

Mr. George J. Beck
Manager-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Beck:

SUBJECT: TSCR NO. 92-15-1, ONE-TIME EXTENSION IN THE ALLOWED OUTAGE TIME (AOT) FOR THE RESIDUAL HEAT REMOVAL (RHR) SERVICE WATER SYSTEM AND SUPPRESSION POOL COOLING (SPC) MODE OF THE RHR SYSTEM, LIMERICK GENERATING STATION, UNIT 1 (TAC NO. M84879)

The Commission has issued the enclosed Amendment No. 58 to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated November 6, 1992.

This amendment provides a one-time extension in the allowed outage time (AOT) for the RHR Service Water system and the Suppression Pool Cooling mode of the RHR system. The revision would extend the AOT from 72 hours to 168 hours during the second Unit 2 refueling outage, while upgrades are made to the 'B' RHR heat exchanger outlet valve for both units.

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

Enclosures:

- 1. Amendment No. 58 to License No. NPF-39
- 2. Safety Evaluation

cc w/enclosures:

See next page

DISTRIBUTION:

Docket File	MO'Brien(2)	CGrimes, 11E-21	CAnderson, RGN-I
NRC & Local PDRs	FRinaldi/JShea	Tech Branch	
PDI-2 Reading	OGC	ACRS(10)	
SVarga	DHagan, 3206	OPA	
JCalvo	GHill(4), P1-22	OC/LFMB	
CMiller	Wanda Jones, P-370	EWenzinger, RGN-I	

OFC	: PDI-2/LA	: PDI-2/PM	: SPLB	: OGC	: PDI-2/D	:
NAME	: MO'Brien	: FRinaldi	: rb:CMCracken:	: CM	:	:
DATE	: 1/5/93	: 1/22/92	: 12/23/92	: 12/23/92	: 1/18/92	:

9301190285 930111
PDR ADOCK 05000352
PDR

JEol
1/11
CR1

Mr. George J. Beck
Manager-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Beck:

SUBJECT: TSCR NO. 92-15-1, ONE-TIME EXTENSION IN THE ALLOWED OUTAGE TIME (AOT) FOR THE RESIDUAL HEAT REMOVAL (RHR) SERVICE WATER SYSTEM AND SUPPRESSION POOL COOLING (SPC) MODE OF THE RHR SYSTEM, LIMERICK GENERATING STATION, UNIT 1 (TAC NO. M84879)

The Commission has issued the enclosed Amendment No. 58 to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated November 6, 1992.

This amendment provides a one-time extension in the allowed outage time (AOT) for the RHR Service Water system and the Suppression Pool Cooling mode of the RHR system. The revision would extend the AOT from 72 hours to 168 hours during the second Unit 2 refueling outage, while upgrades are made to the 'B' RHR heat exchanger outlet valve for both units.

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

- Enclosures:
1. Amendment No. 58 to License No. NPF-39
2. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION:

Docket File	MO'Brien(2)	CGrimes, 11E-21	CAnderson, RGN-I
NRC & Local PDRs	FRinaldi/JShea	Tech Branch	
PDI-2 Reading	OGC	ACRS(10)	
SVarga	DHagan, 3206	OPA	
JCalvo	GHill(4), P1-22	OC/LFMB	
CMiller	Wanda Jones, P-370	EWenzinger, RGN-I	

OFC	: PDI-2/LA	: PDI-2/PM	: SPLB	: OGC	: PDI-2/D	:
NAME	: MO'Brien	: FRinaldi	: rb:CMcCracken:	: C. Meuce	: CM	:
DATE	: 1/5/93	: 1/22/92	: 12/23/92	: 12/23/92	: 1/18/92	:



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

January 11, 1993

Docket No. 50-352

Mr. George J. Beck
Manager-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Beck:

SUBJECT: TSCR NO. 92-15-1, ONE-TIME EXTENSION IN THE ALLOWED OUTAGE TIME (AOT) FOR THE RESIDUAL HEAT REMOVAL (RHR) SERVICE WATER SYSTEM AND SUPPRESSION POOL COOLING (SPC) MODE OF THE RHR SYSTEM, LIMERICK GENERATING STATION, UNIT 1 (TAC NO. M84879)

The Commission has issued the enclosed Amendment No. 58 to Facility Operating License No. NPF-39 for the Limerick Generating Station, Unit 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated November 6, 1992.

This amendment provides a one-time extension in the allowed outage time (AOT) for the RHR Service Water system and the Suppression Pool Cooling mode of the RHR system. The revision would extend the AOT from 72 hours to 168 hours during the second Unit 2 refueling outage, while upgrades are made to the 'B' RHR heat exchanger outlet valve for both units.

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

Sincerely,

A handwritten signature in cursive script that reads "Frank Rinaldi".

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

Enclosures:

1. Amendment No. 58 to License No. NPF-39
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. George J. Beck
Philadelphia Electric Company

Limerick Generating Station,
Units 1 & 2

cc:

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

Mr. William P. Dornsife, Director
Bureau of Radiation Protection
PA Dept. of Environmental Resources
P. O. Box 2063
Harrisburg, Pennsylvania 17120

Mr. Rod Krich 52A-5
Philadelphia Electric 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. Gil J. Madsen
Regulatory Engineer
Limerick Generating Station
P. O. Box A
Sanatoga, Pennsylvania 19464

Mr. John Doering
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. George A. Hunger
Project Manager
Limerick Generating Station
P. O. Box A
Sanatoga, Pennsylvania 19464

Mr. Thomas Kenny
Senior Resident Inspector
US Nuclear Regulatory Commission
P. O. Box 596
Pottstown, Pennsylvania 19464

Mr. Larry Hopkins
Superintendent-Operations
Limerick Generating Station
P. O. Box A
Sanatoga, Pennsylvania 19464

Mr. Richard W. Dubiel
Superintendent - Services
Limerick Generating Station
P.O. Box A
Sanatoga, Pennsylvania 19464



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

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 58
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 November 6, 1992, 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.

9301190287 930111
PDR ADDCK 05000352
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-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. 58 , 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

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 11, 1993

ATTACHMENT TO LICENSE AMENDMENT NO.58

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. Overleaf pages are 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.

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 'B' Loop of the Suppression Pool Cooling (SPC) mode of the RHR System may be extended up to 168 hours (7 days) to allow repair of HV-51-1F068B and HV-51-2F068B during the Unit 2 second refueling outage (2R02).

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 1 RHR heat exchanger,

shall be OPERABLE:

- a. In OPERABLE CONDITIONS 1, 2, and 3, two subsystems.
- b. In OPERABLE 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 the ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

The Allowed Outage Time (AOT) of the 'B' RHRSW Loop may be extended up to 168 hours (7 days) to allow repair of HV-51-1F068B and HV-51-2F068B during the Unit 2 second refueling outage (2R02).

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 the next 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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 58 TO FACILITY OPERATING LICENSE NO. NPF-57

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION, UNIT 1

DOCKET NO. 50-352

1.0 INTRODUCTION

By letter dated November 6, 1992, the Philadelphia Electric Company (the licensee) submitted a request for changes to the Limerick Generating Station, Unit 1, Technical Specifications (TS). The requested changes would provide a one-time revision to the TS to extend the allowed outage time (AOT) for the Residual Heat Removal Service Water (RHRSW) system and the Suppression Pool Cooling (SPC) mode of the Residual Heat Removal (RHR) system. The revision would establish the AOT from 72 hours to 168 hours during the second Unit 2 refueling outage to allow continued Unit 1 operation while upgrades are made to the 'B' RHR heat exchanger outlet valve on both units. Unit 2 will comply with the applicable Unit 2 TS allowed outage time. These changes apply to TS Sections 3.6.2.3, "Suppression Pool Cooling," and 3.7.1.1, "Residual Heat Removal Service Water System - Common System."

2.0 EVALUATION

The licensee has proposed that TS Sections 3.6.2.3, Action a, and 3.7.1.1, Action a.3, be temporarily amended to allow maintenance to be performed on the RHR heat exchanger service water outlet valves HV-51-1F068B and HV-51-2F068B on the 'B' RHR heat exchanger for Units 1 and 2. This maintenance will upgrade the valves' internals with stainless steel components. These valves are used to isolate and throttle the RHRSW flow through the RHR heat exchangers. The harsh flow conditions experienced by these valves during the throttling operation have resulted in the degradation of their internals. Therefore, the proposed maintenance is considered an upgrade for these valves.

The licensee may also perform maintenance on Units 1 and 2 'B' RHR heat exchanger RHRSW inlet valves HV-51-1F014B and HV-51-2F014B, respectively. Both sets of valves are unisolable. Therefore, multiple freeze seals and partial system draining are required in order to perform maintenance on these valves.

The change to TS Section 3.7.1.1, Action a.3, would allow one subsystem of the RHRSW to be inoperable for 168 hours. The change to TS Section 3.6.2.3, Action a, would allow the SPC mode of one RHR subsystem to be inoperable for 168 hours during the second Unit 2 refueling outage. These one-time TS

changes would allow adequate time for the maintenance on the common 'B' RHRSW loop while avoiding a Unit 1 shutdown. Unit 2 will be in a refueling outage and will comply with the applicable Unit 2 TS requirements for AOT for the RHRSW system and the SPC mode of the RHR system.

The removal of the 'B' RHRSW loop from service will affect the operability of the heat exchanger of both units, which provide decay heat removal and suppression pool/drywell temperature control. Shutdown cooling is required by TS Section 3.4.9.1 for Operational Condition (OPCON) 3 - Hot Shutdown, by TS Section 3.4.9.2 for OPCON 4 - Cold Shutdown, and by TS Section 3.9.11.2 for OPCON 5 - Refueling. Otherwise, a demonstration of the availability of an alternate method of decay heat removal is required.

The proposed TS requirements have no impact during the Unit 1 power operating condition. However, if Unit 1 is required to shut down while the 'B' RHRSW loop is inoperable, alternate decay heat removal methods are available by establishing a shutdown cooling path through the automatic depressurization system (ADS) valves or by using the main condenser as a heat sink if offsite power is available. These methods will satisfy TS requirements for OPCONs 3 and 4. For OPCON 5, alternate decay heat removal methods using the Reactor Water Cleanup system can satisfy the shutdown cooling requirements.

The suppression pool/drywell temperature control is an accident mitigation function of the RHR system that is accomplished through the RHR heat exchangers utilizing the suppression pool spray and the suppression pool cooling modes of operation. TS Section 3.6.2.2 requires that two loops of the suppression pool spray mode of the RHR system be operable in OPCONs 1, 2, and 3. The AOT for one loop of the suppression pool spray mode is 7 days. The proposed 'B' RHRSW valve loop maintenance will be completed within the AOT. Therefore, no change is required. TS Section 3.6.2.3 requires that two loops of the SPC mode of the RHR system be operable in OPCONs 1, 2, and 3. The AOT for one loop of the SPC mode being inoperable is 72 hours. The proposed change would allow an extension of Unit 1 AOT to 168 hours during the second Unit 2 refueling outage.

The licensee has addressed the postulated rupture of a recirculation line, which is a bounding event. The Updated Final Safety Analysis Report (UFSAR), Section 6.2.2, states that one operable RHR heat exchanger is adequate for the two accident mitigation scenarios: (1) the operable RHR heat exchanger is utilized in the RHR drywell spray mode while one RHR pump is in Low Pressure Coolant Injection (LPCI) mode of operation and one Core Spray loop injects water into the reactor vessel, (2) the operable RHR heat exchanger is used with an associated RHR pump taking suction from the suppression pool and discharging to the reactor vessel while the other RHR pump is in LPCI mode of operation and one Core Spray loop injects water into the reactor vessel. Both scenarios assume a LOOP, the availability of High Pressure Coolant Injection (HPCI) for the duration of the accident, initial suppression pool temperature and RHRSW temperature at their maximum allowable limit, all the

decay heat from the reactor vessel is rejected through the RHR heat exchanger, and the RHR heat exchanger is operable with the lowest allowable heat transfer capability. For the postulated rupture of a recirculation line, the peak containment pressure is higher in the second scenario, but it is still much less than the containment design pressure.

TS Section 3.7.1.1 requires that two loops of the RHRSW be operable in OPCONS 1, 2, and 3. The AOT for one loop of the RHRSW system being inoperable, results in the inoperability of the associated RHR heat exchanger for 72 hours. The proposed change extends this period to 168 hours for the second Unit 2 refueling outage. The RHRSW system was designed with sufficient capacity so that one loop of the RHRSW with two RHRSW pumps in operation and two spray networks can mitigate a Design Basis Accident (DBA) on one unit and allow the safe shutdown of the other unit, as described in UFSAR Section 9.2.3.

The licensee plans to remove from service the 'B' RHRSW loop at approximately 20 days after the Unit 2 outage. At this time the decay heat generation for Unit 2 would be reduced from 146 MWT to approximately 3.5 MWT, cold shutdown would be established, decay heat generation would be reduced, the Spent Fuel Pool Cooling and Cleanup system would be placed in service, and the recirculation pump or an RHR pump could be placed into service as an alternate source for decay heat removal. At this point the 'A' RHRSW loop requirement for Unit 2 heat removal are minimal for maintaining cold shutdown conditions. Furthermore, draining of the Unit 2 reactor cavity would not be allowed until the 'B' RHRSW loop is returned to service or an alternate decay heat removal method is available. Therefore, since one loop of the RHRSW system 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 1, during the period that these proposed TS changes will be in effect, is within the capacity of the 'A' RHRSW loop.

A single failure could render the 'A' RHR heat exchanger or the 'A' RHRSW loop inoperable during the proposed extended AOT. However, by limiting the time the 'B' RHRSW loop is out of service, and by maintaining the Unit 1 'A' RHR heat exchanger, the 'A' RHRSW loop, and the associated equipment/system operable during that period, 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 1 'A' RHR heat exchanger or 'A' RHRSW loop. The information presented on their operation, power supplies, failure rates, testing and maintenance is found acceptable to the staff.

The removal of the 'B' RHRSW loop from service will not affect the capability of any emergency core cooling system (ECCS) from injecting water into the reactor vessel. The RHRSW system is manually operated and is not required during the first 10 minutes of an accident. Therefore, the short-term emergency core cooling capability of Unit 1 ECCS is unaffected. The long-term cooling requirements will be met by the Unit 1 'A' RHR heat exchanger and the 'A' RHRSW loop with the RHR system in either the containment spray or the SPC

mode of operation. Further removal of Unit 1 equipment/systems will be allowed in accordance with existing TS requirements as long as the removal of the equipment/systems from service does not adversely affect the operability of the 'A' RHRSW loop or the operable SPC mode of RHR operation or places the unit outside the analysis described in UFSAR Section 6.2.

The Emergency Service Water (ESW) system will be affected by the removal of the 'B' RHRSW loop from service in that all ESW return flow will be to the 'A' RHRSW loop. This alignment is 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 the ESW, which indicates that sufficient ESW flow is available to support operability of essential components. In addition, the licensee will perform flow measurements on the most limiting components of the ESW system to validate component/system operability. Furthermore, physical work on the 'B' RHRSW loop will not begin until both loops of the ESW system are verified to be operable.

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 RHRSW pumps operable and their associated Emergency Diesel Generators (EDGs) operable, is limited to 72 hours. The reduction in margin of safety associated with increasing the AOTs to 168 hours in a degraded condition of the plant is minimal, since it reflects a small increase in the probability of a LOCA/LOOP on Unit 1 during the three-day period allowed by the TS. The licensee has supported this conclusion with a Probabilistic Risk Assessment evaluation. The results indicate that the increased risk of extending the AOTs for Section 3.6.2.3, Action a, and TS Section 3.7.1.1, Action a.3 to 168 hours is minimal.

The staff has evaluated the proposed one-time extension in AOT for the RHRSW system and the SPC mode of the RHR system from 72 hours to 168 hours, while upgrades are made to the 'B' RHR heat exchanger outlet valve of both units. 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 (57 FR 55585). 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

Date: January 11, 1993