

November 20, 1995

Mr. George A. Hunger, Jr.  
Director-Licensing, MC 62A-1  
PECO Energy Company  
Nuclear Group Headquarters  
Correspondence Control Desk  
P.O. Box No. 195  
Wayne, PA 19087-0195

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M93690 AND M93691)

Dear Mr. Hunger:

The Commission has issued the enclosed Amendment No. 105 to Facility Operating License No. NPF-39 and Amendment No. 69 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 14, 1995, as supplemented by letter dated October 27, 1995.

These amendments revise the TSs by deleting Reactor Enclosure and Refueling Area Secondary Containment Isolation Valve Tables 3.6.5.2.1-1 and 3.6.5.2.2-1, and references to them, in accordance with Generic Letter 91-08, "Removal of Component Lists from Technical Specifications." The TS have been modified to state requirements in general terms that include the components listed in the tables removed from the TS.

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

Sincerely,

*/s/*  
Frank Rinaldi, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

9511270254 951120  
PDR ADOCK 05000352  
P PDR

Docket Nos. 50-352/353

- Enclosures: 1. Amendment No. 105 to License No. NPF-39
- 2. Amendment No. 69 to License No. NPF-85
- 3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File	MO'Brien	CGrimes
PUBLIC	JShea	ACRS
PDI-2 Reading	OGC	JZimmerman
SVarga	GHill(2)	
JStolz	WPasciak, RGN-I	

*Some minor changes OK. Commission made 11/13/95*

OFFICE	PDI-2/MS	PDI-2/PM	PDI-2/PM	OGC	PDI-2/D
NAME	MO'Brien	JZimmerman:rb	FRinaldi	Cmarco	JStolz
DATE	11/1/95	11/7/95	11/8/95	11/9/95	11/13/95

*JFOI 11*

OFFICIAL RECORD COPY  
DOCUMENT NAME: LI93690.AMD

4-20078

OFFICIAL RECORD COPY



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 20, 1995

Mr. George A. Hunger, Jr.  
Director-Licensing, MC 62A-1  
PECO Energy Company  
Nuclear Group Headquarters  
Correspondence Control Desk  
P.O. Box No. 195  
Wayne, PA 19087-0195

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M93690 AND M93691)

Dear Mr. Hunger:

The Commission has issued the enclosed Amendment No. 105 to Facility Operating License No. NPF-39 and Amendment No. 69 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 14, 1995, as supplemented by letter dated October 27, 1995.

These amendments revise the TSs by deleting Reactor Enclosure and Refueling Area Secondary Containment Isolation Valve Tables 3.6.5.2.1-1 and 3.6.5.2.2-1, and references to them, in accordance with Generic Letter 91-08, "Removal of Component Lists from Technical Specifications." The TS have been modified to state requirements in general terms that include the components listed in the tables removed from the TS.

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, appearing to read "Frank Rinaldi".

Frank Rinaldi, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-352/353

Enclosures: 1. Amendment No. 105 to  
License No. NPF-39  
2. Amendment No. 69 to  
License No. NPF-85  
3. Safety Evaluation

cc w/encls: See next page

Mr. George A. Hunger, Jr.  
PECO Energy Company

Limerick Generating Station,  
Units 1 & 2

cc:

J. W. Durham, Sr., Esquire  
Sr. V.P. & General Counsel  
PECO Energy Company  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Mr. Rich R. Janati, Chief  
Division of Nuclear Safety  
PA Dept. of Environmental Resources  
P. O. Box 8469  
Harrisburg, Pennsylvania 17105-8469

Mr. David P. Helker, MC 62A-1  
Manager-Limerick Licensing  
PECO Energy Company  
965 Chesterbrook Boulevard  
Wayne, Pennsylvania 19087-5691

Mr. Michael P. Gallagher  
Director - Site Engineering  
Limerick Generating Station  
P. O. Box A  
Sanatoga, Pennsylvania 19464

Mr. Walter G. McFarland, Vice President  
Limerick Generating Station  
Post Office Box A  
Sanatoga, Pennsylvania 19464

Mr. James L. Kantner  
Manager-Experience Assessment  
Limerick Generating Station  
P. O. Box A  
Sanatoga, Pennsylvania 19464

Mr. Robert Boyce  
Plant Manager  
Limerick Generating Station  
P.O. Box A  
Sanatoga, Pennsylvania 19464

Library  
US Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Ludwig E. Thibault  
Senior Manager - Operations  
Limerick Generating Station  
P. O. Box A  
Sanatoga, Pennsylvania 19464

Mr. Neil S. Perry  
Senior Resident Inspector  
US Nuclear Regulatory Commission  
P. O. Box 596  
Pottstown, Pennsylvania 19464

Dr. Judith Johnsrud  
National Energy Committee  
Sierra Club  
433 Orlando Avenue  
State College, PA 16803

Mr. Craig L. Adams  
Director - Site Support Services  
Limerick Generating Station  
P.O. Box A  
Sanatoga, Pennsylvania 19464

Chairman  
Board of Supervisors  
of Limerick Township  
646 West Ridge Pike  
Linfield, PA 19468



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 105  
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 14, 1995, and supplemented by letter dated October 27, 1995, 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.

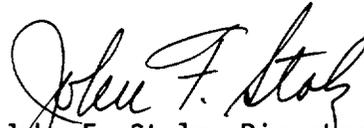
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-39 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 105, are hereby incorporated into this license. Philadelphia Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director  
Project Directorate 1-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment: Changes to the  
Technical Specifications

Date of Issuance: November 20, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 105

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 area of change.

<u>Remove</u>	<u>Insert</u>
xiii	xiii
1-6	1-6
1-7	1-7
3/4 6-48	3/4 6-48
3/4 6-49	3/4 6-49
3/4 6-50	3/4 6-50
3/4 6-51	3/4 6-51
3/4 6-51a	3/4 6-51a
B 3/4 6-6	B 3/4 6-6

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>CONTAINMENT SYSTEMS</u> (Continued)	
3/4.6.4 VACUUM RELIEF	
Suppression Chamber - Drywell Vacuum Breakers.....	3/4 6-44
3/4.6.5 SECONDARY CONTAINMENT	
Reactor Enclosure Secondary Containment Integrity.....	3/4 6-46
Refueling Area Secondary Containment Integrity.....	3/4 6-47
Reactor Enclosure Secondary Containment Automatic Isolation Valves.....	3/4 6-48
Refueling Area Secondary Containment Automatic Isolation Valves.....	3/4 6-50
Standby Gas Treatment System - Common System.....	3/4 6-52
Reactor Enclosure Recirculation System.....	3/4 6-55
3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL	
Primary Containment Hydrogen Recombiner Systems.....	3/4 6-57
Drywell Hydrogen Mixing System.....	3/4 6-58
Drywell and Suppression Chamber Oxygen Concentration..	3/4 6-59
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 SERVICE WATER SYSTEMS	
Residual Heat Removal Service Water System - Common System.....	3/4 7-1
Emergency Service Water System - Common System.....	3/4 7-3
Ultimate Heat Sink.....	3/4 7-5

## DEFINITIONS

### PURGE - PURGING

1.31 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

### RATED THERMAL POWER

1.32 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3293 MWt.

### REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

1.33 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All reactor enclosure secondary containment penetrations required to be closed during accident conditions are either:
  1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or
  2. Closed by at least one manual valve, blind flange, slide gate damper, or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.1.
- b. All reactor enclosure secondary containment hatches and blowout panels are closed and sealed.
- c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.
- d. The reactor enclosure recirculation system is in compliance with the requirements of Specification 3.6.5.4.
- e. At least one door in each access to the reactor enclosure secondary containment is closed.
- f. The sealing mechanism associated with each reactor enclosure secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.
- g. The pressure within the reactor enclosure secondary containment is less than or equal to the value required by Specification 4.6.5.1.1a.

### REACTOR PROTECTION SYSTEM RESPONSE TIME

1.34 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

### REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY

1.35 REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All refueling floor secondary containment penetrations required to be closed during accident conditions are either:

## DEFINITIONS

### REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY (Continued)

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or
  2. Closed by at least one manual valve, blind flange, slide gate damper, or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.2.
- b. All refueling floor secondary containment hatches and blowout panels are closed and sealed.
  - c. The standby gas treatment system is in compliance with the requirements of specification 3.6.5.3.
  - d. At least one door in each access to the refueling floor secondary containment is closed.
  - e. The sealing mechanism associated with each refueling floor secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.
  - f. The pressure within the refueling floor secondary containment is less than or equal to the value required by Specification 4.6.5.1.2a.

### REPORTABLE EVENT

- 1.36 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

### ROD DENSITY

- 1.37 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

### SHUTDOWN MARGIN

- 1.38 SHUTDOWN MARGIN shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming all control rods are fully inserted except for the single control rod of highest reactivity worth which is assumed to be fully withdrawn and the reactor is in the shutdown condition; cold, i.e. 68°F; and xenon free.

### SITE BOUNDARY

- 1.39 The SITE BOUNDARY shall be that line as defined in Figure 5.1.3-1a.

- 1.40 (Deleted)

### SOURCE CHECK

- 1.41 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

## CONTAINMENT SYSTEMS

### REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.6.5.2.1 The reactor enclosure secondary containment ventilation system automatic isolation valves shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

#### ACTION:

With one or more of the reactor secondary containment ventilation system automatic isolation valves inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 8 hours either:

- a. Restore the inoperable valves to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated valve secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve, blind flange or slide gate damper.

Otherwise, in OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.6.5.2.1 Each reactor enclosure secondary containment ventilation system automatic isolation valve shall be demonstrated OPERABLE:

- a. Prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.
- b. At least once per 24 months by verifying that on a containment isolation test signal each isolation valve actuates to its isolation position.
- c. By verifying the isolation time to be within its limit at least once per 92 days.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

## CONTAINMENT SYSTEMS

### REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.6.5.2.2 The refueling area secondary containment ventilation system automatic isolation valves shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITION \*.

#### ACTION:

With one or more of the refueling area secondary containment ventilation system automatic isolation valves inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 8 hours either:

- a. Restore the inoperable valves to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated valve secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve, blind flange or slide gate damper.

Otherwise, in OPERATIONAL CONDITION\*, suspend handling of irradiated fuel in the refueling area secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.6.5.2.2 Each refueling area secondary containment ventilation system automatic isolation valve shall be demonstrated OPERABLE:

- a. Prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.
- b. At least once per 24 months by verifying that on a containment isolation test signal each isolation valve actuates to its isolation position.
- c. By verifying the isolation time to be within its limit at least once per 92 days.

---

\*Required when (1) irradiated fuel is being handled in the refueling area secondary containment, or (2) during CORE ALTERATIONS, or (3) during operations with a potential for draining the reactor vessel with the vessel head removed and fuel in the vessel.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

## CONTAINMENT SYSTEMS

### BASES

#### 3/4.6.5 SECONDARY CONTAINMENT (Continued)

The field tests for bypass leakage across the SGTS charcoal adsorber and HEPA filter banks are performed at a flow rate of  $3000 \pm 10\%$  cfm. This flow rate corresponds to the maximum overall three zone inleakage rate of 3264 cfm.

The SGTS filter train pressure drop is a function of air flow rate and filter conditions. Surveillance testing is performed using either the SGTS or dryerwell purge fans to provide operating convenience.

Each reactor enclosure secondary containment zone and refueling area secondary containment zone is tested independently to verify the design leak tightness. A design leak tightness of 1250 cfm or less for each reactor enclosure and 764 cfm or less for the refueling area at a 0.25 inch of vacuum water gage will ensure that containment integrity is maintained at an acceptable level if all zones are connected to the SGTS at the same time.

The Reactor Enclosure Secondary Containment Automatic Isolation Valves and Refueling Area Secondary Containment Automatic Isolation Valves can be found in the UFSAR.

The post-LOCA offsite dose analysis assumes a reactor enclosure secondary containment post-draw down leakage rate of 1250 cfm and certain post-accident X/Q values. While the post-accident X/Q values represent a statistical interpretation of historical meteorological data, the highest ground level wind speed which can be associated with these values is 7 mph (Pasquill-Gifford stability Class G for a ground level release). Therefore, the surveillance requirement assures that the reactor enclosure secondary containment is verified under meteorological conditions consistent with the assumptions utilized in the design basis analysis. Reactor Enclosure Secondary Containment leakage tests that are successfully performed at wind speeds in excess of 7 mph would also satisfy the leak rate surveillance requirements, since it shows compliance with more conservative test conditions.

#### 3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL

The OPERABILITY of the systems required for the detection and control of hydrogen combustible mixtures of hydrogen and oxygen ensures that these systems will be available to maintain the hydrogen concentration within the primary containment below the lower flammability limit during post-LOCA conditions. The primary containment hydrogen recombiner is provided to maintain the oxygen concentration below the lower flammability limit. The combustible gas analyzer is provided to continuously monitor, both during normal operations and post-LOCA, the hydrogen and oxygen concentrations in the primary containment. The primary containment atmospheric mixing system is provided to ensure adequate mixing of the containment atmosphere to prevent localized accumulations of hydrogen and oxygen from exceeding the lower flammability limit. The hydrogen control system is consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 69  
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Philadelphia Electric Company (the licensee) dated September 14, 1995, and supplemented by letter dated October 27, 1995, 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.

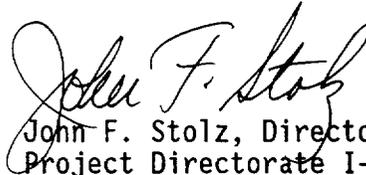
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-85 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 69 , are hereby incorporated into this license. Philadelphia Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment: Changes to the  
Technical Specifications

Date of Issuance: November 20, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 69

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

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 area of change.

<u>Remove</u>	<u>Insert</u>
xiii	xiii
1-6	1-6
1-7	1-7
3/4 6-48	3/4 6-48
3/4 6-49	3/4 6-49
3/4 6-50	3/4 6-50
3/4 6-51	3/4 6-51
3/4 6-51a	3/4 6-51a
B 3/4 6-6	B 3/4 6-6

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

---

<u>SECTION</u>	<u>PAGE</u>
<u>CONTAINMENT SYSTEMS (Continued)</u>	
3/4.6.4	VACUUM RELIEF
Suppression Chamber - Drywell Vacuum Breakers.....	3/4 6-44
3/4.6.5	SECONDARY CONTAINMENT
Reactor Enclosure Secondary Containment Integrity.....	3/4 6-46
Refueling Area Secondary Containment Integrity.....	3/4 6-47
Reactor Enclosure Secondary Containment Automatic Isolation Valves.....	3/4 6-48
Refueling Area Secondary Containment Automatic Isolation Valves.....	3/4 6-50
Standby Gas Treatment System - Common System.....	3/4 6-52
Reactor Enclosure Recirculation System.....	3/4 6-55
3/4.6.6	PRIMARY CONTAINMENT ATMOSPHERE CONTROL
Primary Containment Hydrogen Recombiner Systems.....	3/4 6-57
Drywell Hydrogen Mixing System.....	3/4 6-58
Drywell and Suppression Chamber Oxygen Concentration..	3/4 6-59
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1	SERVICE WATER SYSTEMS
Residual Heat Removal Service Water System - Common System.....	3/4 7-1
Emergency Service Water System - Common System.....	3/4 7-3
Ultimate Heat Sink.....	3/4 7-5

## DEFINITIONS

### PURGE - PURGING

1.31 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

### RATED THERMAL POWER

1.32 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3458 MWt.

### REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

1.33 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All reactor enclosure secondary containment penetrations required to be closed during accident conditions are either:
  1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or
  2. Closed by at least one manual valve, blind flange, slide gate damper or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.1.
- b. All reactor enclosure secondary containment hatches and blowout panels are closed and sealed.
- c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.
- d. The reactor enclosure recirculation system is in compliance with the requirements of Specification 3.6.5.4.
- e. At least one door in each access to the reactor enclosure secondary containment is closed.
- f. The sealing mechanism associated with each reactor enclosure secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.
- g. The pressure within the reactor enclosure secondary containment is less than or equal to the value required by Specification 4.6.5.1.1a.

### REACTOR PROTECTION SYSTEM RESPONSE TIME

1.34 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

### REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY

1.35 REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All refueling floor secondary containment penetrations required to be closed during accident conditions are either:

## DEFINITIONS

### REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY (Continued)

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or
  2. Closed by at least one manual valve, blind flange, slide gate damper or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.2.
- b. All refueling floor secondary containment hatches and blowout panels are closed and sealed.
  - c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.
  - d. At least one door in each access to the refueling floor secondary containment is closed.
  - e. The sealing mechanism associated with each refueling floor secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.
  - f. The pressure within the refueling floor secondary containment is less than or equal to the value required by Specification 4.6.5.1.2a.

### REPORTABLE EVENT

- 1.36 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

### ROD DENSITY

- 1.37 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

### SHUTDOWN MARGIN

- 1.38 SHUTDOWN MARGIN shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming all control rods are fully inserted except for the single control rod of highest reactivity worth which is assumed to be fully withdrawn and the reactor is in the shutdown condition; cold, i.e. 68°F; and xenon free.

### SITE BOUNDARY

- 1.39 The SITE BOUNDARY shall be that line as defined in Figure 5.1.3-1a.

- 1.40 (Deleted)

### SOURCE CHECK

- 1.41 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

## CONTAINMENT SYSTEMS

### REACTOR ENCLOSURE SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.6.5.2.1 The reactor enclosure secondary containment ventilation system automatic isolation valves shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

#### ACTION:

With one or more of the reactor secondary containment ventilation system automatic isolation valves inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 8 hours either:

- a. Restore the inoperable valves to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated valve secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve, blind flange or slide gate damper.

Otherwise, in OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.6.5.2.1 Each reactor enclosure secondary containment ventilation system automatic isolation valve shall be demonstrated OPERABLE:

- a. Prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.
- b. At least once per 24 months by verifying that on a containment isolation test signal each isolation valve actuates to its isolation position.
- c. By verifying the isolation time to be within its limit at least once per 92 days.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

## CONTAINMENT SYSTEMS

### REFUELING AREA SECONDARY CONTAINMENT AUTOMATIC ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.6.5.2.2 The refueling area secondary containment ventilation system automatic isolation valves shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITION \*.

#### ACTION:

With one or more of the refueling area secondary containment ventilation system automatic isolation valves inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 8 hours either:

- a. Restore the inoperable valves to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated valve secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve, blind flange or slide gate damper.

Otherwise, in OPERATIONAL CONDITION\*, suspend handling of irradiated fuel in the refueling area secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.6.5.2.2 Each refueling area secondary containment ventilation system automatic isolation valve shall be demonstrated OPERABLE:

- a. Prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.
- b. At least once per 24 months by verifying that on a containment isolation test signal each isolation valve actuates to its isolation position.
- c. By verifying the isolation time to be within its limit at least once per 92 days.

---

\*Required when (1) irradiated fuel is being handled in the refueling area secondary containment, or (2) during CORE ALTERATIONS, or (3) during operations with a potential for draining the reactor vessel with the vessel head removed and fuel in the vessel.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

THE INFORMATION FROM THIS TECHNICAL SPECIFICATIONS  
SECTION HAS BEEN RELOCATED TO THE UFSAR.

## CONTAINMENT SYSTEMS

### BASES

---

#### SECONDARY CONTAINMENT (Continued)

The SGTS fans are sized for three zones and therefore, when aligned to a single zone or two zones, will have excess capacity to more quickly drawdown the affected zones. There is no maximum flow limit to individual zones or pairs of zones and the air balance and drawdown time are verified when all three zones are connected to the SGTS.

The three zone air balance verification and drawdown test will be done after any major system alteration, which is any modification which will have an effect on the SGTS flowrate such that the ability of the SGTS to drawdown the reactor enclosure to greater than or equal to 0.25 inch of vacuum water gage in less than or equal to 126 seconds could be affected.

The field tests for bypass leakage across the SGTS charcoal adsorber and HEPA filter banks are performed at a flow rate of  $3000 \pm 10\%$  cfm. This flow rate corresponds to the maximum overall three zone inleakage rate of 3264 cfm.

The SGTS filter train pressure drop is a function of air flow rate and filter conditions. Surveillance testing is performed using either the SGTS or drywell purge fans to provide operating convenience.

Each reactor enclosure secondary containment zone and refueling area secondary containment zone is tested independently to verify the design leak tightness. A design leak tightness of 1250 cfm or less for each reactor enclosure and 764 cfm or less for the refueling area at a 0.25 inch of vacuum water gage will ensure that containment integrity is maintained at an acceptable level if all zones are connected to the SGTS at the same time.

The Reactor Enclosure Secondary Containment Automatic Isolation Valves and Refueling Area Secondary Containment Automatic Isolation Valves can be found in the UFSAR.

The post-LOCA offsite dose analysis assumes a reactor enclosure secondary containment post-draw down leakage rate of 1250 cfm and certain post-accident X/Q values. While the post-accident X/Q values represent a statistical interpretation of historical meteorological data, the highest ground level wind speed which can be associated with these values is 7 mph (Pasquill-Gifford stability Class G for a ground level release). Therefore, the surveillance requirement assures that the reactor enclosure secondary containment is verified under meteorological conditions consistent with the assumptions utilized in the design basis analysis. Reactor Enclosure Secondary Containment leakage tests that are successfully performed at wind speeds in excess of 7 mph would also satisfy the leak rate surveillance requirements, since it shows compliance with more conservative test conditions.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 105 AND 69 TO FACILITY OPERATING

LICENSE NOS. NPF-39 AND NPF-85

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By letter dated September 14, 1995, as supplemented by letter dated October 27, 1995, the Philadelphia Electric Company (the licensee) submitted a request for changes to the Limerick Generating Station, Units 1 and 2, Technical Specifications (TS). The requested changes would delete the Reactor Enclosure Secondary Containment Ventilation System Automatic Isolation Valves and Refueling Area Secondary Containment Automatic Isolation Valves, Tables 3.6.5.2.1-1 and 3.6.5.2.2-1, and references to them, in accordance with NRC Generic Letter (GL) 91-08, "Removal of Component Lists from Technical Specifications." The TSs have been modified to state requirements in general terms that include the components listed in the tables removed from the TS. The October 27, 1995, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination, nor the Federal Register notice.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to include TS as part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TSs.

The Commission provided guidance for the contents of TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" ("Final Policy Statement"), 58 FR 39132 (July 22, 1993), in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Act. These criteria were subsequently incorporated into the regulations by an amendment to 10 CFR 50.36, 60 FR 36953 (July 19, 1995). In particular, the Commission indicated that certain items could be relocated from the TS to licensee-controlled documents, consistent with the standard enunciated in *Portland General Electric Co. (Trojan Nuclear Plant)*, ALAB-531,

9 NRC 263, 273 (1979). In that case, the Atomic Safety and Licensing Appeal Board indicated that "technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety."

Consistent with this approach, the four criteria defined by 10 CFR 50.36, for determining whether a particular matter is required to be included in the TS limiting conditions for operations, are as follows:

- (1) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary;
- (2) a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
- (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and
- (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

As a result, existing TS requirements which fall within or satisfy any of the above criteria must be retained in the TS, while those TS requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents.

### 3.0 EVALUATION

In accordance with GL 91-08, and 10 CFR 50.90, the licensee proposed the following changes to the Limerick TS. The licensee's proposed changes are discussed in the order the associated TS appears in the Limerick TS. The staff's evaluation and conclusion follow each proposed change.

- (1) The licensee proposed changes to the TS index page to make editorial corrections associated with the proposed TS changes to reflect the deletion of tables which contain component lists.

The staff concludes that the proposed changes are acceptable because they are administrative in nature only (reflecting the TS changes evaluated below). Therefore, the staff finds the licensee's proposed changes acceptable.

- (2) The licensee proposed to make changes to TS Definition 1.33.a.2 for Reactor Enclosure Secondary Containment Integrity and TS Definition 1.35.a.2 for Refueling Floor Secondary Containment Integrity.

The proposed changes to the TS Definitions are administrative or editorial in nature (reflecting the TS changes evaluated below). Therefore, the staff finds the licensee's proposed changes acceptable.

- (3) The licensee has proposed the removal of Table 3.6.5.2.1-1, "Reactor Enclosure Secondary Containment Ventilation System Automatic Isolation Valves." In addition, a phrase would be added to indicate that the information from this TS section has been relocated to the Updated Final Safety Analysis Report (UFSAR). The component list will be retained in licensee controlled documents (UFSAR and a plant procedure) which will be maintained under the requirements of TS Administrative Controls Section 6.0 and the provisions of 10 CFR 50.59.

With the removal of Table 3.6.5.2.1-1, the licensee has proposed to revise the statement of the LCO under TS 3/4.6.5 to the following:

The reactor enclosure secondary containment ventilation system automatic isolation valves shall be operable.

In addition, the licensee proposed to revise the definition of Reactor Enclosure Secondary Containment Integrity and to delete the reference to Table 3.6.5.2.1-1 under the action requirements of TS 3.6.5.2.1.

The licensee has proposed to revise the surveillance requirement of TS 4.6.5.2.1 to state "Each reactor enclosure secondary containment ventilation system automatic isolation valve shall be demonstrated operable," rather than stating the requirements in relation to the valves specified in Table 3.6.5.2.1-1.

The proposed changes are consistent with the guidance of GL 91-08. The content of the TS table is not changed, only its location. Therefore, since the proposed changes do not technically change the current intent of the TS and are in accordance with the guidance provided in GL 91-08, the changes are acceptable.

- (4) The licensee has proposed the removal of Table 3.6.5.2.2-1, "Refueling Area Secondary Containment Automatic Isolation Valves." In addition, a phrase would be added to indicate that the information from this TS section has been relocated to the Updated Final Safety Analysis Report (UFSAR). The component list will be retained in licensee controlled documents (UFSAR and a plant procedure) which will be maintained under the requirements of TS Administrative Controls Section 6.0 and the provisions of 10 CFR 50.59.

With the removal of Table 3.6.5.2.2-1, the licensee has proposed to revise the statement of the LCO under TS 3/4.6.5 to the following:

The refueling area secondary containment automatic isolation valves shall be operable.

In addition, the licensee proposed to revise the definition of Refueling Area Secondary Containment Integrity and to delete the reference to Table 3.6.5.2.2-1 under the action requirements of TS 3.6.5.2.2.

The licensee has proposed to revise the surveillance requirement of TS 4.6.5.2.2 to state "Each refueling area secondary containment automatic isolation valve shall be demonstrated operable," rather than stating the requirements in relation to the valves specified in Table 3.6.5.2.2-1.

The proposed changes are consistent with the guidance of GL 91-08. The content of the TS table is not changed, only its location. Therefore, since the proposed changes do not technically change the current intent of the TS and are in accordance with the guidance provided in GL 91-08, the changes are acceptable.

### 3.1 Summary

The staff's review of the proposed changes determined that the removal of these tables does not eliminate the requirements for the licensee to ensure that the system, structure, or component is capable of performing its safety function. Although these tables are removed from the TS and incorporated into the Limerick administratively controlled documents, since they are controlled documents described in the Updated Final Safety Analysis Report (UFSAR), the licensee must continue to evaluate any plant modifications that affect any of these components in accordance with 10 CFR 50.59. Should the licensee's determination conclude that an unreviewed safety question is involved, due to either (1) an increase in the probability or consequence of accidents or malfunctions of equipment important to safety, (2) the creation of a possibility for an accident or malfunction of a different type than any evaluated previously, or (3) a reduction in the margin of safety, NRC approval and a license amendment would be required prior to implementation of the change. NRC inspection and enforcement programs also enable the staff to monitor facility changes and licensee adherence to UFSAR commitments and to take any remedial action that may be appropriate.

The staff's review concluded that 10 CFR 50.36 does not require these tables to be retained in the TS. Requirements related to operability, applicability, and surveillance requirements, including performance of testing to ensure operability, are retained due to the importance in mitigating the consequence of an accident. However, the staff determined that the inclusion of these tables is an operation detail related to the licensee's safety analyses, which are adequately controlled by the requirements of 10 CFR 50.59. Therefore, the continued processing of license amendments related to revision of the affected

tables, where the revisions to those requirements do not involve an unreviewed safety question under 10 CFR 50.59, would afford no significant benefit with regard to protecting the public health and safety.

The staff has concluded, therefore, that removal of these tables and references to them is acceptable because (1) their inclusion in the TS is not specifically required by 10 CFR 50.36 or other regulations, (2) the tables have been incorporated into the Limerick administratively controlled document, are adequately controlled by 10 CFR 50.59, and their inclusion in the TS is not required to avert an immediate threat to the public health and safety, and (3) changes that are deemed to involve an unreviewed safety question will require prior NRC approval in accordance with 10 CFR 50.59(c).

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change the surveillance requirements. The NRC staff has determined that the amendments involve 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 the amendments involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 52934). Accordingly, the amendments meet 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 or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 6.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Zimmerman

Date: November 20, 1995