

January 26, 1994

Mr. George A. Hunger, Jr.
Director-Licensing, MC 52A-5
PECO Energy Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Hunger:

SUBJECT: ONE-TIME TECHNICAL SPECIFICATIONS CHANGE TO EXTEND THE ALLOWED OUTAGE TIME FOR THE RESIDUAL HEAT REMOVAL (RHR) SERVICE WATER SYSTEM AS WELL AS SUPPRESSION POOL SPRAY AND SUPPRESSION POOL COOLING MODES OF RHR, LIMERICK GENERATING STATION, UNIT 2 (TAC NO. M87287)

The Commission has issued the enclosed Amendment No. 30 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 27, 1993, as supplemented by letters dated November 10, and December 20, 1993.

This amendment would allow a one-time TS change to extend the allowed outage time (AOT) for the Unit 2 residual heat removal service water (RHRSW) system as well as the suppression pool spray (SPS) and suppression pool cooling (SPC) modes of the residual heat removal system from 72, 168 (i.e. seven days), and 72 hours, respectively, to 288 hours (i.e., twelve days). The extended AOTs would allow continued Unit 2 operation while maintenance isolation valves are installed on both loops of the RHRSW system.

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

9402030344 940126
PDR ADOCK 05000353
PDR

Enclosures:

- 1. Amendment No. 30 to License No. NPF-85
 - 2. Safety Evaluation
- cc w/enclosures:
See next page

010007

DISTRIBUTION:

Docket File	MO'Brien(2)	CGrimes, 11E21	SJones, 8D1
NRC & Local PDRs	FRinaldi/SDembek	TLiu	CMcCracken, 8D1
PDI-2 Reading	OGC	ACRS(10)	
SVarga	DHagan, 3206	OPA	
JCalvo	Ghill(2), P1-22	OC/LFDCB	
CMiller	EWenzinger, RGN-I	CAnderson, RGN-I	

CP-1

NRC FILE CENTER COPY

*Previously Concurred

OFC	: PDI-2/LA	: PDI-2/YI	: PDI-2/PM	: SPLB*	: OGC*	: PDI-2/D	:
NAME	: MO'Brien	: TLiu	: FRinaldi	: tlc	: CMcCracken	: JMoore	: CMiller
DATE	: 1/26/94	: 1/26/94	: 1/26/94	: 12/17/93	: 01/25/94	: 1/26/94	:

DFo 1
111



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

January 26, 1994

Docket No. 50-353

Mr. George A. Hunger, Jr.
Director-Licensing, MC 52A-5
PECO Energy Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Hunger:

SUBJECT: ONE-TIME TECHNICAL SPECIFICATIONS CHANGE TO EXTEND THE ALLOWED OUTAGE TIME FOR THE RESIDUAL HEAT REMOVAL (RHR) SERVICE WATER SYSTEM AS WELL AS SUPPRESSION POOL SPRAY AND SUPPRESSION POOL COOLING MODES OF RHR, LIMERICK GENERATING STATION, UNIT 2 (TAC NO. M87287)

The Commission has issued the enclosed Amendment No. 30 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 27, 1993, as supplemented by letters dated November 10, and December 20, 1993.

This amendment would allow a one-time TS change to extend the allowed outage time (AOT) for the Unit 2 residual heat removal service water (RHRSW) system as well as the suppression pool spray (SPS) and suppression pool cooling (SPC) modes of the residual heat removal system from 72, 168 (i.e. seven days), and 72 hours, respectively, to 288 hours (i.e., twelve days). The extended AOTs would allow continued Unit 2 operation while maintenance isolation valves are installed on both loops of the RHRSW system.

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

Enclosures:

1. Amendment No. 30 to License No. NPF-85
2. Safety Evaluation

cc w/enclosures:
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. William P. Dornsife, Director
Bureau of Radiation Protection
PA Dept. of Environmental Resources
P. O. Box 8469
Harrisburg, Pennsylvania 17105-8469

Mr. Rod Krich, 52A-5
PECO Energy Company
955 Chesterbrook Boulevard
Wayne, Pennsylvania 19087-5691

Mr. James A. Muntz
Superintendent-Technical
Limerick Generating Station
P. O. Box A
Sanatoga, Pennsylvania 19464

Mr. David R. Helwig, Vice President
Limerick Generating Station
Post Office Box A
Sanatoga, Pennsylvania 19464

Mr. James L. Kantner
Regulatory Engineer
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. Larry Hopkins
Superintendent-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

Mr. John Doering, Chairman
Nuclear Review Board
PECO Energy Company
955 Chesterbrook Boulevard
Mail Code 52C-1
Wayne, Pennsylvania 19087

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



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. 30
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 27, 1993, as supplemented by letters dated November 10, and December 20, 1993, 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.

9402030345 940126
PDR ADOCK 0500035
P PDR

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. 30 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Charles L. Miller, 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: January 26, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 30

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

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

Remove

3/4 6-15
3/4 6-16

3/4 7-1
3/4 7-2

Insert

3/4 6-15
3/4 6-16

3/4 7-1
3/4 7-2*

CONTAINMENT SYSTEMS

SUPPRESSION POOL SPRAY

LIMITING CONDITION FOR OPERATION

3.6.2.2 The suppression pool spray mode of the residual heat removal (RHR) system shall be OPERABLE with two independent loops, each loop consisting of:

- a. One OPERABLE RHR pump, and
- b. An OPERABLE flow path capable of recirculating water from the suppression chamber through an RHR heat exchanger and the suppression pool spray sparger(s).

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

- a. With one suppression pool spray loop inoperable, restore the inoperable loop to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#
- b. With both suppression pool spray loops inoperable, restore at least one loop to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN* within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 The suppression pool spray mode of the RHR system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. By verifying that each of the required RHR pumps develops a flow of at least 500 gpm on recirculation flow through the RHR heat exchanger and the suppression pool spray sparger when tested pursuant to Specification 4.0.5.

*Whenever both RHR subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

#The allowed outage time (AOT) of the "A and B" loops of suppression pool spray mode may be extended up to 288 hours (12 days) to allow for the installation of isolation valves upstream of HV-51-1(2)F014A(B) and downstream of HV-51-1(2)F068A(B) during the fifth Unit 1 refueling outage (1R05).

CONTAINMENT SYSTEMS

SUPPRESSION POOL COOLING

LIMITING CONDITION FOR OPERATION

3.6.2.3 The suppression pool cooling mode of the residual heat removal (RHR) system shall be OPERABLE with two independent loops, each loop consisting of:

- a. One OPERABLE RHR pump, and
- b. An OPERABLE flow path capable of recirculating water from the suppression chamber through an RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

- a. With one suppression pool cooling loop inoperable, restore the inoperable loop to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#
- b. With both suppression pool cooling loops inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN* within the next 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The suppression pool cooling mode of the RHR system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. By verifying that each of the required RHR pumps develops a flow of at least 10,000 gpm on recirculation flow through the flow path including the RHR heat exchanger and its associated closed bypass valve, the suppression pool and the full flow test line when tested pursuant to Specification 4.0.5.

*Whenever both RHR subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

#The allowed outage time (AOT) of the "A" and "B" loops of suppression pool cooling mode may be extended up to 288 hours (12 days) to allow for installation of isolation valves upstream of HV-51-1(2)F014A(B) and downstream of HV-51-1(2)F068A(B) during the fifth Unit 1 refueling outage (1R05).

3/4.7 PLANT SYSTEMS

3/4.7.1 SERVICE WATER SYSTEMS

RESIDUAL HEAT REMOVAL SERVICE WATER SYSTEM - COMMON SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.1 At least the following independent residual heat removal service water (RHRSW) system subsystems, with each subsystem comprised of:

- a. Two OPERABLE RHRSW pumps, and
- b. An OPERABLE flow path capable of taking suction from the RHR service water pumps wet pits which are supplied from the spray pond or the cooling tower basin and transferring the water through one Unit 2 RHR heat exchanger,

shall be OPERABLE:

- a. In OPERATIONAL CONDITIONS 1, 2, and 3, two subsystems.
- b. In OPERATIONAL CONDITIONS 4 and 5, the subsystem(s) associated with systems and components required OPERABLE by Specification 3.4.9.2, 3.9.11.1, and 3.9.11.2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, and 5.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, or 3:
 1. With one RHRSW pump inoperable, restore the inoperable pump to OPERABLE status within 30 days, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 2. With one RHRSW pump in each subsystem inoperable, restore at least one of the inoperable RHRSW pumps to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 3. With one RHRSW subsystem otherwise inoperable, restore the inoperable subsystem to OPERABLE status with at least one OPERABLE RHRSW pump within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#
 4. With both RHRSW subsystems otherwise inoperable, restore at least one subsystem to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN* within the following 24 hours.

*Whenever both RHRSW subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

#The allowed outage time (AOT) of the "A" and "B" loops of RHRSW may be extended up to 288 hours (12 days) to allow for the installation of isolation valves upstream of 1(2)F014A(B) and downstream of 1(2)F068A(B) during the fifth Unit 1 refueling outage (1R05).

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

5. With two RHRSW pump/diesel generator pairs* inoperable, restore at least one inoperable RHRSW pump/diesel generator pair* to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours. The provisions of Specification 3.0.4 are not applicable.
 6. With three RHRSW pump/diesel generator pairs* inoperable, restore at least one inoperable RHRSW pump/diesel generator pair* to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.
 7. With four RHRSW pump/diesel generator pairs* inoperable, restore at least one inoperable RHRSW pump/diesel generator pair* to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION 3 or 4 with the RHRSW subsystem(s), which is associated with an RHR loop required OPERABLE by Specification 3.4.9.1 or 3.4.9.2, inoperable, declare the associated RHR loop inoperable and take the ACTION required by Specification 3.4.9.1 or 3.4.9.2, as applicable.
 - c. In OPERATIONAL CONDITION 5 with the RHRSW subsystem(s), which is associated with an RHR loop required OPERABLE by Specification 3.9.11.1 or 3.9.11.2, inoperable, declare the associated RHR system inoperable and take the ACTION required by Specification 3.9.11.1 or 3.9.11.2, as applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 At least the above required residual heat removal service water system subsystem(s) shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

*A RHRSW pump/diesel generator pair consists of a RHRSW pump and its associated diesel generator. If either a RHRSW pump or its associated diesel generator becomes inoperable, then the RHRSW pump/diesel generator pair is inoperable.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED AMENDMENT NO. 30 TO FACILITY OPERATING LICENSE NO. NPF-85
PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION, UNIT 2
DOCKET NO. 50-353

1.0 INTRODUCTION

By letter dated August 27, 1993, as supplemented by letters dated November 10, and December 20, 1993, the Philadelphia Electric Company (the licensee) submitted a request for changes to the Limerick Generating Station, Unit 2, Technical Specifications (TS). The requested changes would allow a one-time TS change to extend the allowed outage time (AOT) for the Unit 2 residual heat removal service water (RHRSW) as well as the suppression pool spray (SPS) and suppression pool cooling (SPC) modes of the residual heat removal (RHR) system from 72, 168 (i.e. seven days), and 72 hours, respectively, to 288 hours (i.e., twelve days). The extended AOTs would be needed on two (2) separate occasions during the fifth Unit 1 refueling outage scheduled to begin on January 29, 1994. These changes apply to Unit 2 TS Sections 3.6.2.2, "Suppression Pool Spray," 3.6.2.3, "Suppression Pool Cooling," and 3.7.1.1, "Residual Heat Removal Service Water System - Common System." The extended AOTs would allow continued Unit 2 operation while maintenance isolation valves are to be installed on both loops of the RHRSW system. The RHRSW system is common to both Unit 1 and Unit 2. Operation of Unit 1 will continue to comply with the applicable Unit 1 TS AOTs. The November 10 and December 20, 1993 supplemental letters provided clarifying information and did not change the original no significant hazards consideration determination.

2.0 EVALUATION

The licensee has proposed that Sections 3.6.2.2, Action a, and 3.6.2.3, Action a, of the TS, be modified to allow the SPS and SPC modes of one RHR subsystem to be inoperable for 288 hours, and Section 3.7.1.1, Action a.3, be modified to allow one subsystem of RHRSW to be inoperable for 288 hours. These temporary amendments would allow continued Unit 2 operation during the installation of maintenance isolation valves upstream of RHR heat exchanger inlet valves, HV-51-1(2)F014A(B), and downstream of RHR heat exchanger outlet valves, HV-51-1(2)F068A(B), on both loops of the RHRSW system. The RHRSW system is common to both Unit 1 and Unit 2. During this modification, Unit 1 will be in the fifth refueling outage and will continue to comply with the applicable Unit 1 TS AOTs for RHRSW. The Unit 1 TS requirements for the SPS and SPC modes of RHR are not applicable while Unit 1 is in refueling.

The removal of either 'A' or 'B' RHRSW loop from service will impact the operability of the Unit 1 and Unit 2 RHR heat exchangers in the affected loop. The RHR heat exchangers provide decay heat removal for normal shutdown cooling and primary containment suppression pool/drywell temperature and pressure control for accident mitigation.

The two loops of shutdown cooling are required to be operable in accordance with TS Sections 3.4.9.1 (OPCON 3 - Hot Shutdown) and 3.4.9.2 (OPCON 4 - Cold Shutdown). Otherwise, an alternate method of decay heat removal is required. If Unit 2 is required to be shut down, only one RHRSW loop would be operable. For this condition, the alternate decay heat removal will be available by establishing a shutdown cooling path through the automatic depressurization system (ADS) valves together with suppression pool cooling or by using the main turbine condenser as a heat sink when the offsite power is available. The staff concludes that these methods would satisfy the shutdown cooling requirements while the reactor is in OPCONs 3 and 4. For the OPCON 5 condition, alternate decay heat removal can be provided by the Reactor Water Cleanup (RWCU) system. The staff finds this approach would satisfy the shutdown cooling requirements following plant shutdown.

The Updated Final Safety Analysis Report (UFSAR) Section 6.2 states that one operable RHR heat exchanger is adequate for accident mitigation. Two (2) accident scenarios with one (1) operable RHR heat exchanger are presented in the UFSAR: (1) the operable RHR heat exchanger is placed in service in the RHR drywell spray and suppression pool spray mode while one RHR pump is in low pressure coolant injection (LPCI) mode of operation and one core spray (CS) loop injects water into the reactor vessel, (2) the operable RHR heat exchanger is placed in service along with an associated RHR pump taking suction from the suppression pool and discharging to the reactor vessel. Both scenarios assume a loss of offsite power (LOOP), the availability of high pressure coolant injection (HPCI) system for the duration of the accident, initial suppression pool temperature and RHRSW temperature at their maximum values, all the decay heat from the reactor vessel being rejected through the one operable RHR heat exchanger, and the RHR heat exchanger in a fully fouled condition. For the bounding case of a postulated rupture of a reactor recirculation line, the peak containment pressure is higher for the second scenario, but the pressure is still much less than the containment design pressure.

The RHRSW system was designed with sufficient capacity for one loop of RHRSW with two (2) RHRSW pumps in operation and two (2) spray pond spray networks to mitigate a design basis accident (DBA) on one unit and allow the safe shutdown of the other unit, as described in the UFSAR, Section 9.2.3.

The licensee intends to minimize the decay heat load from Unit 1 on the lone operable RHRSW loop. The licensee does not plan to remove the 'A' or 'B' loop of RHRSW from service until the Unit 1 decay heat generation has decreased to a level that will allow the removal of one RHR heat exchanger from service. At this time, cold shutdown would be established, the decay heat generation would be reduced, the spent fuel pool cooling and cleanup system could be

placed in service to remove decay heat from Unit 1, and the recirculation pump or an RHR pump could be placed in service to assist in decay heat removal. Furthermore, draining of the Unit 1 reactor cavity would not be allowed until both loops of RHRSW are returned to service or an alternate decay heat removal method is available. Therefore, since one loop of RHRSW can mitigate a DBA on one unit and support the safe shutdown of the other unit, the potential heat removal requirements with respect to Unit 2 during the period that these proposed TS changes will be in effect, is within the capacity of one RHRSW loop.

A single failure could render the RHR heat exchanger or the RHRSW loop inoperable during the proposed extended AOT. However, by limiting the time an RHRSW loop is out of service while maintaining one of the Unit 2 RHR heat exchangers and the associated RHRSW loop operable, the consequences of an accident will remain unchanged. The staff has reviewed the licensee assessment of the components that can affect the performance of the Unit 2 RHR heat exchanger or a loop of RHRSW, and found the information presented regarding the components' operation, power supplies, failure rates, testing and maintenance, to be acceptable.

The removal of the 'A' or 'B' RHRSW loop from service will not affect the capability of any emergency core cooling systems (ECCS) from injecting water into the reactor vessel. The RHRSW system is manually operated and is not required during the first ten (10) minutes of an accident. Therefore, the short-term (i.e., less than ten minutes) emergency core cooling capability of Unit 2 ECCS is unaffected. The long-term (i.e., longer than ten minutes) cooling requirements will be met by the operable Unit 2 RHR heat exchanger and the associated operable RHRSW loop with the RHR system in either the SPS or the SPC mode of operation. Additional removal of Unit 2 equipment and/or systems will be allowed in accordance with existing TS requirements as long as the removal does not adversely affect the operability of the RHRSW loop as well as the operable SPS and SPC modes of RHR operation, or places Unit 2 outside of the analysis described in UFSAR, Section 6.2.

The removal of either of the two (2) RHRSW loops from service will affect the emergency service water (ESW) system. The return flow from the ESW system joins the RHRSW system, and shares one path for each ESW loop to the spray pond. When the 'A' RHRSW loop is inoperable, both ESW loops will be aligned to return to the 'B' RHRSW loop. When the 'B' RHRSW is inoperable, both ESW loops will be aligned to return to the 'A' RHRSW loop. These alignments are within the design capabilities of the ESW system and will be controlled by approved procedures. The licensee has performed a computer analysis of the flow distribution to components cooled by ESW, which indicated that sufficient ESW flow is available to support operability of essential components. Additionally, the licensee will perform ESW system flow measurements on the most limiting components to validate component and/or system operability. Physical work on either the 'A' or the 'B' RHRSW loop will not begin until both loops of the ESW system are verified to be operable.

The staff requested information about the availability of training or operational guidance to aid plant operators during a Unit 2 LOCA if it were to occur during the proposed AOT. The licensee has stated in a response, by letter dated November 10, 1993, that operations personnel are qualified by periodic training in response to and mitigation of a DBA, including the actions needed to ensure decay heat removal. Furthermore, procedures are in place which cover safe plant shutdown and, as mentioned above, decay heat removal for situations applicable to those in the proposed AOTs. Decay heat removal for Unit 2 would be provided by the RHR system, the remaining operable RHR heat exchanger, and the associated operable RHRSW loop.

The licensee will emphasize the Unit 2 operational configuration during the proposed extended AOT with a special procedure, in accordance with LGS Administrative Procedure A-23, "Generation and Performance of Special Procedures, Modification Acceptance Test, and Plant Evolution/Special Test Procedures." Procedure A-23 requires licensee to include in the special procedures the identification of the differences in the system line-ups, plant configuration, operating procedures, and steps to brief operations personnel associated with the operational configurations.

Also, the licensee has committed to confirm the operability of the systems required to mitigate the effects of a Unit 2 LOCA during the proposed extended AOTs by addressing those systems in the special procedures. These systems are the remaining loop of RHRSW, the associated RHR loop and heat exchanger, the ESW system, the associated emergency diesel generators, the HPCI system, the CS system and at least one alternate decay heat removal method, depending on OPCON, such as ADS, the main condenser, or RWCU. In addition, the special procedures will require that these systems be verified by operations personnel to be in compliance with respect to individual technical specifications surveillance requirements prior to entry into and during the proposed extended AOTs. Furthermore, any testing of these systems would be accomplished, to every extent possible, such that no testing would be performed during the time that the plant is in the condition permitted by the proposed extended AOTs.

To ensure adequate heat removal capability for the accident scenario of a LOCA/LOOP on one unit and a simultaneous safe shutdown of the other unit, the RHRSW system is designed such that the AOT for operation with less than three (3) RHRSW pumps operable along with their associated operable emergency diesel generators (EDGs), is limited to 72 hours. The reduction in margin of safety associated with increasing the AOTs from 72 hours and 168 hours to 288 hours is minimal, since the reduction reflects a small increase in the probability that a LOCA/LOOP event would occur on Unit 2 during the 288-hour AOT period as compared during the 72-hour AOT period currently allowed by the TS. The licensee has supported this conclusion with a probabilistic risk assessment evaluation. The results indicated that the increased risk of extending the AOT for TS Section 3.6.2.2, Action a, TS Section 3.6.2.3, Action a, and TS Section 3.7.1.1, Action a.3 to 288 hours is minimal. Furthermore, the

licensee has committed to establish a fire watch for those areas where fire could damage the systems necessary to support decay heat removal through the lone operable RWRSW loop.

The staff has evaluated the proposed one-time extension of the AOTs for the RHRSW system as well as the SPS and the SPC modes of the RHR system from 72, 168 (i.e., seven days), and 72 hours, respectively, to 288 hours (i.e., twelve days), while the maintenance isolation valves are being installed on both loops of the RHRSW system. Based on the evaluation, the staff concludes that the proposed TS change is acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (58 FR 50970). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: F. Rinaldi
T. Liu
S. Jones

Date: January 26, 1994