July 18, 1995

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

SUBJECT: LICENSE AMENDMENT ON OPTIONAL SCRAM INSERTION TIME TESTING AND CONTROL ROD BLOCK AND SOURCE RANGE MONITORING INSTRUMENTATION, LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M90377, M90378, M90508 AND M90509)

Dear Mr. Hunger:

The Commission has issued the enclosed Amendment No. 99 to Facility Operating License No. NPF-39 and Amendment No. 63 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 August 22, 1994, as supplemented by letter dated July 3, 1995.

These amendments revise TS surveillance requirements by adding an optional scram insertion time test and revise the TS surveillance requirements for control rod block and source range monitoring instrumentation.

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

Docket Nos. 50-352/50-353

Enclosures: 1. Amendment No. 99 to License No. NPF-39
Amendment No. 63 to License No. NPF-85
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

~~Docket File~~	MO'Brien	CGrimes
PUBLIC	FRinaldi	RJones
PDI-2 Reading	SDembek	ACRS(4)
SVarga	OGC	OC/LFDCB
JZwolinski	OPA	CAnderson, RGN-I
JStolz	GHill(2)	JZimmerman

*Previously Concurred

OFC	:PDI-2/LA	:PDII-3/PM	:PDI-2/PM	:PDI-2/PM	:SRXB/BC*	:OGC*	:PDI-2/D	::
		SL for 5/31/95						
NAME	:MO'Brien	:SDembek	:JZimmerman	:FRinaldi	:RJones	:	:JStolz for	:
DATE	:7/17/95	:7/12/95	:7/12/95	:7/12/95	:07/03/95	:07/10/95	:7/14/95	:

OFFICIAL RECORD COPY FILENAME: A:\LI90508.AMD

9507280013 950718
PDR ADOCK 05000352
P PDR

DF01

FILE CENTER COPY

July 18, 1995

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

SUBJECT: LICENSE AMENDMENT ON OPTIONAL SCRAM INSERTION TIME TESTING AND CONTROL ROD BLOCK AND SOURCE RANGE MONITORING INSTRUMENTATION, LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M90377, M90378, M90508 AND M90509)

Dear Mr. Hunger:

The Commission has issued the enclosed Amendment No. 99 to Facility Operating License No. NPF-39 and Amendment No. 63 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 August 22, 1994, as supplemented by letter dated July 3, 1995.

These amendments revise TS surveillance requirements by adding an optional scram insertion time test and revise the TS surveillance requirements for control rod block and source range monitoring instrumentation.

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

Docket Nos. 50-352/50-353

Enclosures: 1. Amendment No. 99 to License No. NPF-39
Amendment No. 63 to License No. NPF-85
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File	MO'Brien	CGrimes
PUBLIC	FRinaldi	RJones
PDI-2 Reading	SDembek	ACRS(4)
SVarga	OGC	OC/LFDCB
JZwolinski	OPA	CAnderson, RGN-I
JStolz	GHill(2)	JZimmerman

*Previously Concurred

OFC	:PDI-2/LA	:PDI-2/PM	:PDI-2/PM	:PDI-2/PM	:SRXB/BC*	:OGC*	:PDI-2/D
NAME	:MO'Brien	:SDembek	:JZimmerman	:FRinaldi	:RJones	:	:JStolz
DATE	: /7/95	: 7/12/95	: 7/12/95	: 7/12/95	:07/03/95	:07/10/95	: 7/14/95

OFFICIAL RECORD COPY FILENAME: A:\LI90508.AMD

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

July 18, 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: LICENSE AMENDMENT ON OPTIONAL SCRAM INSERTION TIME TESTING AND CONTROL ROD BLOCK AND SOURCE RANGE MONITORING INSTRUMENTATION, LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M90377, M90378, M90508 AND M90509)

Dear Mr. Hunger:

The Commission has issued the enclosed Amendment No. 99 to Facility Operating License No. NPF-39 and Amendment No. 63 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 August 22, 1994, as supplemented by letter dated July 3, 1995.

These amendments revise TS surveillance requirements by adding an optional scram insertion time test and revise the TS surveillance requirements for control rod block and source range monitoring instrumentation.

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

Sincerely,

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

Docket Nos. 50-352/50-353

Enclosures: 1. Amendment No. 99 to
License No. NPF-39
Amendment No. 63 to
License No. NPF-85
2. Safety Evaluation

cc w/encls: See next page

cc:

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

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

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

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

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

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

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

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

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

Mr. James L. Kantner
Manager-Experience Assessment
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

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

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

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. 99
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 August 22, 1994, as supplemented by letter dated July 3, 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. 99 , 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 and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Donald A. Brinkman
for 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: July 18, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 99

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.

Remove	Insert
3/4 1-6	3/4 1-6
3/4 2-9	3/4 2-9
3/4 3-61	3/4 3-61
3/4 3-62	3/4 3-62
3/4 3-88	3/4 3-88
3/4 9-4	3/4 9-4
B 3/4 1-2	B 3/4 1-2

CONTROL ROD MAXIMUM SCRAM INSERTION TIMES

LIMITING CONDITION FOR OPERATION

3.1.3.2 The maximum scram insertion time of each control rod from the fully withdrawn position to notch position 5, based on deenergization of the scram pilot valve solenoids as time zero, shall not exceed 7.0 seconds.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

a. With the maximum scram insertion time of one or more control rods exceeding 7 seconds:

   1. Declare the control rod(s) with the slow insertion time inoperable, and

   2. Perform the Surveillance Requirements of Specification 4.1.3.2c. at least once per 60 days when operation is continued with three or more control rods with maximum scram insertion times in excess of 7.0 seconds.

   Otherwise, be in at least HOT SHUTDOWN within 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.2 The maximum scram insertion time of the control rods shall be demonstrated through measurement and, during single control rod scram time tests, the control rod drive pumps shall be isolated from the accumulators:

a. For all control rods prior to THERMAL POWER exceeding 40% of RATED THERMAL POWER with reactor coolant pressure greater than or equal to 950 psig, following CORE ALTERATIONS or after a reactor shutdown that is greater than 120 days.

b. For specifically affected individual control rods following maintenance on or modification to the control rod or control rod drive system which could affect the scram insertion time of those specific control rods in accordance with either "1" or "2" as follows:

   1.a Specifically affected individual control rods shall be scram time tested at zero reactor coolant pressure and the scram insertion time from the fully withdrawn position to notch position 05 shall not exceed 2.0 seconds, and

   1.b Specifically affected individual control rods shall be scram time tested at greater than or equal to 950 psig reactor coolant pressure prior to exceeding 40% of RATED THERMAL POWER.

   2. Specifically affected individual control rods shall be scram time tested at greater than or equal to 950 psig reactor coolant pressure.

c. For at least 10% of the control rods, with reactor coolant pressure greater than or equal to 950 psig, on a rotating basis, and at least once per 120 days of POWER OPERATION.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION

a. With the end-of-cycle recirculation pump trip system inoperable per Specification 3.3.4.2, operation may continue provided that, within 1 hour, MCPR is determined to be greater than or equal to the rated MCPR limit as a function of the average scram time (shown in the CORE OPERATING LIMITS REPORT) EOC-RPT inoperable curve, adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT.

b. With MCPR less than the applicable MCPR limit adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT, initiate corrective action within 15 minutes and restore MCPR to within the required limit within 2 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

c. With the main turbine bypass system inoperable per Specification 3.7.8, operation may continue provided that, within 1 hour, MCPR is determined to be greater than or equal to the rated MCPR limit as a function of the average scram time (shown in the CORE OPERATING LIMITS REPORT) main turbine bypass valve inoperable curve, adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT.

SURVEILLANCE REQUIREMENTS

4.2.3 MCPR, with:

a. τ = 1.0 prior to performance of the initial scram time measurements for the cycle in accordance with Specification 4.1.3.2a and during reactor startups prior to control rod scram time tests in accordance with Specification 4.1.3.2.b.1.b, or

b. τ as defined in Specification 3.2.3 used to determine the limit within 72 hours of the conclusion of each scram time surveillance test required by Specification 4.1.3.2,

shall be determined to be equal to or greater than the applicable MCPR limit, including application of the MCPR(P) and MCPR(F) factors as determined from the CORE OPERATING LIMITS REPORT.

a. At least once per 24 hours,

b. Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and

c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for MCPR.

d. The provisions of Specification 4.0.4 are not applicable.

TABLE 4.3.6-1
CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION[a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. ROD BLOCK MONITOR				
a. Upscale	N.A.	Q[c]	R	1*
b. Inoperative	N.A.	Q[c]	N.A.	1*
c. Downscale	N.A.	Q[c]	R	1*
2. APRM				
a. Flow Biased Neutron Flux-Upscale	N.A.	Q	SA	1
b. Inoperative	N.A.	Q	N.A.	1, 2, 5***
c. Downscale	N.A.	Q	SA	1
d. Neutron Flux - Upscale, Startup	N.A.	Q	SA	2, 5***
3. SOURCE RANGE MONITORS				
a. Detector not full in	N.A.	M[d][e],W[f]	N.A.	2, 5
b. Upscale	N.A.	M[d][e],W[f]	R	2, 5
c. Inoperative	N.A.	M[d][e],W[f]	N.A.	2, 5
d. Downscale	N.A.	M[d][e],W[f]	R	2, 5
4. INTERMEDIATE RANGE MONITORS				
a. Detector not full in	N.A.	W	N.A.	2, 5
b. Upscale	N.A.	W	R	2, 5
c. Inoperative	N.A.	W	N.A.	2, 5
d. Downscale	N.A.	W	R	2, 5
5. SCRAM DISCHARGE VOLUME				
a. Water Level - High	N.A.	Q	R	1, 2, 5**
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW				
a. Upscale	N.A.	Q	SA	1
b. Inoperative	N.A.	Q	N.A.	1
c. Comparator	N.A.	Q	SA	1
7. REACTOR MODE SWITCH SHUTDOWN POSITION	N.A.	R[g]	N.A.	3, 4

TABLE 4.3.6-1 (Continued)

CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

(a) Neutron detectors may be excluded from CHANNEL CALIBRATION.

(b) Deleted.

(c) Includes reactor manual control multiplexing system input.

* For OPERATIONAL CONDITION of Specification 3.1.4.3.

** With more than one control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

*** Required to be OPERABLE only prior to and during shutdown margin demonstrations as performed per Specification 3.10.3.

(d) When in OPERATIONAL CONDITION 2.

(e) The provisions of Specification 4.0.4 are not applicable provided that the surveillance is performed within 12 hours after the IRMs are on Range 2 or below during a shutdown.

(f) When in OPERATIONAL CONDITION 5.

(g) The provisions of Specification 4.0.4 are not applicable provided that the surveillance is performed within 1 hour after the Reactor Mode Switch has been placed in the shutdown position.

SOURCE RANGE MONITORS

LIMITING CONDITION FOR OPERATION

3.3.7.6 At least the following source range monitor channels shall be OPERABLE:

a. In OPERATIONAL CONDITION 2*, three.

b. In OPERATIONAL CONDITION 3 and 4, two.

APPLICABILITY: OPERATIONAL CONDITIONS 2*, 3, and 4.

ACTION:

a. In OPERATIONAL CONDITION 2* with one of the above required source range monitor channels inoperable, restore at least three source range monitor channels to OPERABLE status within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 3 or 4 with one or more of the above required source range monitor channels inoperable, verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the Shutdown position within 1 hour.

SURVEILLANCE REQUIREMENTS

4.3.7.6 Each of the above required source range monitor channels shall be demonstrated OPERABLE by:

a. Performance of a:

1. CHANNEL CHECK at least once per:

a) 12 hours in CONDITION 2*, AND

b) 24 hours in CONDITION 3 or 4.

2. CHANNEL CALIBRATION** at least once per 24 months.

b. Performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days.

c. Verifying, prior to withdrawal of control rods, that the SRM count rate is at least 3.0 cps*** with the detector fully inserted.

*With IRM's on range 2 or below.
**Neutron detectors may be excluded from CHANNEL CALIBRATION.
***May be reduced, provided the source range monitor has an observed count rate and signal-to-noise ratio on or above the curve shown in Figure 3.3.6-1.

SURVEILLANCE REQUIREMENTS (Continued)

b. Performance of a CHANNEL FUNCTIONAL TEST at least once per 7 days.

c. Verifying that the channel count rate is at least 3.0 cps:*

1. Prior to control rod withdrawal,

2. Prior to and at least once per 12 hours during CORE ALTERATIONS, and

3. At least once per 24 hours.

d. Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:

1. The time any control rod is withdrawn,** or

2. Shutdown margin demonstrations.

*May be reduced, provided the source range monitor has an observed count rate and signal-to-noise ratio on or above the curve shown in Figure 3.3.6-1. These channels are not required when sixteen or fewer fuel assemblies, adjacent to the SRMs, are in the core.

**Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

3/4.1.3 CONTROL RODS

The specification of this section ensure that (1) the minimum SHUTDOWN MARGIN is maintained, (2) the control rod insertion times are consistent with those used in the accident analysis, and (3) the potential effects of the rod drop accident are limited. The ACTION statements permit variations from the basic requirements but at the same time impose more restrictive criteria for continued operation. A limitation on inoperable rods is set such that the resultant effect on total rod worth and scram shape will be kept to a minimum. The requirements for the various scram time measurements ensure that any indication of systematic problems with rod drives will be investigated on a timely basis.

Damage within the control rod drive mechanism could be a generic problem, therefore with a control rod immovable because of excessive friction or mechanical interference, operation of the reactor is limited to a time period which is reasonable to determine the cause of the inoperability and at the same time prevent operation with a large number of inoperable control rods.

Control rods that are inoperable for other reasons are permitted to be taken out of service provided that those in the nonfully-inserted position are consistent with the SHUTDOWN MARGIN requirements.

The number of control rods permitted to be inoperable could be more than the eight allowed by the specification, but the occurrence of eight inoperable rods could be indicative of a generic problem and the reactor must be shutdown for investigation and resolution of the problem.

The control rod system is designed to bring the reactor subcritical at a rate fast enough to prevent the MCPR from becoming less than the fuel cladding safety limit during the limiting power transient analyzed in Section 15.2 of the FSAR. This analysis shows that the negative reactivity rates resulting from the scram with the average response of all the drives as given in the specifications, provided the required protection and MCPR remains greater than the fuel cladding safety limit. The occurrence of scram times longer then those specified should be viewed as an indication of a systemic problem with the rod drives and therefore the surveillance interval is reduced in order to prevent operation of the reactor for long periods of time with a potentially serious problem.

Scram time testing at zero psig reactor coolant pressure is adequate to ensure that the control rod will perform its intended scram function during startup of the plant until scram time testing at 950 psig reactor coolant pressure is performed prior to exceeding 40% rated core thermal power.

The scram discharge volume is required to be OPERABLE so that it will be available when needed to accept discharge water from the control rods during a reactor scram and will isolate the reactor coolant system from the containment when required.

Control rods with inoperable accumulators are declared inoperable and Specification 3.1.3.1 then applies. This prevents a pattern of inoperable accumulators that would result in less reactivity insertion on a scram than has been analyzed even though control rods with inoperable accumulators may still be inserted with normal drive water pressure. Operability of the accumulator ensures that there is a means available to insert the control rods even under the most unfavorable depressurization of the reactor.

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. 63
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 August 22, 1994, as supplemented by letter dated July 3, 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. 63 , 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 and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Donald S. Brinkman
for 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: July 18, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 63

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.

Remove	Insert
3/4 1-6	3/4 1-6
3/4 2-9	3/4 2-9
3/4 3-61	3/4 3-61
3/4 3-62	3/4 3-62
3/4 3-88	3/4 3-88
3/4 9-4	3/4 9-4
B 3/4 1-2	B 3/4 1-2

CONTROL ROD MAXIMUM SCRAM INSERTION TIMES

LIMITING CONDITION FOR OPERATION

3.1.3.2 The maximum scram insertion time of each control rod from the fully withdrawn position to notch position 5, based on deenergization of the scram pilot valve solenoids as time zero, shall not exceed 7.0 seconds.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

a. With the maximum scram insertion time of one or more control rods exceeding 7 seconds:

   1. Declare the control rod(s) with the slow insertion time inoperable, and

   2. Perform the Surveillance Requirements of Specification 4.1.3.2c. at least once per 60 days when operation is continued with three or more control rods with maximum scram insertion times in excess of 7.0 seconds.

   Otherwise, be in at least HOT SHUTDOWN within 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.2 The maximum scram insertion time of the control rods shall be demonstrated through measurement and, during single control rod scram time tests, the control rod drive pumps shall be isolated from the accumulators:

a. For all control rods prior to THERMAL POWER exceeding 40% of RATED THERMAL POWER with reactor coolant pressure greater than or equal to 950 psig, following CORE ALTERATIONS or after a reactor shutdown that is greater than 120 days.

b. For specifically affected individual control rods following maintenance on or modification to the control rod or control rod drive system which could affect the scram insertion time of those specific control rods in accordance with either "1" or "2" as follows:

   1.a Specifically affected individual control rods shall be scram time tested at zero reactor coolant pressure and the scram insertion time from the fully withdrawn position to notch position 05 shall not exceed 2.0 seconds, and

   1.b Specifically affected individual control rods shall be scram time tested at greater than or equal to 950 psig reactor coolant pressure prior to exceeding 40% of RATED THERMAL POWER.

   2. Specifically affected individual control rods shall be scram time tested at greater than or equal to 950 psig reactor coolant pressure.

c. For at least 10% of the control rods, with reactor coolant pressure greater than or equal to 950 psig, on a rotating basis, and at least once per 120 days of POWER OPERATION.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION

a. With the end-of-cycle recirculation pump trip system inoperable per Specification 3.3.4.2, operation may continue provided that, within 1 hour, MCPR is determined to be greater than or equal to the rated MCPR limit as a function of the average scram time (shown in the CORE OPERATING LIMITS REPORT) EOC-RPT inoperable curve, adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT.

b. With MCPR less than the applicable MCPR limit adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT, initiate corrective action within 15 minutes and restore MCPR to within the required limit within 2 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

c. With the main turbine bypass system inoperable per Specification 3.7.8, operation may continue provided that, within 1 hour, MCPR is determined to be greater than or equal to the rated MCPR limit as a function of the average scram time (shown in the CORE OPERATING LIMITS REPORT) main turbine bypass valve inoperable curve, adjusted by the MCPR(P) and MCPR(F) factors as shown in the CORE OPERATING LIMITS REPORT.

SURVEILLANCE REQUIREMENTS

4.2.3 MCPR, with:

a. τ = 1.0 prior to performance of the initial scram time measurements for the cycle in accordance with Specification 4.1.3.2a and during reactor startups prior to control rod scram time tests in accordance with Specification 4.1.3.2.b.1.b, or

b. τ as defined in Specification 3.2.3 used to determine the limit within 72 hours of the conclusion of each scram time surveillance test required by Specification 4.1.3.2,

shall be determined to be equal to or greater than the applicable MCPR limit including application of the MCPR(P) and MCPR(F) factors as determined from the CORE OPERATING LIMITS REPORT.

a. At least once per 24 hours,

b. Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and

c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for MCPR.

d. The provisions of Specification 4.0.4 are not applicable.

TABLE 4.3.6-1

CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION[a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. ROD BLOCK MONITOR				
a. Upscale	N.A.	Q[c]	SA	1*
b. Inoperative	N.A.	Q[c]	N.A.	1*
c. Downscale	N.A.	Q[c]	SA	1*
2. APRM				
a. Flow Biased Neutron Flux-Upscale	N.A.	Q	SA	1
b. Inoperative	N.A.	Q	N.A.	1, 2, 5***
c. Downscale	N.A.	Q	SA	1
d. Neutron Flux - Upscale, Startup	N.A.	Q	SA	2, 5***
3. SOURCE RANGE MONITORS				
a. Detector not full in	N.A.	M[d][e],W[f]	N.A.	2, 5
b. Upscale	N.A.	M[d][e],W[f]	R	2, 5
c. Inoperative	N.A.	M[d][e],W[f]	N.A.	2, 5
d. Downscale	N.A.	M[d][e],W[f]	R	2, 5
4. INTERMEDIATE RANGE MONITORS				
a. Detector not full in	N.A.	W	N.A.	2, 5
b. Upscale	N.A.	W	R	2, 5
c. Inoperative	N.A.	W	N.A.	2, 5
d. Downscale	N.A.	W	R	2, 5
5. SCRAM DISCHARGE VOLUME				
a. Water Level - High	N.A.	Q	R	1, 2, 5**
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW				
a. Upscale	N.A.	Q	SA	1
b. Inoperative	N.A.	Q	N.A.	1
c. Comparator	N.A.	Q	SA	1
7. REACTOR MODE SWITCH SHUTDOWN POSITION	N.A.	R[g]	N.A.	3, 4

TABLE 4.3.6-1 (Continued)

CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

(a) Neutron detectors may be excluded from CHANNEL CALIBRATION.

(b) Deleted.

(c) Includes reactor manual control multiplexing system input.

* For OPERATIONAL CONDITION of Specification 3.1.4.3.

** With more than one control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

*** Required to be OPERABLE only prior to and during shutdown margin demonstrations as performed per Specification 3.10.3.

(d) When in OPERATIONAL CONDITION 2.

(e) The provisions of Specification 4.0.4 are not applicable provided that the surveillance is performed within 12 hours after the IRMs are on Range 2 or below during a shutdown.

(f) When in OPERATIONAL CONDITION 5.

(g) The provisions of Specification 4.0.4 are not applicable provided that the surveillance is performed within 1 hour after the Reactor Mode Switch has been placed in the shutdown position.

SOURCE RANGE MONITORS

LIMITING CONDITION FOR OPERATION

3.3.7.6 At least the following source range monitor channels shall be OPERABLE:

a. In OPERATIONAL CONDITION 2*, three.

b. In OPERATIONAL CONDITION 3 and 4, two.

APPLICABILITY: OPERATIONAL CONDITIONS 2*#, 3, and 4.

ACTION:

a. In OPERATIONAL CONDITION 2* with one of the above required source range monitor channels inoperable, restore at least three source range monitor channels to OPERABLE status within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 3 or 4 with one or more of the above required source range monitor channels inoperable, verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the Shutdown position within 1 hour.

SURVEILLANCE REQUIREMENTS

4.3.7.6 Each of the above required source range monitor channels shall be demonstrated OPERABLE by:

a. Performance of a:

1. CHANNEL CHECK at least once per:

a) 12 hours in CONDITION 2*, and
b) 24 hours in CONDITION 3 or 4.

2. CHANNEL CALIBRATION** at least once per 24 months.

b. Performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days.

c. Verifying, prior to withdrawal of control rods, that the SRM count rate is at least 3.0 cps*** with the detector fully inserted.#

*With IRM's on range 2 or below.
**Neutron detectors may be excluded from CHANNEL CALIBRATION.
***May be reduced, provided the source range monitor has an observed count rate and signal-to-noise ratio on or above the curve shown in Figure 3.3.6-1.
#During initial startup test program, SRM detectors may be partially withdrawn prior to IRM on-scale indication provided that the SRM channels remain on scale above 100 cps and respond to changes in the neutron flux.

SURVEILLANCE REQUIREMENTS (Continued)

b. Performance of a CHANNEL FUNCTIONAL TEST at least once per 7 days.

c. Verifying that the channel count rate is at least 3.0 cps:*

1. Prior to control rod withdrawal,

2. Prior to and at least once per 12 hours during CORE ALTERATIONS, and

3. At least once per 24 hours.

d. Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:

1. The time any control rod is withdrawn,** or

2. Shutdown margin demonstrations.

*May be reduced, provided the source range monitor has an observed count rate and signal-to-noise ratio on or above the curve shown in Figure 3.3.6-1. These channels are not required when sixteen or fewer fuel assemblies, adjacent to the SRMs, are in the core.

**Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

3/4.1.3 CONTROL RODS

The specification of this section ensure that (1) the minimum SHUTDOWN MARGIN is maintained, (2) the control rod insertion times are consistent with those used in the accident analysis, and (3) the potential effects of the rod drop accident are limited. The ACTION statements permit variations from the basic requirements but at the same time impose more restrictive criteria for continued operation. A limitation on inoperable rods is set such that the resultant effect on total rod worth and scram shape will be kept to a minimum. The requirements for the various scram time measurements ensure that any indication of systematic problems with rod drives will be investigated on a timely basis.

Damage within the control rod drive mechanism could be a generic problem, therefore with a control rod immovable because of excessive friction or mechanical interference, operation of the reactor is limited to a time period which is reasonable to determine the cause of the inoperability and at the same time prevent operation with a large number of inoperable control rods.

Control rods that are inoperable for other reasons are permitted to be taken out of service provided that those in the nonfully-inserted position are consistent with the SHUTDOWN MARGIN requirements.

The number of control rods permitted to be inoperable could be more than the eight allowed by the specification, but the occurrence of eight inoperable rods could be indicative of a generic problem and the reactor must be shutdown for investigation and resolution of the problem.

The control rod system is designed to bring the reactor subcritical at a rate fast enough to prevent the MCPR from becoming less than the fuel cladding safety limit during the limiting power transient analyzed in Section 15.2 of the FSAR. This analysis shows that the negative reactivity rates resulting from the scram with the average response of all the drives as given in the specifications, provided the required protection and MCPR remains greater than the fuel cladding safety limit. The occurrence of scram times longer then those specified should be viewed as an indication of a systemic problem with the rod drives and therefore the surveillance interval is reduced in order to prevent operation of the reactor for long periods of time with a potentially serious problem.

Scram time testing at zero psig reactor coolant pressure is adequate to ensure that the control rod will perform its intended scram function during startup of the plant until scram time testing at 950 psig reactor coolant pressure is performed prior to exceeding 40% rated core thermal power.

The scram discharge volume is required to be OPERABLE so that it will be available when needed to accept discharge water from the control rods during a reactor scram and will isolate the reactor coolant system from the containment when required.

Control rods with inoperable accumulators are declared inoperable and Specification 3.1.3.1 then applies. This prevents a pattern of inoperable accumulators that would result in less reactivity insertion on a scram than has been analyzed even though control rods with inoperable accumulators may still be inserted with normal drive water pressure. Operability of the accumulator ensures that there is a means available to insert the control rods even under the most unfavorable depressurization of the reactor.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 99 AND 63 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 August 22, 1994, as supplemented by letter dated July 3, 1995, the Philadelphia Electric Company (the licensee) submitted a request for changes to the Limerick Generating Station, Units 1 and 2, Technical Specifications (TSs). The requested changes would revise the TS surveillance requirements (SRs) to add an optional scram insertion time test and revise the TS SRs for control rod block and source range monitoring instrumentation.

2.0 EVALUATION

The licensee requested a revision to SR 4.1.3.2, 4.2.3, and bases section B 3/4.1.3 to provide for an optional method of verifying scram insertion times. The current SR require control rods that may have scram insertion times affected by maintenance to be scram tested at greater than 950 psig reactor pressure. The proposed changes by the licensee will allow control rods to be scram tested at zero reactor pressure and then again at greater than 950 psig but prior to achieving 40% rated reactor power. Although this optional method would require an additional scram test on the affected drives, the licensee requested this change to allow for operational flexibility during maintenance outages.

The licensee provided the following justification for its proposal:

> Operability of control rods from zero reactor pressure up to 40% rated core thermal power can be assured by the following:
>
> Development of the 2.0 second scram time limit at zero reactor pressure. The 2.0 second time limit was established to account for the variability of scram insertion times as a function of reactor pressure. The 2.0 second time limit was developed to require the same level of scram performance for the re-worked control rods relative to a test performed during a hydrostatic test at 950 psig reactor pressure.
>
> Scram time testing at zero reactor pressure. This verifies proper operation of individual control rod system components required for a rod

scram, e.g., scram inlet/outlet valves, electrical solenoids on scram valves, hydraulic piping, control rod seals, proper hydraulic control unit (HCU) operation, scram discharge volume system, and hydraulic scram accumulator.

Basic design of the control rod drive (CRD) system. UFSAR [Updated Final Safety Analysis Report] Section 4.6.3.1.1.5 states that if a rod can be moved by hydraulic drive pressure, then i[t] may be expected to scram since a scram condition results in increased pressure below the control rod.

Operation at low reactor power. There are significant thermal limit margins at low reactor power, e.g., power levels less than 40% rated.

The licensee also evaluated the proposed changes against its UFSAR transient analyses. The licensee found that the limiting accident is a control rod drop accident and the proposed SR changes are bounded by the UFSAR Section 15.4.9 analysis.

The proposed changes are consistent with those delineated in NUREG-1433, Rev. 1, "Standard Technical Specifications, General Electric Plants, BWR/4." The NRC staff's evaluation of the similar TS is included in the applicable NUREG-1433 bases section. For completeness, relevant portions of the staff's evaluation are summarized in the following paragraphs.

When work that could affect the scram insertion time is performed on a control rod or CRD System, testing must be done to demonstrate each affected control rod is still within the appropriate limits. Where work has been performed at high reactor pressure, the SR requirements can be satisfied with one test. For a control rod affected by work performed while shut down, however, a zero pressure and high-pressure test may be required. This testing ensures that, prior to withdrawing the control rod for continued operation, the control rod scram performance is acceptable for operating reactor pressure conditions. Alternatively, a control rod scram test during hydrostatic pressure testing could also satisfy the SR.

The frequency of once prior to exceeding 40% power is acceptable because of the capability to test the control rod over a range of operating conditions and the more frequent surveillances on other aspects of control rod OPERABILITY.

Accordingly, the proposed TS provide assurance that control rod scram time will be verified at operating conditions after control rod maintenance, and therefore, are acceptable.

The licensee has proposed TS changes to Sections 4.3.7.6 and 4.9.2 and Table 4.3.6-1 associated with the surveillance requirements of control rod block and source range monitoring instrumentation.

The proposed changes include:

A. Elimination of functional tests of rod block monitor, average power range monitor, intermediate range monitor (IRM), source range monitor (SRM), and reactor coolant system recirculation flow prior to plant startup.

B. Change of the frequency of SRM functional test in operating condition two from weekly to monthly.

C. Change of the frequency of IRM and SRM calibration test from semi-annual to refueling.

D. Addition of a note exempting during shutdown the provisions of TS 4.0.4 provided the SRM functional test is performed within 12 hours after the IRMs are in range two or below..

E. Addition of a note exempting the provisions of TS 4.0.4 provided the surveillance of the reactor mode switch is performed within one hour after the reactor mode switch has been placed in the shutdown position.

The licensee stated that the proposed changes will be implemented in line with the Improved Standard Technical Specifications and will eliminate unnecessary testing, minimize delays in plant startup, and provide clarity in allowable surveillance test exemption. The licensee also stated that the proposed changes do not alter equipment configuration or operation and there is no reduction in plant safety.

Based on the staff's evaluation, the proposed changes are consistent with the approved ISTS, NUREG-1433 and will reduce the surveillance tests and corresponding shutdown period without adversely effecting the plan safety and are, therefore, acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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 (59 FR 55881). 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.

5.0 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 Contributors: S. Dembek
S. Mazumdar

Date: July 18, 1995