, Jr.
Director-Licensing
Philadelphia Electric Company
Correspondence Control Desk
2301 Market Street
Philadelphia, Pennsylvania 19101

Docket File	ACRS (10)	EButcher
NRC PDR	GPA/PA	BGrimes
Local PDR	OGC	Brent Clayton
PDI-2 Rdg File	RDiggs, ARM/	RGallo
SVarga	LFMB	JMiller, OTSB
BBoger	TMEEK (4)	
WButler	EJordan	
RClark	DHagan	
RMartin	Wanda Jones	
MO'Brien	Tech Branch	

Dear Mr. Hunger:

SUBJECT: REACTOR VESSEL HEAD SPRAY PIPING (TAC NO. 69573)

RE: LIMERICK GENERATING STATION, UNIT NO. 1

The Commission has issued the enclosed Amendment No. 14 to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 29, 1988.

This amendment changes the TSs to: 1) delete the primary containment isolation valves and instrumentation associated with the permanent removal of the reactor vessel head spray piping and 2) modify the reportability requirements for seismic monitor XR-VA-151 whenever the reactor vessel head is removed.

This letter also approves permanent removal of the reactor vessel head spray piping for Limerick Unit No. 1.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,
Original signed by
Richard J. Clark
Richard J. Clark, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

- Amendment No. 14 to License No. NPF-39
- Safety Evaluation

cc w/enclosures:
See next page

*Previously concurred

[LIM AMDT]

PDI-2/PA MO'Brien 11/29/88	PDI-2/PM* RClark:mr 11/15/88
----------------------------------	------------------------------------

Handwritten initials and date: 11/29/88

PDI-2/D* WButler 11/15/88	<i>Handwritten initials and date:</i> 1/10/89.
---------------------------------	--

Handwritten initials and date: JFOL 1/11

8901190261	890111
PDR ADDCK	05000352
P	PNU

Docket No.: 50-352

George A. Hunger, Jr.
Mr. ~~William M. Alden~~
Director-Licensing
Philadelphia Electric Company
Correspondence Control Desk
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. *Hunger* ~~Alden~~

DISTRIBUTION:

Docket File	ACRS (10)	EButcher
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PDI-2 Rdg File	RDiggs, ARM/ LFMB	RGallo
SVarga	<i>Meek</i>	JMiller, OTSB
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SUBJECT: REACTOR VESSEL HEAD SPRAY PIPING (TAC NO. 69573)

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Sincerely,

Richard J. Clark, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

- Amendment No. to License No. NPF-39
- Safety Evaluation

cc w/enclosures:
See next page

[LIM AMDT]

PDI-2/LA
MO'Brien
/ /88

PDI-2/PM *ok*
RClark:mr
// 11/15/88

OGC
/ /88

PDI-2/D
WButler
/ /88

W



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

January 11, 1989

Docket No.: 50-352

Mr. George A. Hunger, Jr.
Director-Licensing
Philadelphia Electric Company
Correspondence Control Desk
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Hunger:

SUBJECT: REACTOR VESSEL HEAD SPRAY PIPING (TAC NO. 69573)

RE: LIMERICK GENERATING STATION, UNIT NO. 1

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A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Richard J. Clark".

Richard J. Clark, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 14 to License No. NPF-39
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. George A. Hunger, Jr.
Philadelphia Electric Company

Limerick Generating Station
Units 1 & 2

cc:

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Harrisburg, Pennsylvania 17120

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Planning and Development
ATTN: Coordinator, Pennsylvania
State Clearinghouse
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Philadelphia, Pennsylvania 19101

Mr. John S. Kemper
Senior Vice President-Nuclear
Philadelphia Electric Company
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Philadelphia, Pennsylvania 19101



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. 14
License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that
 - A. The application for amendment by Philadelphia Electric Company (the licensee) dated September 29, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and 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;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - 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 license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-39 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 14, are hereby incorporated into this license. Philadelphia Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

8901190267 890111
PDR ADDCK 05000352
P PNU

3. This license amendment is effective 60 days after date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/S/

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 11, 1989

Previously concurred*

PDI-2/LA*
MO'Brien
11/ 23/88

PDI-2/PM*
RCClark:mr
11/15/88

OGC*
APH
11/ 29/88

PDI-2/D*
WButler
11/15/88

WB
1/10/89

3. This license amendment is ~~effective upon~~ ^{effective 60 days after} date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

Previously concurred*

[Handwritten signature]
PDI-2/A
M. Brien
11/15/88

PDI-2/PM*
RClark:mr
11/15/88

[Handwritten signature]
OGC
11/29/88

PDI-2/D*
WButler
11/15/88

date of #

3. This license amendment is effective upon issuance.

✓

FOR THE NUCLEAR REGULATORY COMMISSION

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

Previously concurred*

PDI-2/LA
MO'Brien
/ /88

PDI-2/PM* *afe*
RClark:mr
11/07/88
11/15/88

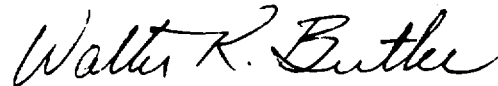
OGC
/ /88

PDI-2/D
WButler
/ /88

WB

3. This license amendment is effective 60 days after date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 11, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 14

FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. Overleaf pages are provided to maintain document completeness.*

Remove

3/4 3-69
3/4 3-70

3/4 3-79
3/4 3-80

3/4 4-11
3/4 4-12

3/4 6-21
3/4 6-22

3/4 8-23
3/4 8-24

Insert

3/4 3-69*
3/4 3-70

3/4 3-79*
3/4 3-80

3/4 4-11
3/4 4-12*

3/4 6-21
3/4 6-22*

3/4 8-23
3/4 8-24*

TABLE 3.3.7.2-1

SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
1. Triaxial Time-History Accelerographs (T/A's)		
a. Sensors		
1) XE-VA-102 Primary Containment Foundation (Loc. 109-R15-177)	0 to 1 g	1
2) XE-VA-103 Containment Structure (Diaphragm Slab)	0 to 1 g	1
3) XE-VA-104 Reactor Enclosure Foundation (Loc. 111-R11-177)	0 to 1 g	1
4) XE-VA-105 Reactor Piping Support (Mn. Stm. Line 'D', E1 313', in containment)	0 to 1 g	1
5) XE-VA-106 Outside Containment on Seismic Category I Equipment (RHR Heat Exchanger, Loc. 102-R15-177)	0 to 1 g	1
6) XRSH-VA-107* Foundation of an Independent Seismic Category I Structure (Spray Pond Pump House, E1 237')	0 to 1 g	1
b. Recorders (Panel 00C693)		
1) XR-VA-102 for XE-VA-102	N.A.	1
2) XR-VA-103 for XE-VA-103	N.A.	1
3) XR-VA-104 for XE-VA-104	N.A.	1
4) XR-VA-105 for XE-VA-105	N.A.	1
5) XR-VA-106 for XE-VA-106	N.A.	1

*Includes sensor, trigger, recorder, and backup power supply.

TABLE 3.3.7.2-1 (Continued)
SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
c. Triaxial Seismic Trigger (S/T)		
1) XSH-VA-001 (Activates Items 1.b.1) thru 5) above)	0 to 1 g	1
2. Triaxial Peak Recording Accelerograph (P/A's)		
a. XR-VA-151 Reactor Equipment (Top of reactor vessel head)	0 - 2 g	1***
b. XR-VA-152 Reactor Piping (Mn. Stm. Line 'D,' E1 313', in containment)	0 - 2 g	1
c. XR-VA-153 Reactor Equipment Outside Containment (RHR Heat Exchanger, Loc. 203-R15-201)	0 -2g	1
3. Triaxial Seismic Switches		
a. XSHH-VA-001 Primary Containment Foundation (Loc. 118-R16-117)	0 - 0.15 g Horiz. 0 - 0.10 g Vert.	1*
4. Triaxial Response Spectrum Analyzer (RSA)	1-33.5 Hz	1*, **

*With reactor control room indication and annunciation.

**Receives signal from playback unit fed with data from the Triaxial Accelerographs, Item 1.a above.

***Not required to be OPERABLE when reactor vessel head is removed.

Table 3.3.7.4-1 (Continued)

RCIC SYSTEM (Continued)

HV-49-1F080	Control-Vacuum breaker outboard isolation valve
HV-49-1F084	Control-Vacuum breaker inboard isolation valve
FIC-49-1R001	Controller-RCIC discharge flow control
E51-S45	RCIC Turbine Trip Bypass

NUCLEAR BOILER SYSTEM

HSS-41-191	Control-Transfer switch
PSV-41-1F013A	Control-Main steam line safety/relief valve
PSV-41-1F013C	Control-Main steam line safety/relief valve
PSV-41-1F013N	Control-Main steam line safety/relief valve

RHR SYSTEM

HSS-51-192	Control-Transfer switch
HSS-51-193	Control-Transfer switch
HSS-51-194	Control-Transfer switch
HSS-51-195	Control-Transfer switch
HSS-51-196	Control-Transfer switch
HSS-51-197	Control-Transfer switch
HSS-51-198	Control-Transfer switch
HV-51-1F009	Control-RHR pump shutdown cooling suction inboard isolation
HV-51-1F008	Control-RHR shutdown cooling suction outboard isolation
HV-51-1F006A	Control-1A RHR loop shutdown cooling suction
HV-51-1F006B	Control-1B RHR loop shutdown cooling suction
HV-51-1F004A	Control-1A RHR pump suction
1AP202	Control-1A RHR pump

Table 3.3.7.4-1 (Continued)

RHR SYSTEM (Continued)

HV-43-1F023A	Control-Recirculation pump A suction valve
HSS-43-191	Control-Transfer switch
HV-51-1F007A	Control-1A RHR pump minimum flow bypass valve
HV-51-1F048A	Control-1A heat exchanger shell side bypass
HV-51-1F015A	Control-1A shutdown cooling injection valve
HV-51-1F016A	Control-Reactor containment spray
HV-51-1F011A	Control-1A heat exchanger flow to suppression pool
HV-51-1F017A	Control-1A RHR loop injection valve
HV-51-1F024A	Control-1A RHR loop test return
HV-51-1F027A	Control-Suppression pool sparger isolation
HV-51-1F047A	Control-1A Heat exchanger shell side inlet
HV-51-1F003A	Control-1A Heat exchanger shell side outlet
HV-51-1F026A	Control-1A Heat exchanger flow to RCIC
HV-51-1F049	Control-RHR Discharge to radwaste outboard isolation
HV-51-125A	Control-1A/1C test return line to suppression pool
HV-51-1F052A	Control-HPCI steam to RHR heat exchanger
HV-51-153A	Control-HPCI steam to RHR heat exchanger warm-up bypass

RHR SERVICE WATER SYSTEM

HSS-12-015A-2	Control-Spray pond/cooling tower select
HSS-12-015C-2	Control-Spray pond/cooling tower select
HSS-12-016A-2	Control-Spray/bypass select
HSS-12-016C-2	Control-Spray/bypass select

TABLE 3.4.3.2-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

<u>1ST ISOLATION VALVE(S) NUMBER(S)</u>	<u>2ND ISOLATION VALVE(S) NUMBER(S)</u>	<u>ALARM SETPOINT (psig)</u>	<u>ALARM ALLOWABLE VALUE (psig)</u>	<u>SERVICE</u>
HV-52-1F006A HV-52-1F039A	HV-52-1F005	≤ 475	≤ 495	'A' Core Spray Injection
HV-52-1F006B HV-52-1F039B	HV-52-108	≤ 475	≤ 495	'B' Core Spray/HPCI Injection
HV-51-1F041A HV-51-142A	HV-51-1F017A	≤ 400	≤ 420	'A' LPCI Injection
HV-51-1F041B HV-51-142B	HV-51-1F017B	≤ 400	≤ 420	'B' LPCI Injection
HV-51-1F041C HV-51-142C	HV-51-1F017C	≤ 400	≤ 420	'C' LPCI Injection
HV-51-1F041D HV-51-142D	HV-51-1F017D	≤ 400	≤ 420	'D' LPCI Injection
HV-51-1F050A HV-51-151A	HV-51-1F015A	≤ 400	≤ 420	'A' Shutdown Cooling Return to 'A' Recirc Loop
HV-51-1F050B HV-51-151B	HV-51-1F015B	≤ 400	≤ 420	'B' Shutdown Cooling Return to 'B' Recirc Loop
HV-51-1F009	HV-51-1F008	≤ 125	≤ 145	Shutdown Cooling Supply From 'B' Recirc Loop

REACTOR COOLANT SYSTEM

3/4.4.4 CHEMISTRY

LIMITING CONDITION FOR OPERATION

3.4.4 The chemistry of the reactor coolant system shall be maintained within the limits specified in Table 3.4.4-1.

APPLICABILITY: At all times.

ACTION:

- a. In OPERATIONAL CONDITION 1:
 1. With the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for less than 72 hours during one continuous time interval and, for conductivity and chloride concentration, for less than 336 hours per year, but with the conductivity less than 10 $\mu\text{mho/cm}$ at 25°C and with the chloride concentration less than 0.5 ppm, this need not be reported to the Commission and the provisions of Specification 3.0.4 are not applicable.
 2. With the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for more than 72 hours during one continuous time interval or with the conductivity and chloride concentration exceeding the limit specified in Table 3.4.4-1 for more than 336 hours per year, be in at least STARTUP within the next 6 hours.
 3. With the conductivity exceeding 10 $\mu\text{mho/cm}$ at 25°C or chloride concentration exceeding 0.5 ppm, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. In OPERATIONAL CONDITION 2 and 3 with the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for more than 48 hours during one continuous time interval, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. At all other times:
 1. With the:
 - a) Conductivity or pH exceeding the limit specified in Table 3.4.4-1, restore the conductivity and pH to within the limit within 72 hours, or
 - b) Chloride concentration exceeding the limit specified in Table 3.4.4-1, restore the chloride concentration to within the limit within 24 hours, orperform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the reactor coolant system. Determine that the structural integrity of the reactor coolant system remains acceptable for continued operation prior to proceeding to OPERATIONAL CONDITION 3.
 2. The provisions of Specification 3.0.3 are not applicable.

TABLE 3.6.3-1 (Continued)

PART A - PRIMARY CONTAINMENT ISOLATION VALVES

LIMERICK - UNIT 1

3/4 6-21

Amendment No. 2, 12, 14

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
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* HV13-109*	40 30 NA	C,H C,H	11, 11, 11,13	13
024	RECW RETURN FROM RECIRC PUMPS	HV13-107*	HV13-111* HV13-110*	40 30 NA	C,H C,H	11 11, 11,13	13 (

TABLE 3.6.3-1 (Continued)
PART A - PRIMARY CONTAINMENT ISOLATION VALVES

LIMERICK - UNIT 1

3/4 6-22

Amendment No. 8, 13

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		5**	B,H,S,U,W,R,T	3,11,14	57
				5**	B,H,S,U,W,R,T	3,11,14	
			HV57-109 (X-201A)	6**	B,H,S,U,W,R,T	11	
			HV57-131 (X-201A)	5**	B,H,S,U,W,R,T	11	
			HV57-135	6**	B,H,S,U,W,R,T	11	
				9	B,H,R,S	3,11,14	
	HYDROGEN RECOMBINER "B" INLET	HV57-163	FV-C-D0-101B	90	B,H,R,S	11	
026	DRYWELL PURGE EXHAUST	HV57-114 HV57-111 SV57-139		5**	B,H,S,U,W,R,T	3,11,14,33	57
				15**	B,H,S,U,R,T	5,11	
				5		10	
			HV57-115	6**	B,H,S,U,W,R,T	11,33	
			HV57-117	5**	B,H,S,U,R,T	11	
			SV57-145	5	B,H,R,S	11	
	HYDROGEN RECOMBINER "A" INLET	HV57-161	FV-C-D0-101A	90	B,H,R,S	3,11,14	
				9	B,H,R,S	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		5	B,H,R,S	11	57
			SV57-144	5	B,H,R,S	11	

TABLE 3.8.4.1-1

PRIMARY CONTAINMENT PENETRATION CONDUCTOR

OVERCURRENT PROTECTIVE DEVICES

1. 4160-VOLT CIRCUIT BREAKERS

CIRCUIT BREAKER NO.	LOCATION	SYSTEMS OR EQUIPMENT POWERED
152-20101	10A201	1A Reactor Recirc Pump 'A' RPT Breaker
152-20102	10A201	1A Reactor Recirc Pump 'B' RPT Breaker
152-20201	10A202	1B Reactor Recirc Pump 'A' RPT Breaker
152-20202	10A202	1B Reactor Recirc Pump 'B' RPT Breaker

2. 480-VOLT MOLDED CASE BREAKERS*

*Primary and backup breakers have the same device numbers and are located in the same Motor Control Center cubicle.

CIRCUIT BREAKER NO.	LOCATION	TYPES	SYSTEMS OR EQUIPMENT POWERED
52-21108	D114-R-G	IM HFB100 TM HFB100	1A1 Drywell Area Unit Cooler 1A1V212
52-21109	D114-R-G	IM HFB100 TM HFB100	1E1 Drywell Area Unit Cooler 1E1V212
52-21110	D114-R-G	IM HFB100 TM HFB100	1C1 Drywell Area Unit Cooler 1C1V212
52-21111	D114-R-G	IM HFB100 TM HFB100	1G1 Drywell Area Unit Cooler 1G1V212
52-21124	D114-R-G	IM HFB25 TM HFB100	RHR S/D Clg. Suction Inbrd Isol Vlv HV-51-1F009
52-21126	D114-R-G	IM HFB50 TM HFB100	RWCU Inbrd Isol Vlv HV-44-1F001
52-21138	D114-R-G	IM HFB25 TM HFB40	Mn Stm Line Drain Inbrd Isol Vlv HV-41-1F016
52-21141	D114-R-G	IM HFB25 TM HFB40	Inst Gas Compr Suct Line Inbrd Isol Vlv HV-59-101

TABLE 3.8.4.1-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR

OVERCURRENT PROTECTIVE DEVICES

2. 480-VOLT MOLDED CASE BREAKERS (Continued)

CIRCUIT BREAKER NO.	LOCATION	TYPES	SYSTEMS OR EQUIPMENT POWERED
52-21208	D124-R-G	IM HFB100 TM HFB100	1B1 Drywell Area Unit Cooler 1B1V212
52-21209	D124-R-G	IM HFB100 TM HFB100	1F1 Drywell Area Unit Cooler 1F1V212
52-21210	D124-R-G	IM HFB100 TM HFB100	1D1 Drywell Area Unit Cooler 1D1V212
52-21211	D124-R-G	IM HFB100 TM HFB100	1H1 Drywell Area Unit Cooler 1H1V212
52-21216	D124-R-G	IM HFB25 TM HFB100	1B Reactor Recirc Pump Suction Vlv HV-43-1F023B
52-21309	D114-R-C	IM HFB50 TM HFB150	Feedwater Line 'A' Inbrd Maint Vlv HV-41-1F011A
52-21707	D134-R-H	IM HFB100 TM HFB100	1C2 Drywell Area Unit Cooler 1C2V212
52-21708	D134-R-H	IM HFB100 TM HFB100	1G2 Drywell Area Unit Cooler 1G2V212
52-21807	D144-R-H	IM HFB100 TM HFB100	1D2 Drywell Area Unit Cooler 1D2V212
52-21808	D144-R-H	IM HFB100 TM HFB100	1F2 Drywell Area Unit Cooler 1F2V212
52-22310	D134-R-E	IM HFB100 TM HFB100	1A2 Drywell Area Unit Cooler 1A2V212
52-22311	D134-R-E	IM HFB100 TM HFB100	1E2 Drywell Area Unit Cooler 1E2V212
52-22313	D134-R-E	IM HFB25 TM HFB40	RCIC Mn Stm Supply Inbrd Isol Vlv HV-49-1F007
52-22314	D134-R-E	IM HFB50 TM HFB100	Feedwater Line 'B' Inbrd. Maint Vlv HV-41-1F011B



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NO. NPF-39

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION, UNIT 1

DOCKET NO. 50-352

1.0 INTRODUCTION

By letter dated September 29, 1988, Philadelphia Electric Company (the licensee) requested an amendment to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. The proposed amendment would change the Technical Specifications (TSs) to: 1) delete the primary containment isolation valves and instrumentation associated with the permanent removal of the reactor vessel head spray piping and 2) modify the reportability requirements for seismic monitor XR-VA-151 whenever the reactor vessel head is removed. To permit these TS changes to be implemented, the licensee requested approval to permanently remove the reactor vessel head spray piping and associated isolation valves for Limerick Unit No. 1.

2.0 EVALUATION

Limerick Units 1 and 2 are BWR-4 reactors. All BWR-4s were designed with three penetrations at the top of the reactor vessel head, one four-inch and two six-inch penetrations. One of the six-inch penetrations was intended to provide a water spray to the space at the top of the reactor vessel. Located above the reactor core are the steam separators and dryers. It was postulated that during the cooldown of the reactor system, a spray of water would be required to cool the large mass of metal in the separators and dryers. The source of water was primary coolant from the residual heat removal (RHR) system. Over 15 years ago, it was found that this RHR head spray was not needed and it is no longer used during system cooldown. Keeping the system in place poses a number of potential safety and economic disadvantages. Each time the reactor vessel head is removed (e.g., during refueling), the array of piping and valves has to be disassembled and removed and then reinstalled after the head is replaced. Since the piping contains "stagnant" primary coolant at system temperature and pressure, there exists the potential for intergranular stress corrosion cracking of the many welds in the system, increasing the potential for leakage. Consequently, these welds are subject to the augmented inspection requirements of NUREG-0313. The piping constitutes one more potential source for a high energy line break and for pipe whip. Since all of the BWR-4s have demonstrated that there is no need for the RHR head spray and since removing the piping inside containment enhances plant safety, the NRC has approved removal of this system in most BWR-4s.

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records seismic data in order to provide information after a seismic event. Data would be available after an earthquake on the frequency, amplitude and phase relationships of seismic responses on seismic Category I structures. The seismic recorders provide no shutdown or safety function during normal operation nor do they provide any safety shutdown function during a seismic event. Seismic monitors only provide post-earthquake information so that a determination may be made for continued safe operation of the plant. The post earthquake data may also be used to determine if the past seismic analysis assumptions and analytical models used for the design of the plant were adequate and if allowable stresses have been exceeded.

Current Technical Specification Section 3.3.7.2a requires a Special Report to the Commission each time the Seismic Monitor is inoperable for more than 30 days. The special report provides no information to the NRC that is not already known from other sources. Between the resident inspectors, the project manager and the morning reports, the Commission is aware of a plant's status. If the vessel head is removed, the Commission knows the seismic monitor had to be moved and thus is not available to record possible seismic motions at the top of the reactor vessel head. Modifying the special report requirements for the specific seismic monitor is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. 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. 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.

4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (53 FR 46150) on November 16, 1988 and consulted with the State of Pennsylvania. No public comments were received and the State of Pennsylvania did not have any comments.

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 the security nor to the health and safety of the public.

Principal Contributor: Richard Clark

Dated: January 11, 1989