



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

April 19, 2012

Mr. Timothy S. Rausch
Senior Vice President and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION (SSES), UNIT 2 - ISSUANCE OF AMENDMENT RE: TEMPORARY CHANGE TO UNIT 2 TECHNICAL SPECIFICATIONS 3.8.7 and 3.7.1 TO ALLOW IMPLEMENTATION OF MULTIPLE SPURIOUS OPERATIONS MODIFICATIONS ON SSES UNIT 1, 4160 V BUSES (TAC NO. ME8152)

Dear Mr. Rausch:

The Commission has issued the enclosed Amendment No. 258 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 8, 2012, as supplemented by letters dated March 23, March 29, and April 2, 2012.

The amendment allows a one-time temporary extension of 24 hours to the Completion Time for Condition C in the SSES Unit 2 TS 3.8.7, "Distribution Systems - Operating," to allow a Unit 1 4160 V subsystem to be de-energized and removed from service for a total of 96 hours to perform modifications on the bus. It also allows a one-time temporary extension of 24 hours to the Completion Time for Condition A in SSES Unit 2 TS 3.7.1, "Plant Systems - Residual Heat Removal Service Water (RHRSW) System and the Ultimate Heat Sink (UHS)," to allow the UHS spray array and spray array bypass valves associated with applicable division RHRSW, and in Condition B, the applicable division Unit 2 RHRSW subsystem, to be inoperable for a total of 96 hours during the Unit 1, 4160 V bus breaker control logic modifications.

T. S. Rausch

- 2 -

A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's Biweekly *Federal Register* Notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Bk Vaidya". The signature is written in a cursive style and is positioned above the typed name.

Bhalchandra K. Vaidya, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-388

Enclosures:

1. Amendment No. 258 to
License No. NPF-22
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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

PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-388

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 258
License No. NPF-22

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for the amendment filed by PPL Susquehanna, LLC, dated March 8, 2012, as supplemented by letters dated March 23, March 29, and April 2, 2012, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 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 set forth in 10 CFR Chapter I;
 - 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.

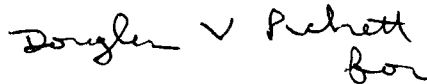
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-22 is hereby amended to read as follows

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 258 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC 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



George A. Wilson, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and
Technical Specifications

Date of Issuance: April 19, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 258

RENEWED FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

Page 3

INSERT

Page 3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

TS 3.7-1
TS 3.7-2
TS 3.8-44

INSERT

TS 3.7-1
TS 3.7-2
TS 3.8-44

- (3) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PPL Susquehanna, LLC is authorized to operate the facility at reactor core power levels not in excess of 3952 megawatts thermal in accordance with the conditions specified herein. The preoperational test, startup tests and other items identified in License Conditions 2.C.(20), 2.C.(21), 2.C.(22), and 2.C.(23) to this license shall be completed as specified.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 258 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

For Surveillance Requirements (SRs) that are new in Amendment 151 to Facility Operating License No. NPF-22, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 151. For SRs that existed prior to Amendment 151, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 151.

3.7 PLANT SYSTEMS

3.7.1 Residual Heat Removal Service Water (RHRSW) System and the Ultimate Heat Sink (UHS)

LCO 3.7.1 Two RHRSW subsystems and the UHS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Enter applicable Conditions and Required Actions of LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System-Hot Shutdown," for RHR shutdown cooling made inoperable by RHRSW System.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Separate Condition entry is allowed for each valve. -----</p> <p>One valve in Table 3.7.1-1 inoperable.</p> <p>OR</p> <p>One valve in Table 3.7.1-2 inoperable.</p> <p>OR</p> <p>One valve in Table 3.7.1-3 inoperable.</p> <p>OR</p> <p>Any combination of valves in Table 3.7.1-1, Table 3.7.1-2, or Table 3.7.1-3 in the same return loop inoperable.</p>	<p>A.1 Declare the associated RHRSW subsystems inoperable.</p> <p><u>AND</u></p> <p>A.2 Establish an open flow path to the UHS.</p> <p><u>AND</u></p> <p>A.3 Restore the inoperable valve(s) to OPERABLE status.</p>	<p>Immediately</p> <p>8 hours</p> <p>8 hours from the discovery of an inoperable RHRSW subsystem in the opposite loop from the inoperable valve(s)</p> <p><u>AND</u></p> <p>72 hours</p> <p><u>OR</u></p> <p>96 hours during the installation of the multiple fire-induced spurious operations modifications in Unit 1⁽¹⁾ (continued)</p>

⁽¹⁾ Upon completion of the MSO modifications on the Unit 1 1A201 and 1A202 4.16 kV buses, this temporary extension is no longer applicable and will expire on May 31, 2012.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One Unit 2 RHRSW subsystem inoperable.</p>	<p>B.1 Restore the Unit 2 RHRSW subsystem to OPERABLE status.</p>	<p>72 hours from discovery of the associated Unit 1 RHRSW subsystem inoperable</p> <p style="text-align: center;"><u>OR</u></p> <p>96 hours during the installation of the multiple fire-induced spurious operations modifications in Unit 1 ⁽¹⁾</p> <p style="text-align: center;"><u>AND</u></p> <p>7 days</p>
<p>C. Both Unit 2 RHRSW subsystems inoperable.</p>	<p>C.1 Restore one Unit 2 RHRSW subsystem to OPERABLE status.</p>	<p>8 hours from discovery of one Unit 1 RHRSW subsystem not capable of supporting associated Unit 2 RHRSW subsystem</p> <p style="text-align: center;"><u>AND</u></p> <p>72 hours</p>
<p>D. Required Action and associated Completion Time not met.</p> <p style="text-align: center;"><u>OR</u></p> <p>UHS inoperable.</p>	<p>D.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>

⁽¹⁾ Upon completion of the MSO modifications on Unit 1 1A201 and 1A202 4.16 kV buses, this temporary extension is no longer applicable and will expire on May 31, 2012.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems—Operating

LCO 3.8.7 The electrical power distribution subsystems in Table 3.8.7-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Not applicable to DG E DC Bus 0D597 ----- One or more Unit 2 AC electrical power distribution subsystems inoperable.</p>	<p>-----Note----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC source(s) made inoperable by inoperable power distribution subsystem(s). ----- A.1 Restore Unit 2 AC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition F or G</p>
<p>B. -----NOTE----- Not applicable to DG E DC Bus 0D597 ----- One or more Unit 2 DC electrical power distribution subsystems inoperable.</p>	<p>B.1 Restore Unit 2 DC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition F or G</p>
<p>C. One Unit 1 AC electrical power distribution subsystem inoperable.</p>	<p>C.1 Restore Unit 1 AC electrical power distribution subsystem to OPERABLE status.</p>	<p>72 hours <u>OR</u> 96 hours during the installation of the multiple fire-induced spurious operations modifications in Unit 1 ⁽¹⁾</p>

(continued)

⁽¹⁾ This temporary 24-hour completion time extension is applicable during MSO modifications to all Unit 1 4.16 kV buses, while Unit 1 is in MODES 4 or 5, and will expire on May 31, 2012.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 258 TO FACILITY OPERATING LICENSE NO. NPF-22
PPL SUSQUEHANNA, LLC
ALLEGHENY ELECTRIC COOPERATIVE INC.
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2
DOCKET NO. 50-388

1.0 INTRODUCTION

By application dated March 8, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12069A176), as supplemented by letters dated March 23, March 29, and April 2, 2012 (ADAMS Accession Nos. ML12086A016, ML12090A155, and ML12093A367, respectively), PPL Susquehanna, LLC (the licensee), requested changes to the Technical Specifications (TSs) for Susquehanna Steam Electric Station, Unit 2 (SSES-2). The supplements dated March 23, March 29, and April 2, 2012, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on March 16, 2012 (77 FR 15814).

Currently, with one Unit 1 AC electrical power distribution subsystem inoperable, the licensee must restore the distribution subsystem to operable status within 72 hours, or be in MODE 3, Hot standby condition, in 12 hours. The proposed changes would allow a one-time temporary extension of 24 hours to the Completion Time (CT) for Condition C in the SSES Unit 2, TS 3.8.7, "Distribution Systems - Operating," to allow a Unit 1, 4160 V subsystem to be de-energized and removed from service for a total of 96 hours to perform modifications on the bus. For similar reasons, it also allows a one-time temporary extension of 24 hours to the Completion Time for Condition A in SSES Unit 2 TS 3.7.1, "Plant Systems – Residual Heat Removal Service Water (RHRSW) System and the Ultimate Heat Sink (UHS)," to allow the UHS spray array and spray array bypass valves associated with applicable division RHRSW, and in Condition B, the applicable division Unit 2 RHRSW subsystem, to be inoperable for a total of 96 hours during the Unit 1, 4160 V bus breaker control logic modifications. The spray array is the spray piping part of UHS, which cools RHRSW.

The licensee stated that the LAR was needed to support modifications to the breaker control logic on Unit 1 4160 V ESS buses that were identified during the licensee's resolution of fire protection concerns involving multiple spurious operations.

Enclosure

This would provide the licensee with ample time to complete this first time evolution and will provide a reasonable period of time to resolve any unanticipated circumstances that may arise, and also reduce the potential for the unnecessary unplanned shutdown of Unit 2.

2.0 REGULATORY EVALUATION

2.1 Description of System/Component and Current Requirements

2.1.1 Balance-of-Plant System

The Susquehanna Updated Final Safety Analysis Report (UFSAR), Revision 65, Sections 9.2.6.1 and 9.2.7.2.1 provide the following information about the purpose of the RHRSW system and the UHS:

The Residual Heat Removal Service Water System (RHRWS) has a safety related function and is designed to supply cooling water to the residual heat removal (RHR) heat exchangers of both units.

The RHRWS is designed to take water from the spray pond (the ultimate heat sink), pump it through the RHR heat exchanger, and return it to the spray pond by way of a spray network that dissipates the heat to the atmosphere.

The RHRWS is designed to provide a reliable source of cooling water for all operating modes of the RHR system including heat removal under post-accident conditions, RHR Fuel Pool Cooling following a seismic event, and also to provide water to flood the reactor core or the primary containment after an accident, should it be necessary.

The UHS for both units consists of the Susquehanna River and one Seismic Category I spray pond. The UHS provides cooling water for use in the Emergency Service Water [ESW] and RHR Service Water [RHRSW] systems. These water sources ensure that a reliable source of cooling water is available, for shutdown and cool down of the reactor and mitigation of accident conditions.

The licensee in its submission dated March 8, 2012, Enclosure page 9 of 30, provided the following information about the ultimate heat sink:

The ultimate heat sink system is composed of an approximately 3,300,000 cubic foot spray pond and associated piping and spray risers. Each UHS return loop contains a bypass line, a large spray array and a small spray array. The purpose of the UHS is to provide both a suction source of water and a return path for the RHRSW and Emergency Service Water (ESW) systems. The function of the UHS is to provide water to the RHRSW and ESW systems at a temperature less than the 97°F design temperature of the RHRSW and ESW systems. UHS temperature is maintained less than the design temperature by introducing the hot return fluid from the RHRSW and ESW systems into the spray

loops and relying on spray cooling to maintain temperature. The UHS is designed to supply the RHRSW and ESW systems with all the cooling capacity required during a combination LOCA/LOOP for thirty days without fluid addition. The UHS is described in the FSAR, Section 9.2.7.

TS 3.7.1 for Unit 2 requires two RHRSW subsystems and the UHS be operable during Modes 1, 2, and 3. Each subsystem has a large spray array and a small spray array and bypass line. Loss of operability of either one large spray array isolation valve or one small spray array isolation valve or one spray loop bypass valve or any combination of these valves in the same return loop causes the associated RHRSW subsystem to be inoperable. The licensee plans to de-energize buses 1A201, 1A202, 1A203, and 1A204, one at a time. De-energizing 1A201 and 1A202 will cause loss of power to the spray array valves resulting in loss of a RHRSW subsystem, one at a time. This will cause Unit 2 to enter Condition A and B of TS 3.7.1, Required Action A.1, A.2, A.3 as well as B.1, which provide the following CTs:

For Condition A:

- A.1 Declare the associated RHRSW subsystem inoperable, immediately, AND
- A.2 establish an open path to the UHS in 8 hours, AND
- A.3 Restore the inoperable valve(s) to OPERABLE status:
 - In 8 hours from the discovery of an inoperable RHRSW subsystem in the opposite loop from the inoperable valve(s), AND
 - 72 hours, OR

For Condition B:

- B.1 Restore the Unit 2 RHRSW subsystem to OPERABLE status:
 - 72 hours from the discovery of the associated Unit 1 RHRSW subsystem inoperable, AND
 - 7 days

2.1.2 Electrical Power System

According to Susquehanna UFSAR, Revision 65, Sections 8.1, 8.2, and 8.3, there are four 4.16 kilo Volt (kV) safety related buses for Unit 1 and Unit 2; 1A201, 1A202, 1A203, 1A204 and 2A201, 2A202, 2A203, 2A204 respectively. Although each unit has uniquely designated electrical busses, the electrical distribution system is shared between both units. In addition, there are common loads such as Emergency Service Water, Standby Gas Treatment System, Control Structure Heating Ventilation and Air Conditioning, and Residual Heat Removal Service Water (RHRSW) system that have inter unit dependence, i.e., outage on Unit 1 affects Unit 2.

Electric power from the offsite power sources to the onsite distribution system is provided by two physically separated 230kV transmission lines. Two startup transformers (T-10 and T-20), step down the voltage from 230kV to 13.8kV for onsite distribution for both units. The Class 1E power system has four 13.8/4.16kV transformers, T-101, T111, T-201 and T-211 that can power the respective safety related busses. Each bus has the capability to be supplied from its preferred source (transformer) or the alternate source. According to the FSAR, the Class 1E AC System is divided into four load group channels per unit (load Group Channels A, B, C, and D) such that any combination of three out of four load groups has the capability of supplying the minimum required safety loads of that unit

Four independent diesel generators (DGs) designated A, B, C and D, shared between the two units, provide emergency power for each of the four ESS 1E AC load groups in each unit in the event of total loss of the preferred and alternate supplies. A spare Class 1E DG (E-Diesel) is provided, which can be manually aligned as a replacement for any one of the other four DGs without violating the independence of the redundant safety-related load groups. In the event of a LOOP, the Engineered Safety Feature (ESF) loads are automatically connected to the DGs in sufficient time to support safe reactor shutdown and to mitigate the consequences of a design-basis accident (DBA) such as Loss of Coolant Accident (LOCA). Diesel Generators A, B, C, and D are each rated for continuous operation at 4000 kilowatts (kW) 0.8 power factor (pf) and 4700 kW for 2000 hour operation. Diesel Generator E is rated for continuous operation at 5000 kW 0.8 pf and 5500 kW for 2000 hour operation. The capacity of any DG aligned to the specific safety busses, assuming one of the aligned diesels fails, is sufficient to operate the ESF loads of one unit and those systems required for concurrent safe shutdown of the second unit.

2.2 Applicable Regulatory Requirements and Review Criteria

The regulatory requirements and criteria which the NRC staff applied in the review of the application include:

- Standard Review Plan (SRP), Chapter 9.2.1, "Station Service Water," provides regulatory guidance for acceptable adherence to NRC regulations. The design of the Service Water System (SWS) must satisfy the requirements of GDC 2, 5, 44, 45, and 46. Specifically SRP 9.2.1 states that cooling water systems will be considered acceptable to the requirements of GDC 44 if a system is provided to transfer heat from SSCs important to safety to an UHS. In addition, the SWS can transfer the combined heat load of these SSCs under normal operating and accident conditions, assuming loss of offsite power and a single failure, and that system portions can be isolated so the safety function of the system is not compromised.
- SRP, Chapter 9.2.5, "Ultimate Heat Sink," provides regulatory guidance for acceptable adherence to NRC regulations. The design of the UHS must satisfy the requirements of GDC 5, and 44.
- RG 1.27, "Ultimate Heat Sink for Nuclear Power Plants," describes an acceptable basis to the NRC staff that may be used to implement GDC 44, "Cooling water." Specifically, the UHS serving multiple units should be capable of providing sufficient cooling water to permit simultaneous safe shutdown and cool down of all units it serves and to maintain them in a safe shutdown condition. Also, in the event of an accident in one unit, the UHS should be able to dissipate the heat for that accident safely, to permit the concurrent safe shutdown and cool down of the remaining unit, and to maintain all units in a safe shutdown condition.
- GDC 5, "Sharing of structures, systems, and components," requires that structures, systems, and components important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.

- GDC 17, "Electric power systems," requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system is required to be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of loss of power from the unit, the offsite transmission network, or the onsite power supplies.
- GDC 18, "Inspection and testing of electric power systems," requires that electric power systems that are important to safety must be designed to permit appropriate periodic inspection and testing of important areas and features, such as insulation and connections to assess the continuity of the systems and the condition of their components.
- GDC 44, "Cooling water," requires that a system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink be provided. The system safety function shall be to transfer the combined heat load of these structures, systems, and components under normal operating and accident conditions. Suitable redundancy in components and features, and suitable interconnections, leak detection and isolation capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.
- 10 CFR 50.63, "Loss of all alternating current power," requires a nuclear power plant to be able to withstand for a specified duration and recover from a complete loss of offsite and onsite AC sources, i.e., a station blackout (SBO).
- 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," requires that preventive maintenance activities must not reduce the overall availability of the systems, structures, and components.

3.0 TECHNICAL EVALUATION

3.1 Description of the Proposed TS 3.7.1 Change

The licensee will be de-energizing buses 1A201, 1A202, 1A203, and 1A204, one bus at a time up to 96 hours each to install fire induced spurious operations modifications to various circuit breakers. As discussed in Section 3.2 of this safety evaluation, these modifications address longstanding MSO concerns and follow the guidance contained in RG 1.189, Revision 2. These buses supply Unit 1, but also some common loads for Unit 2. When Unit 2 loads are de-energized, Unit 2 TS are affected.

Therefore, the licensee submitted a License Amendment Request (LAR) on March 8, 2012, requesting a temporary change to CT for Required Action A.3 of TS 3.7.1, "RHRSW System and UHS" for Unit 2. The current CT to restore inoperable valve(s) to operable status is 72 hours. The licensee requested to add a conditional CT of 96 hours to Required Action A.3 of TS 3.7.1 for Unit 2. The conditional CT would only be applicable during the installation of the fire-induced spurious operations modifications in Unit 1 and when either bus 1A201 or 1A202 are de-energized. Unit 1 must be in MODES 4 or 5. The alternate CT would expire on May 31, 2012.

Similarly, the licensee also requested a change to the CT for Required Action B.1 of TS 3.7.1 for Unit 2. The current CT to restore the Unit 2 RHRSW subsystem to operable status is 72 hours from the discovery of the associated Unit 1 RHRSW subsystem being inoperable. The licensee requested to add a conditional CT of 96 hours to Required Action B.1. The conditional CT would only be applicable during the installation of the fire-induced spurious operations modifications in Unit 1 and when either bus 1A201 or 1A202 are de-energized. Unit 1 must be in MODES 4 or 5. The alternate CT would expire on May 31, 2012.

3.2 Description of Proposed Changes to TS 3.8.7

In 1997, the NRC staff identified plant-specific problems related to potential fire-induced electrical circuit failures that could prevent operation or cause maloperation of equipment necessary to achieve and maintain hot shutdown. The staff issued Regulatory Guide 1.189 "Fire Protection for Nuclear Plants" and granted enforcement discretion to the operating nuclear plants under Enforcement Guidance Memorandum (EGM) 09-002 for issues related to Multiple Fire-Induced Spurious Operations (MSO).

During the SSES Unit 1 refueling outage, 4 kV MSO related equipment modifications require each of Unit 1 4.16 kV ESS busses to be taken out of service. The Unit 1 bus outages impact operation of Unit 2 because of some shared loads. Therefore, SSES Unit 2 TS 3.8.7 requires the Unit 1 distribution system to be operable to support Unit 2 operation. Specifically, while maintenance is performed on Unit 1, 4.16 kV breakers, safety busses 1A201 and 1A202 will be out of service. When a bus is out of service, a 72 hour Completion Time to restore the bus to operable status is required by Unit 2 TS LCO 3.8.7, "Electric Power Systems – Distribution Systems – Operating," Condition C. SSES is requesting a Unit 2 TS change to allow up to 96 hours to restore the bus to operable during the installation of the MSO modification on all four Unit 1 4.16 kV buses. This TS Condition is applicable because the Ultimate Heat Sink spray array and the spray array bypass valves associated with applicable division of RHRSW systems required for power operation of Unit 2 are affected and have a similar LCO. The licensee plans activities on Unit 2 systems include: Residual Heat Removal (RHR) and Core Spray (CS) system flow tests, DG monthly tests, and surveillances on Standby Gas Treatment (SBGT), Control Room Emergency Outside Air Supply System (CREOASS). These systems have 7-day or longer LCOs.

In the amendment request, the licensee has stated that only one Unit 1 bus will be removed from service at a time and all Unit 2 buses will remain energized and operable. Typical outage logic for a Unit 1 4.16 kV Bus is as follows:

- Deenergize bus
- Implement wiring changes
- Cold scheme checks of wiring changes
- Functional testing of offsite power breakers
- Function testing of DG breaker
- Integrated testing of DG breaker with offsite power
- Modification closure
- Energize and restore bus to operable status

3.3 Staff Evaluation of the Proposed TS 3.7.1 Changes

Buses 1A201, 1A202, 1A203, and 1A204 will be de-energized, one bus at a time, up to 96 hours each. The licensee reviewed the loads on the buses to be de-energized and determined the common equipment for Unit 2 that would be impacted and listed those loads and the effect upon the TS in a table on page 7 of 30 of the LAR.

The NRC staff wanted to ensure that the licensee considered every load on the de-energized buses to ensure that no safety function would be lost and that all affected TS LCO and TS Required Actions for TS Conditions are identified. Therefore, the NRC staff asked the licensee to identify each electrical load affecting Unit 2 on the buses to be de-energized that are either a) safety related, b) important to safety, or c) affect any LCO of the TSs. The staff asked the licensee to discuss any effect upon adherence to the TSs or other safety considerations when each load is de-energized. In letters dated March 23 and April 2, 2012, the licensee showed that additional safety related common equipment for Unit 2 will be TS inoperable when each bus is de-energized.

Specifically, when 1A201 and 1A202 are de-energized, the following additional equipment will become inoperable; one CSEOASS, one Control Room Floor Cooling System subsystem, one SBGT subsystem, one subsystem of RHR suppression pool cooling, one subsystem of RHR suppression pool spray, one RHR pump. The newly identified inoperable equipment have TS CTs greater than 96 hours as identified in Table 1 of the licensee's March 23, 2012, letter. The applicable TS Conditions and Required Actions for the inoperable equipment identified in Table 1 above must be entered for those systems not exempted by TS 3.0.6.

Also, 36 hours after bus 1A201 is de-energized, ESW Pump C and RHRSW Pumps 1A and 2A become inoperable; and 36 hours after 1A202 is de-energized, ESW Pump D and RHRSW Pumps 1B and 2B become inoperable. At that time, their respective TS Conditions and Required Actions have already been entered because of the inoperable UHS spray array valves.

Buses will be de-energized one at a time up to 96 hours each. TS CTs of the systems that are greater than 96 hours will not be affected. The CTs of other de-energized and applicable subsystems are either 7 days or 30 days and would not be approached, if the applicable bus was returned to service and the associated common loads were designated as operable within the revised CT of 96 hours.

The NRC staff reviewed the licensee submittal by comparing the proposed TS revision against the applicable regulatory requirements and review criteria and used the following categories of evaluation to meet a set of key principles, typically used in traditional engineering decisions, as described in RG 1.174, Revision 2, May 2011.

1. The proposed change meets the current regulations.
2. The proposed change is consistent with defense-in-depth philosophy.
3. The proposed change maintains sufficient safety margins.

3.3.1 Compliance with Current Regulations

The licensee's proposed LAR does not affect the design of RHRSW and UHS with respect to compliance to GDCs 2 and 46. With Unit 1 in Mode 4 or 5, the licensee has described its ability to mitigate a LOCA in Unit 2, thereby continues to meet the intent of GDC 5. The licensee continues to meet the intent of GDC 44 as discussed in Section 3.3.2 below.

3.3.2 Evaluation of Defense-in-Depth Attributes

The NRC staff has reviewed the information that was provided and evaluated the requested change against the defense in depth attributes as follows:

- A reasonable balance among prevention of core damage, prevention of containment failure, and consequence mitigation is preserved.

The RHRSW system has safety-related functions in preventing core damage and containment failure by transferring core decay heat and suppression pool energy during a design-basis accident (DBA) via the RHR system to the RHRSW system to the UHS. Two independent RHRSW subsystems each of which can accomplish these design functions are normally available. During the extended CT, one subsystem will be inoperable, but available contingent upon compensatory operator actions. This condition is currently allowed by TS 3.7.1 for 72 hours, whereas, this LAR requests a limited use of an extended CT of 96 hours up to May 31, 2012. During the extended CT, the design functions of preventing core damage and preventing containment failure will still be preserved by the operable RHRSW subsystem. The operable RHRSW subsystem will be protected in accordance with plant procedures. The inoperable RHRSW subsystem will be available and capable of removing heat energy for up to an estimated 20 hours. The licensee concluded that shutting down Unit 2 and continuing to cool Unit 1 through the open spray pond bypass valve, in the event that the operable loop of RHRSW were to fail, would be acceptable for a period approaching 20 hours with no additional actions on the part of the operators. In this 20 hour period, actions could be taken by the operators to access the RHRSW spray pond valve vault and manually close the bypass and open the spray array valves. Re-aligning the bypass and spray array valves would return the UHS to its design condition with spray cooling. These actions could be accomplished well within the available 20 hour timeframe available.

The change to TS 3.7.1 does not introduce a new accident or transient since no new equipment is installed, existing equipment is not operated in a new manner and thus no new accident initiator is introduced. The RHRSW system is not an initiator of any

analyzed DBA, therefore, the short duration change (through May 31, 2012) does not increase the likelihood of an accident or transient. Therefore, design functions of preventing core damage and preventing containment failure will still be preserved by the operable RHRSW subsystem.

Consequence mitigation is affected by the loss of one subsystem of SBGT and one subsystem of CREOASS during the extended CT. Since the SGTS and CREOASS TS CTs are 7 days, the LAR remains within the current TS requirements for SGTS and CREOASS. Similarly one subsystem of the Control Room Floor Cooling System becomes inoperable, but the CT to restore the inoperable subsystem is 30 days.

Based on maintaining the safety function by the operable subsystem of RHRSW, the short duration availability of the inoperable, but available RHRSW subsystem, and not increasing the likelihood of core or containment damage, and not exceeding existing TS requirements for consequence mitigation, the staff considers the proposed temporary extension of the CT to 96 hours maintains a reasonable balance among prevention of core damage, prevention of containment failure and consequence mitigation.

- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided. The plant design is not being changed. The licensee has established a protective system list as delineated in their submittal for when each bus is de-energized. The list includes the operable RHRSW subsystem. No additional programmatic activities are instituted. The added duration of the extended CT increase is small (72 hours to 96 hours) and is only applicable up to May 31, 2012. Therefore, the staff finds that the proposed TS change would not involve an over-reliance on programmatic activities.
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers).

RHRSW system redundancy will be reduced for additional time during the extended CT when the one subsystem of RHRSW is inoperable but remains available for use, if needed. Temporary relaxation of the single failure criterion is allowed during TS LCO Action Statements for the CT specified in TS. This LAR extends the CT from 72 hours to 96 hours. In order to extend the CT to 96 hours, the licensee is relying upon certain plant design and operational features and restrictions which are discussed as follows:

- a) For the inoperable RHRSW subsystem, the licensee will make the subsystem available by performing compensatory operator actions by opening the spray array manual bypass to establish flow to the spray pond and by establishing air flow path through the ESSW Pumphouse and thus establishing adequate ventilation. Since both RHRSW pumps in the associated loop are inoperable because of an inoperable ESSW Pumphouse ventilation subsystem when either 1A201 or 1A202 are de-energized for greater than 36 hours, the licensee has compensatory procedures to establish air flow through the ESSW Pumphouse and thus allow the affected RHRSW pumps to be available. The other RHRSW subsystem is fully operable and can perform the system safety function.

- b) In the LAR dated March 8, 2012, the licensee stated that the capability of the RHRSW system provides adequate time for compensatory operator actions to remove decay heat from both units while in the configuration where one subsystem was operable and the other subsystem is inoperable but available as described above. In a request for additional information (RAI) dated March 27, 2012, the NRC staff asked the licensee to justify the proposed extended CT by considering LOCA heat loads on the RHRSW system. In their response dated March 29, 2012, the licensee stated that under LOCA/LOOP conditions on Unit 2, with Unit 1 already in cold shutdown, the heat loads on the spray pond will be less than design heat loads because Unit 1 is already in Mode 4 and the ambient temperature and spray pond initial temperature will be less than design, since the TS change is only valid until May 31, 2012, due to outside temperatures at this time of the year. The licensee analysis concluded that they would have up to approximately 20 hours to manually close the bypass valve and manually open the spray array valves for the inoperable subsystem. These compensatory manual actions would restore full cooling capability to the inoperable subsystem. Since closing the manual bypass valve can be accomplished within 3 hours, significant time margin exists. Therefore, the NRC staff was satisfied that extending the CT from 72 hours to 96 hours allowed minimal risk in that no safety function was lost because one operable RHRSW subsystem was immediately available and the inoperable but available RHRSW subsystem could be restored to available spray cooling well within calculation limit of 20 hours. The associated RHRSW pumps although inoperable, would be made available by establishing an air flow path through the ESSW Pumphouse. Therefore the licensee continues to meet the intent of GDC 5 during the MSO installation.
- c) Also, the operable subsystem will be in a protected status to reduce the possibility of failure of the operable RHRSW subsystem. The LAR lists various protected equipment corresponding to the Unit 1 electrical bus to be de-energized. All four Unit 2 emergency diesel generators will be operable and all Unit 2 4KV buses will remain energized. All 125 V DC and 250 V DC Battery Chargers, Batteries and Distribution Systems for Unit 2 are operable. With the impact to post fire shutdown on Unit 2 being affected by the loss of ESW and RHRSW, the diesel driven fire pump will be treated as protected plant equipment. Procedures for control of combustibles and hot work will limit the potential for plant fires.

Therefore, the staff concludes that the licensee has maintained the ability to transfer heat to the UHS in the event of a LOCA with respect to system redundancy, independence, and diversity preserved, commensurate with the expected frequency and consequences of challenges to the system. The intent of GDC 44 continues to be met by the licensee.

- No new common mode failures will be introduced as a result of extending the allowed CT.

3.3.3 Evaluation of Safety Margins

Since the overall design of the RHRSW or the UHS is not modified, there is no impact on the design codes and the applicable standards. Therefore, an adequate margin of safety will be maintained.

3.3.4 Other Considerations

The licensee stated in their LAR dated March 8, 2012, "the declaration that the Unit 2 RHRSW subsystem is inoperable is administrative." The licensee claimed that once flow to the UHS is restored through the spray bypass line via compensatory operator actions, the RHRSW subsystem meets the definition of operability, but continues to be administratively inoperable because of Condition A of TS 3.7.1, which requires the UHS spray valves to be operable. However, subsequently, by letter dated April 2, 2012, the licensee corrected the statement and clarified that not only is the Unit 2 RHRSW subsystem inoperable because the associated UHS spray valves are inoperable, but also because the associated RHRSW pumps become inoperable 36 hours after either bus 1A201 or 1A202 are de-energized. The RHRSW pumps become inoperable because an entire subsystem of the ESSW Pumphouse Ventilation System loses power and becomes inoperable. Specifically, the licensee's response dated April 2, 2012, states "With the loss of power from 1A201, ESW Pump A, ESW Pump C, Unit 1 RHRSW Pump A and Unit 2 RHRSW Pump A would need to be declared inoperable immediately after the 36 hour period elapsed." Also, the licensee states, "With the loss of power from 1A202, ESW Pump B, ESW Pump D, Unit 1 RHRSW Pump B and Unit 2 RHRSW Pump B would need to be declared inoperable immediately after the 36 hour period elapsed." The staff concurs with the licensee revised assessment in their April 2, 2012, letter, because the associated RHRSW pumps become inoperable 36 hours after the loss of the associated ESSW Pumphouse Ventilation System.

3.4 Staff Evaluation of the Proposed TS 3.8.7 Changes

The staff evaluated the design of offsite and Class 1E onsite circuits described in the LAR, and the current plant configuration of the circuits provided in the single line diagram provided by the licensee.

The licensee proposed the following:

- The Completion Time (CT) associated with Required Action C.1 of TS 3.8.7 "Distribution Systems – Operating" will be temporarily changed. The CT will read "72 hours OR 96 hours during the installation of the multiple fire-induced spurious operations modifications in Unit 1⁽¹⁾." The superscript 1 refers to a note associated with this CT that will read, "This temporary 24-hour completion time extension is applicable during MSO modifications to all Unit 1 4.16 kV buses, while Unit 1 is in MODES 4 or 5, and will expire on May 31, 2012."

The licensee stated that the proposed 24 hour extended CT will allow adequate time to complete this evolution, provide a reasonable period of time to resolve any unanticipated circumstances that may arise, and reduce the potential for an unplanned shutdown of Unit 2.

The licensee has stated that operation of the Unit 2 Emergency Core Cooling System (ECCS) equipment supplied by the Unit 2 AC Distribution Subsystem is not affected by the scheduled Unit 1 4.16kV modification activities. Specifically the licensee has clarified that regardless of which Unit 1 - 4.16 kV safety bus is out of service during any stage of the planned modifications, the Unit 2 will have redundant AC (onsite and offsite) and DC electrical systems available. Thus Unit 2 AC and DC Distribution systems will meet the intent of GDC 17 for onsite and offsite power systems.

The planned outage of one ESS bus at a time in the Unit 1 AC distribution system will temporarily disable one offsite power source and the associated DG for that bus. As a consequence, the defense-in-depth for the electrical systems is reduced and the potential for a complete loss of AC power for Unit 1 is increased. For Unit 1, this does not result in any additional TS related LCOs as the unit will be in shutdown for refueling and have one train of safe shutdown equipment able to be powered from the offsite or onsite AC sources. This is within the licensing basis of the plant. The regulation in 10 CFR 50.63, "Loss of all alternating current power," requires a nuclear power plant to be able to withstand loss of all AC power for a specified duration and recover from a SBO. The rule provides guidance and requirements for maintaining stable conditions when a unit trips from 100 percent power.

In the event that offsite power is lost for Unit 1 and the designated onsite DG fails to start, the licensee will have adequate time to align the spare DG and maintain safe shutdown capability of the unit as the plant will be in cold shutdown.

The AC distribution system for Unit 2 is not affected and will provide a redundant division of ESS busses.

To preclude potentially high-risk plant configurations that could result during the breaker and bus outages, the licensee has identified specific equipment (Table 1, "Protected Equipment" of the LAR submittal dated March 8, 2012) that will be protected with additional precautions during implementation of the MSO related modifications for each ESS bus. The list includes the following:

- Unit 1 and Unit 2 Battery systems
- Offsite power transformers T10 and T20
- The 230 kV and 500 kV switchyards
- Appropriate Unit 1 and Unit 2 4kV busses and load centers
- Unit 2 High Pressure Core Injection System
- Unit 2 Reactor Core isolation Cooling System
- Appropriate Core Spray and RHR systems.

In addition, the licensee will ensure that appropriate restrictions and compensatory measures are established to assure system redundancy, independence, and diversity are maintained commensurate with the risk associated with the extended CT. The licensee stated in the LAR that these include current TS requirements and Maintenance Rule programmatic requirements as well as administrative controls. Thus, the licensee will meet the requirements of 10 CFR 50.65(a)(4), in that preventive maintenance activities will minimize the overall risk to plant safety.

The NRC staff reviewed the proposed licensee actions and finds the proposed changes to be acceptable.

3.5 Precautionary Measures

The licensee has identified the following precautionary measures in the LAR to minimize plant risk during implementation of MSO related modifications:

1. Remove one Unit 1 4.16 kV ESS bus from service at a time.
2. Regarding the AC Distribution System on Unit 2 throughout the MSO modification and regardless of which Unit 1 4.16 kV ESS bus is out the service the following will be maintained
 - a. All four Unit 2 4.16 kV ESS buses will be operable
 - b. All four common DG's will be operable. A spare DG is also available which can be manually aligned as a replacement for any one of the other four DG's.
 - c. All 125 VDC and 250 VDC battery chargers, batteries, and distribution systems for Unit 2 will be operable.
3. Regarding planned work on Unit 2
 - a. Perform routine surveillance to maintain systems operable. This would include surveillances for battery checks, residual heat removal (RHR) and core spray (CS) system flow tests, DG monthly tests, standby gas treatment (SGBT), and CREOASS.
 - b. Perform planned maintenance on the "B" loop of RHRSW. This maintenance will not be performed in parallel with Unit 1 4.16 kV safety bus work which impacts the other division of RHRSW.
 - c. Perform SGBT damper inspections
4. Perform emergent work on Unit 2 as necessary to keep Unit 2 on line.

The staff concludes that the above precautionary measures provide appropriate measures to minimize plant risk.

3.6 CONCLUSION – TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's proposed amendment of Unit 2 TS 3.7.1 for Required Actions A.3 and B.1 and TS 3.8.7 for Required Action C, to conditionally extend the CT for one AC electrical power distribution subsystem inoperable from 72 to 96 hours. The NRC staff's conclusion is based on the following:

- The temporary extended CT will be used for Unit 1 17th Refueling and Inspection Outage and will expire May 31, 2012.

- Appropriate restrictions and precautionary measures will be established with the temporary extended CT. This includes TS requirements and maintenance rule programmatic requirements.
- The NRC staff has reviewed the licensee's proposed conditional CT for Required Actions A.3 and B.1 of TS 3.7.1 and C.1 of TS 3.8.7, and finds that the proposed temporary increases in CT are consistent with current regulations, defense-in-depth attributes and maintenance of adequate safety margins.

Based on the above evaluation, the staff finds that the actions described, including maintenance and operations restrictions provide reasonable assurance that there will be minimum impact to Unit 2 from work being performed on Unit 1. Therefore, Unit 2 will have the required electrical power to shut down the reactor and maintain the reactor in a safe condition. The NRC staff also finds that the compensatory operator actions to implement other restrictions and compensatory actions to protect safety significant equipment and to reduce plant risk during modification activities on the switchgear, further ensures the availability of the remaining sources of AC power during the temporary extended CT. Furthermore, the NRC staff concludes that the proposed TS changes are in accordance with 10 CFR 50.36, 10 CFR 50.63, and 10 CFR 50.65, meet the intent of GDCs 5, and 17 for Unit 2, and are consistent with current regulations, defense-in-depth attributes and maintenance of adequate safety margins. Therefore, the NRC staff finds the proposed conditional change, acceptable.

4.0 EVALUATION OF THE REQUEST FOR EXIGENCY

In the application dated March 8, 2012, the licensee requested that the NRC staff complete its review by April 5, 2012. The licensee stated that due to the late identification in the Appendix R Multiple Spurious Operations (MSOs) Project of the need for work on the Unit I - 4.16 kV breakers, the planning effort that identified the need for each 4.16 kV Bus to be out of service to accomplish the work for a period of time that could challenge the LCO times associated with Technical Specifications 3.8.7 Condition C and 3.7.1 Conditions A and B was not completed until February of 2012. With the planned start of the Unit 1 – 17th refueling outage on March 31, 2012, insufficient time is available for PPL to submit a Technical Specification Change Request that would allow time for the 30-day prior public notice period. Since this change request does not involve a significant hazard and since time is not available for the 30-day prior public notice period, it is being submitted as an exigent TS Change. The regulation in 10 CFR 50.91(a)(6) governing the exigency, requires, in part, that:

- (1) The Commission will require the licensee to explain the exigency and why the licensee cannot avoid it, and use its normal public notice and comment procedures . . . if it determines that the licensee has failed to use its best efforts to make a timely application for the amendment in order to create the exigency and to take advantage of this procedure.
- (2) The Commission must act quickly and that time does not permit the Commission to publish a *FEDERAL REGISTER* notice allowing 30 days for prior public comment, and it also determines that the amendment involves no significant hazards,

In the letter dated March 9, 2012, the NRC informed the licensee that they did not provide sufficient justification for exigency with respect to use its best efforts to make a timely application for the amendment, as required by the regulation 10 CFR 50.91(a)(6)(iv), and therefore, this application would be processed as a normal submission.

By letter dated April 2, 2012, the licensee requested that the NRC staff reconsider its determination and provided additional information. The staff's position was that the licensee had to demonstrate why they could not submit the request in a more timely manner (i.e., by approximately February 23, 2012). If the licensee had submitted the amendment earlier, the staff could have issued the amendment by April 5, 2012, thus allowing the full 30-day comment period without use of exigent circumstances. The licensee's letters dated March 8 and April 2, 2012, did not provide that information. Furthermore, the licensee's letter dated April 2, 2012, indicated that the associated issues were entered into the licensee's corrective action program in May 2010.

The Sholly rule dated March 6, 1986 (51 FR 7744) stated, in part, that:

As with its provisions on emergency situations, the Commission explained in the interim final rules that it would use these procedures sparingly and that it wants to make sure that its licensees will not abuse these procedures. It stated that it will use criteria similar to the ones it uses with respect to emergency situations to decide whether it will shorten the comment period and change the type of notice normally provided. It also stated in connection with requests indicating exigent circumstances that it expects its licensees to apply for license amendments in a timely fashion. It will not change its normal notice and public comment practices where it determines that the licensee has failed to use its best efforts to make a timely application for the amendment because of negligence or in order to create the exigent circumstances so as to take advantage of the exigency provision. Whenever a licensee wants to use this provision, it must explain to the staff the reason for the exigency and why the licensee cannot avoid it; the staff will assess the licensee's reasons for failure to file an application sufficiently in advance of its proposed action or for its inability to take the action at some later time.

Based on the above discussion, the NRC staff has determined that the licensee did not act quickly by not submitting the LAR until March 8, 2012. Therefore, the application for this license amendment request was processed as a normal application.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION (NSHCD)

The Commission may issue the license amendment before the expiration of the 60-day period provided that its final determination is that the amendment involves no significant hazards consideration. This amendment is being issued prior to the expiration of the 60-day period. Therefore, a final finding of no significant hazards consideration follows.

The Commission has made a final determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident

previously evaluated; or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration which is presented below.

This "No Significant Hazards Consideration" evaluates the following changes to the Technical Specifications:

- a. The Unit 2 TS 3.8.7, Condition C, Completion Time is revised to extend the Completion Time from 72 hours to 96 hours for a Unit 1 4160 V subsystem that is de-energized and removed from service.
 - b. The Unit 2 TS 3.7.1, Condition A, Completion Time is revised to extend the Completion Time from 72 hours to 96 hours for a loop of UHS spray array and spray array bypass valves being inoperable due to the Unit 1 4160V subsystem completion time being extended.
 - c. The Unit 2 TS 3.7.1, Condition B, Completion Time is revised to extend the Completion Time from 72 hours to 96 hours for one Unit 2 RHRSW subsystem being inoperable due to the Unit 1 4160V subsystem completion time being extended.
1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The temporary changes to the completion times for TS 3.8.7, Condition C and TS 3.7.1, Conditions A and B are necessary to implement plant changes which modify the 4 kV Control Circuits on the 4.16 kV ESS Buses in order to mitigate the consequences of multiple fire-induced spurious operations. These modifications decrease the probability that a fire-induced hot short will cause equipment malfunctions. The current assumptions in the safety analysis regarding accident initiators and mitigation of accidents are unaffected by these changes. No SSC [structure, system, and component] failure modes or mechanisms are being introduced, and the likelihood of previously analyzed failures remains unchanged.

The Completion Time to restore the Unit 2 RHRSW subsystem has been extended to 96 hours in order to complete the modifications associated with the Multiple Fire-Induced Spurious Operations issue. This is a temporary extension of the Completion Time. The extended Completion Times for TS 3.7.1 Conditions A and B are only applicable when either the 1A 201 4.16 kV ESS Bus or the 1A 202 4.16 kV ESS Bus is out of service in order to implement modifications associated with the Multiple Fire-Induced Spurious Operations issue. The affected Unit 2 RHRSW subsystem remains available, while the other subsystem of Unit 2 RHRSW will remain operable.

There are no changes to any accident initiators or to the mitigating capability of safety-related equipment supported by the Class 1E Electrical AC system. The protection provided by these safety-related systems will continue to be provided as assumed by the safety analysis.

Therefore, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes to Technical Specification 3.8.7 Condition C, and to Technical Specification 3.7.1 Condition A and Condition B involve the extension of completion time for a Unit 1 4.16 kV Bus to be out of service in order to modify the control circuits to mitigate the consequences of multiple fire-induced spurious operations, the completion time for the UHS spray array and spray array bypass valves to be inoperable and one Unit 2 RHRSW subsystem being inoperable. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. There are no setpoints, at which protective or mitigative actions are initiated, affected by this change. These changes do not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. No alterations in the procedures that ensure the plant remains within analyzed limits are being proposed, and no major changes are being made to the procedures relied upon to respond to an off-normal event as described in the FSAR [final safety analysis report]. As such, no new failure modes are being introduced. The proposed change does not alter assumptions made in the safety analysis and licensing basis.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No

The margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. The proposed changes are acceptable because the completion time extensions allow modifications to the 4.16 kV control circuits to mitigate the consequences of a fire-induced electrical short damaging equipment. Therefore, the plant response to analyzed events is affected by this modification in that the plant will better cope with the fire-induced shorts and will continue to provide the margin of safety assumed by the safety analysis.

With the RHRSW Spray Pond Return Bypass Valves on the out of service loop electrically de-powered in the open position, a return flow path will be established. Since the RHRSW Pumps on Unit 2 are not impacted by the Unit 1 – 4.16 kV ESS Bus outages, with this return flow path established, the affected RHRSW Loop on Unit 2 will be available. Also in this configuration a fire-induced circuit failures will not be able to affect the position of the valves. This configuration will continue to provide the margin of safety assumed by the safety analysis.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and based on this review, determined that the three standards of 10 CFR 50.92 are satisfied. Therefore, the NRC staff has determined that the amendment request involves no significant hazards consideration.

6.0 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.

7.0 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 (77 FR 15814). The Commission's final determination that the amendment request involves no significant hazards consideration, is provided in Section 5.0 above. 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.

8.0 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 Contributors: G. Purciarello, NRR/SBPB
K. Scales, NRR/EEEB

Date: April 19, 2012

T. S. Rausch

- 2 -

A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's Biweekly *Federal Register* Notice.

Sincerely,

/ra/

Bhalchandra K. Vaidya, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-388

Enclosures:

1. Amendment No. 258 to License No. NPF-22
2. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:

PUBLIC	LPL1-1 R/F	RidsNRRDorlLpl1-1	RidsNRRPMSusquehanna
RidsNrrDssStsb	RidsNrrLASLittle (hard copy)		RidsNrrDorlDpr
RidsNrrDeEeeb	RidsNrrDraApla	RidsOgcRp	RidsAcrcAcnw&MailCenter
RidsRg1MailCenter	RidsNrrDraAfpb	KScalcs, NRR	GMatharu, NRR
GWaig, NRR	GPurciarello, NRR		

ADAMS Accession No.: ML12096A158 (*)No substantial changes from SE memo.

OFFICE	LPL1-1/PM	LPL1-1/LA	NRR/EEEEB/BC(*)	NRR/STSB/BC(*)
NAME	BVaidya	BTully for SLittle	JAndersen	RElliott
DATE	04 /17 /12	04/ 17 /12	04/11/12	04 / 13 /12
OFFICE	NRR/SBPB/BC(*)	OGC	LPL1-1/BC	LPL1-1/PM
NAME	GCasto	DRoth	GWilson (DPickett for)	BVaidya
DATE	04/06/12	04/18/12	04/19/12	04/19/12

OFFICIAL RECORD COPY