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SEP 15 2006

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop OP1-17
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
REVISION TO PROPOSED AMENDMENT NO. 281
TO LICENSE NPF-14 AND PROPOSED AMENDMENT NO. 251
TO LICENSE NPF-22: "APPLICATION FOR LICENSE AMENDMENT
AND RELATED TECHNICAL SPECIFICATION CHANGES
TO IMPLEMENT FULL-SCOPE ALTERNATIVE SOURCE
TERM IN ACCORDANCE WITH 10 CFR 50.67" **Docket Nos. 50-387**
PLA-6112 **and 50-388**

References: 1) *PLA-5963, Mr. B. T. McKinney (PPL) to Document Control Desk (USNRC) Proposed Amendment No. 281 to License NPF-14 and Proposed Amendment No. 251 to License NPF-22: "Application for License Amendment and Related Technical Specification Changes to Implement Full-Scope Alternative Source Term in Accordance with 10 CFR 50.67," dated October 13, 2005.*

2) *PLA-6055, Mr. Robert Saccone (PPL) to Document Control Desk (USNRC) Supplement to Proposed Amendment No. 281 to License NPF-14 and Proposed Amendment No. 251 to License NPF-22: "Application for License Amendment and Related Technical Specification Changes to Implement Full-Scope Alternative Source Term in Accordance with 10 CFR 50.67," dated May 18, 2006.*

The purpose of this letter is to revise the Reference 1 request for an amendment to the licensing basis for the Susquehanna Steam Electric Station (SSES) Units 1 and 2 that supports a full implementation application of an Alternative Source Term (AST) methodology.

As discussed with the SSES Project Manager, PPL Susquehanna, LLC agrees to withdraw the following proposed changes delineated below as they appear in Reference 1:

- "Revised TS Section 3.7.3 concerning Control Room Emergency Outside Air Supply System (CREOASS) to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448)."

A001
A003

- "Add TS Section 5.5.13 concerning CREOASS to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448) concerning Control Room Habitability Program."

As identified in Attachment 2, PPL commits to submit changes to address Control Room Habitability in the SSES Technical Specifications after the Notice of Availability for TSTF-448 is published in accordance with the Consolidated Line Item Improvement Process (CLIIP).

Attachment 1 to this letter contains markups of the revised Reference 1 affected pages.

Reference 1 identified that AST is required to support the extended power uprate (EPU) implementation which, at the time, was planned for implementation upon startup from the U2-13 RIO in Spring 2007. Given that EPU implementation has been delayed and to avoid outdoor construction involving extensive scaffold work required to relocate the Control Room Habitability Envelope Air Intake, PPL Susquehanna, LLC requests the AST amendment be conditioned to be effective no later than October 30, 2007 rather than being effective upon startup from the U2-13 RIO in Spring 2007, as originally requested in Reference 1.

If you have any questions regarding this submittal, please contact Mr. Michael H. Crowthers at (610) 774-7766.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 9-15-06

Respectfully,

Britt T. McKinney

Attachments:
Attachment 1 – Markup of the Reference 1 Affected Pages
Attachment 2 – PPL Susquehanna List of Regulatory Commitments

cc: NRC Region I
Mr. A. Blamey, NRC Sr. Resident Inspector
Mr. R. V. Guzman, NRC Project Manager
Mr. R. Janati, DEP/BRP

Attachment 1 to PLA-6112

Markup of the
Reference 1 Affected Pages

PPL proposes implementation of this proposed change through a change to the SSES licensing basis, including the TS and associated Bases. Upon approval, conforming changes will be made to the SSES Final Safety Analysis Report (FSAR) and submitted to the NRC staff in accordance with 10 CFR 50.71 as part of the regular FSAR update process.

Proposed changes in the licensing basis for SSES resulting from application of the AST include the following:

- New offsite and Control Room atmospheric dispersion factors (χ/Qs) based on site specific meteorological data collected between 1999 and 2003, the new location of the CRHE air intake and Regulatory Guides 1.145 and 1.194 revised methodologies.
- Revised CRHE unfiltered inleakage from 10 cfm to 510 cfm.
- New AST analyses performed in accordance with the guidance in Regulatory Guide 1.183 for the four design basis accidents: loss of coolant accident, the main steam line break accident, the refueling accident, and the control rod drop accident.
- Revised TS Section 1.1 definition of Dose Equivalent I-131.
- Revised TS Section 3.1.7 to credit use of the Standby Liquid Control (SLC) System to buffer suppression pool pH to prevent iodine re-evolution following a postulated design basis loss of coolant accident (DBA LOCA).
- Revised TS Section 3.7.3 concerning Control Room Emergency Outside Air Supply System (CREOASS) to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448).
- Add TS Section 5.5.13 concerning CREOASS to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448) concerning Control Room Habitability Program.

Table 5-1 of Attachment 5 provides a description of each proposed TS and TS Bases change.

In addition to revising the SSES licensing basis to adopt the AST, licensing basis changes are proposed and justified to respond to NRC Generic Letter 2003-01, "Control Room Habitability," dated June 12, 2003 (Reference 12.1) and the Technical Specification Task Force Improved Standard Technical Specifications Change Traveler TSTF-448, Revision 2 (Reference 12.2). The proposed TS (Section 5.5.13), "Control Room Habitability Program", is provided in Attachment 6 of this LAR.

In PPL Letter PLA-5916, dated 06/28/2005, PPL identified that one commitment (provide dose consequence analysis using Regulatory Guide 1.183) will be provided with the PPL AST submittal. This submittal serves to close that commitment and as such, all actions PPL committed to take in response to Generic Letter 2003-01 are complete. No new Regulatory Commitments are made herein.

The current operating license allows SSES to operate at a maximum steady-state power level of 3489 megawatts thermal (MWt). PPL is also currently engaged in an Extended Power Uprate (EPU) project to increase the maximum licensed thermal power to 3952 MWt. Therefore, the AST analyses supporting this amendment request have been performed with the core isotopic values at EPU conditions and this application for license amendment is based on that bounding core isotopic inventory.

Attachment 1 to PLA-5963

Description for the Alternative Source Term License Amendment

Upon issuance of a license amendment, conforming FSAR changes will be completed as required by PPL procedures and submitted to the NRC staff in accordance with the regular FSAR update process as required by 10 CFR 50.71. In lieu of providing the NRC staff with proposed FSAR changes at this time, the supporting DBA calculations are being provided in Attachments 10 and 11.

The license amendment would revise the following SSES licensing bases:

- New offsite and Control Room atmospheric dispersion factors (χ/Qs) based on site specific meteorological data collected between 1999 and 2003, the new location of the CRHE air intake and Regulatory Guides 1.145 and 1.194 revised methodologies.
- Revised CRHE unfiltered inleakage from 10 cfm to 510 cfm.
- New AST analyses performed in accordance with the guidance in Regulatory Guide 1.183 for the four design basis accidents: loss of coolant accident, the main steam line break accident, the refueling accident, and the control rod drop accident.
- Revised TS Section 1.1 definition of Dose Equivalent I-131.
- Revised TS Section 3.1.7 to credit use of the Standby Liquid Control (SLC) System to buffer suppression pool pH to prevent iodine re-evolution following a postulated design basis loss of coolant accident (DBA LOCA).
- Revised TS Section 3.7.3 concerning Control Room Emergency Outside Air Supply System (CREOASS) to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448).
- Add TS Section 5.5.13 concerning CREOASS to reflect Improved Standard Technical Specifications Change Traveler (TSTF-448) concerning Control Room Habitability Program.

Implementation of the AST is scheduled for the spring 2007. To support this schedule, PPL requests approval of this proposed License Amendment by December, 2006, with the amendment conditioned to be effective upon startup from the U2-13RIO in spring 2007. Implementation of AST is required to support the extended power uprate (EPU) implementation for which the submittal is currently being prepared and is scheduled to be submitted to NRC in the spring of 2006.

2.0 REGULATORY BACKGROUND

The current SSES licensing basis for design basis accident (DBA) analysis source terms is U.S. Atomic Energy Commission Technical Information Document TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites," dated March 23, 1962. This is consistent with 10 CFR Part 100, Section 11 (10 CFR 100.11), "Determination of Exclusion Area, Low Population Zone, and Population Center Distance," for reactor siting, which contains offsite dose limits in terms of whole body and thyroid dose and further makes reference to TID-14844.

In December 1999, the Nuclear Regulatory Commission (NRC) issued 10 CFR 50.67, "Accident Source Term," which provides a mechanism for licensed power reactors to replace the traditional accident source term used in their DBA analyses with an AST.

- USNRC RG 1.194, "Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants," provides guidance on determining atmospheric relative concentration (χ/Q) values in support of design basis Control Room radiological habitability assessments at nuclear power plants. This document describes methods acceptable to the NRC staff for determining χ/Q values that will be used in Control Room radiological habitability assessments performed in support of applications for licenses and license amendment requests. Many of the regulatory positions presented in this guide represent substantial changes from procedures previously used to determine atmospheric relative concentrations for assessing the potential Control Room radiological consequences for a range of postulated accidental releases of radioactive material to the atmosphere. These revised procedures are largely based on the NRC sponsored computer code, ARCON96.

- TSTF-448, Revision 2, BWOG-111, R0, "Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler," developed proposed changes to Technical Specifications to replace the differential pressure surveillance with a tracer gas surveillance and to institute a Control Room Habitability Program that will ensure that Control Room habitability is maintained.

On August 15, 1995, the NRC staff issued amendment 121 to Facility Operating License No. NPF-22 and amendment 151 for Facility Operating License No. NPF-14, to increase the allowable main steam isolation valve (MSIV) leakage rate and to delete the MSIV Leakage Control Systems. These amendments permitted SSES Units 1 and 2 to take credit for the Isolated Condenser Treatment Method (ICTM) for reducing the radiological consequences of MSIV leakage for a DBA LOCA. The ICTM uses the main steam drain lines to direct any MSIV leakage to the main condenser, as an alternative method for MSIV leakage treatment and the removal of the MSIV leakage control system (MSIVLCS). This drain path takes advantage of the large volume of the main steam lines (MSLs) and condenser to provide holdup and plate-out of fission products that may leak through the closed MSIVs. PPL performed evaluations and seismic verification walk downs to demonstrate that the main steam system piping and components which comprise the ICTM system were seismically rugged and are able to perform the safety function of an MSIV leakage treatment system. The seismic ruggedness evaluation was performed to demonstrate the seismic adequacy of the Turbine Building which houses the ICTM system.

The structural integrity of the Turbine Building is an important consideration to the adequacy of the alternate MSIV leakage path because a non-seismically designed Turbine Building should be capable of withstanding the earthquake without degrading the capability of the ICTM system.

Attachment 2 to PLA-5963

AST Safety Assessment Report

1.0 DESCRIPTION

In accordance with 10 CFR 50.67, "Accident Source Term," a licensee may voluntarily revise the accident source term used in design basis radiological consequence analyses. Paragraph 50.67(b) requires that applications under this section contain an evaluation of the consequences of applicable design basis accidents (DBAs) previously analyzed in the plant Final Safety Analysis Report (FSAR). Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors" (Reference 2), provides guidance to licensees on performing evaluations, and reanalyses as required to adopt an alternative source term (AST).

SSES has performed radiological consequence analyses of the four applicable boiling water reactor (BWR) DBAs identified in RG 1.183. These DBAs are a Loss of Coolant Accident (LOCA), a Fuel Handling Accident (FHA), a Control Rod Drop Accident (CRDA) and a Main Steam Line Break (MSLB). These analyses were performed using the guidance of RG 1.183 and Standard Review Plan (SRP) Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms" (Reference 3). The analyses were prepared, reviewed, and approved in accordance with the PPL 10 CFR 50, Appendix B Quality Assurance Program. Comparison with the guidance contained in RG 1.183 and RG 1.194 is summarized in Attachments 3 and 4 respectively of this license amendment request (LAR).

The supporting analyses consisted of the following steps:

- Determination of the AST based on plant-specific analysis of the fission product inventory.
- Application of the release fractions for the four BWR DBAs.
- Application of the deposition and removal mechanisms.
- Evaluation of suppression pool pH to ensure that the particulate iodine deposited into the suppression pool during a DBA LOCA does not re-evolve and become airborne as elemental iodine.
- Evaluation of activity transport pathways to the environment.
- Analysis of the atmospheric dispersion for the radiological propagation pathways.
- Calculation of the offsite and Control Room personnel Total Effective Dose Equivalent (TEDE).
- Evaluation of other related design and licensing bases pertaining to NUREG-0737 (Reference 5) requirements and operation of the SLC System.

The radiological dose analyses have been performed assuming reactor operation at 4032 MWt (102% of the EPU rated power level of 3952 MWt, conservatively rounded high). This results in a conservative estimate of fission product releases for operation at current licensed power of 3489 MWt.

In addition to revising the SSES licensing basis to adopt the AST, licensing basis changes are proposed and justified to respond to NRC Generic Letter 2003-01, "Control Room Habitability", dated June 12, 2003.

The proposed TS (Section 5.5.13), "Control Room Habitability Program", is provided in Attachment 6 of this LAR.

2.0 PROPOSED CHANGES

The licensing and design basis changes included in this LAR are described below. The proposed Technical Specification (TS) and Bases changes are described in Attachment 5 and a mark-up of the affected TS and Bases pages is provided in Attachments 6 and 7 respectively.

3.0 BACKGROUND

On December 23, 1999, the NRC published 10 CFR 50.67, "Accident Source Term," in the Federal Register. This regulation provides a mechanism for licensed power reactors to replace the current accident source term used in design basis accident (DBA) analyses with an alternative source term. The direction provided in 10 CFR 50.67 is that licensees who seek to revise their current accident source term in design basis radiological consequence analyses must apply for a license amendment under 10 CFR 50.90.

Regulatory Guide (RG) 1.183 and Standard Review Plan Section 15.0.1 were used by PPL in preparing the AST analyses. These documents were prepared by the NRC staff to address the use of ASTs at current operating power reactors. The RG establishes the parameters of an acceptable AST and identifies the significant attributes of an AST acceptable to the NRC staff. In this regard, the RG provides guidance to licensees for operating power reactors on acceptable applications for an AST; the scope, nature, and documentation of associated analyses and evaluations; consideration of impacts on risk; and acceptable radiological analysis assumptions. The SRP provides guidance to the staff on the review of AST submittals.

Acceptance criteria consistent with that required by 10 CFR 50.67 were used to replace PPL's SSES current design basis source term acceptance criteria. The AST analyses were performed for the four BWR DBAs identified in RG 1.183 that could potentially result in Control Room and offsite doses. These include the loss of coolant accident, the main steam line break accident, the refueling accident, and the control rod drop accident.

In addition, this LAR provides the bases for resolving the non-conformance issue with the current design and licensing basis for the CREOASS. TS 3.7.3 (Control Room Emergency Outside Air Supply System) was revised and TS 5.5.13 was added in response to TSTF-448, Revision 2, BWOG-111, R0, "Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler" (Reference 36).

7.0 REFERENCES - Continued

26. SSES Amendment 252 to License NPF-14 and 217 to License NPF-22, "Application for Technical Specification Improvement to Eliminate Requirements for Post Accident Sampling Stations for Boiling Water Reactors Using the Consolidated Line Item Improvement Process," dated 3/3/2003.

27. NRC approved Industry/Technical Specification Task Force Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for Post Accident Sampling System (PASS)."

28. SSES Amendment 151 to License NPF-14 and 121 to License NPF-22, "Susquehanna Steam Electric Station, Units 1 and 2 (TAC Nos. M91013 and M91014)," dated 8/15/1995.

29. USNRC Regulatory Guide 1.3, "Assumption Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors," Revision 2, June 1974.

30. USNRC Regulatory Guide 1.5 (Safety Guide 5), "Assumptions Used for Evaluating the Potential Radiological Consequences of a Steam Line Break Accident for Boiling Water Reactors," Revision 0, 3/10/71.

31. USNRC Regulatory Guide 1.25 (Safety Guide 25), "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage facility for Boiling and Pressurized Water Reactors," Revision 0, 3/23/72.

32. PPL Calculation EC-RADN-1038, "Radioactive Material Source Term Evaluation for Normal Conditions with Hydrogen Water Chemistry," Revision 0.

33. USNRC Regulatory Guide 1.98, "Assumptions Used For Evaluating The Potential Radiological Consequences Of A Radioactive Offgas System Failure In A Boiling Water Reactor," March 1976.

34. SSES Technical Specification 3.7.5, "Main Condenser Off Gas," Amendments 151 and 178, Bases for Improved Specification B 37.5.

35. PPL Calculation EC-RADN-1134, "Impact of AST on Current NUREG-0737 Radiological Evaluations that use TID-14844 DBA-LOCA Releases," Revision 0.

36. TSTF-448, Revision 2, BWOG-111, R0, "Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler."

NOT USED

7.0 REFERENCES - Continued

37. PAVAN, "An Atmospheric Dispersion Program for Evaluating Design Basis Accidental Releases of Radioactive Materials from Nuclear Power Stations," NUREG/CR-2858, November, 1982.

38. USNRC Regulatory Guide 1.49, "Power Levels of Nuclear Power Plants," December, 1973.

39. PLA-5916, SSES Final resolution to Generic letter 2003-01 Control Room Habitability, Docket Nos. 50-387 and 50-388, June 28, 2005.

NOT USED

Attachment 5 to PLA-5963

Safety Assessment for the Proposed Technical Specification And Bases Changes – Units 1 & 2

Description and Safety Assessment for Specific Changes to TS and TS Bases		
Change #3	**Current Technical Specification:** Unit 1 & 2, Section 3.3.6.1 Table 3.3.6.1-1 (page 5 of 6) Item 5.e, SLC System Initiation APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS = 1, 2	**Proposed Change:** Unit 1 & 2, Section 3.3.6.1 Table 3.3.6.1-1 (page 5 of 6) Item 5.e, SLC System Initiation APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS = 1, 2, 3
Change #3	**Basis / Safety Assessment:** Boron injection from the SLC system is required for suppression pool pH control during a DBA LOCA. The maintenance of a suppression pool pH level above 7.0 is important to prevent re-evolution of iodine from the suppression pool water. Consequently, operation of the SLC system was revised to address reactor modes during a DBA LOCA.	
Change #4	**Current Technical Specification:** Unit 1 & 2, Section 3.7.3 LCO 3.7.3 ACTIONS: CONDITION A: One CREOAS subsystem inoperable ACTIONS: CONDITION B: Two CREOAS subsystems inoperable due to inoperable Control Room habitability envelope boundary in MODES 1, 2, and 3. ACTIONS: REQUIRED ACTION: B.1 Restore Control Room habitability envelope boundary to OPERABLE status. ACTIONS: COMPLETION TIME: B.1: 24 hours ACTIONS: CONDITION F: Two CREOAS subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. SR 3.7.3.4, SURVEILLANCE: Verify each CREOAS subsystem can maintain a positive pressure of $\geq$ 0.125 inches water gauge relative to the outside atmosphere during the pressurization/filtration mode of operation at a flow rate $\leq$ 5810 cfm. SR 3.7.3.4, FREQUENCY: 24 months on a STAGGERED TEST BASIS	**Proposed Change:** Unit 1 & 2, Section 3.7.3 LCO 3.7.3 ACTIONS: CONDITION A: One CREOAS subsystem inoperable **for reasons other than Condition B** ACTIONS: CONDITION B: **One or more** CREOAS subsystems inoperable due to inoperable Control Room habitability envelope boundary in MODE 1, 2, **or** 3 ACTIONS: REQUIRED ACTION: **B.1 Implement mitigating actions AND B.2** Restore Control Room habitability envelope boundary to OPERABLE status ACTIONS: COMPLETION TIME: B.1:**Immediately B.2**: 24 hours ACTIONS: CONDITION F: Two CREOAS subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. **OR Required Action and associated Completion Time of Condition B not met during movement of irradiated fuel assemblies in secondary containment, during CORE ALTERATIONS, or during OPDRVs.** SR 3.7.3.4, SURVEILLANCE: **Verify Control Room boundary integrity in accordance with the Control Room habitability Program.** SR 3.7.3.4, FREQUENCY: **In accordance with the Control Room habitability Program.**

NOT USED

NOT used

Description and Safety Assessment for Specific Changes to TS and TS Bases	
Change #4	**Basis / Safety Assessment:** In NRC Generic Letter 2003-01, Licensees were alerted to findings at facilities that existing Technical Specifications surveillance requirements for the Control Room Emergency Filtration System (CREFS) may not be adequate. Specifically, the results of tracer gas tests at facilities indicated that the differential pressure surveillance is not a reliable method for demonstrating Control Room integrity. The Technical Specification Task Force and the Nuclear Energy Institute Control Room Habitability Task Force have developed proposed changes to the Improved Standard Technical Specifications (NUREGs 1430 through 1434) to replace the differential pressure surveillance with a tracer gas surveillance and to institute a Control Room Habitability Program that will ensure that Control Room Habitability is maintained. These changes were incorporated into TSTF-448, Revision 2, Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler (Reference 12.2). As a result of this Traveler, TS Section 3.7.3 was added.

NOT USED

NOT used

Description and Safety Assessment for Specific Changes to TS and TS Bases

Change #5	**Current Technical Specification:**	**Proposed Change:**
	Unit 1 & 2, Section 5.5 The last item number is 5.5.12, "Primary Containment Leakage Rate Testing Program". A new section 5.5.13 was added.	Unit 1 & 2, Section 5.5 **5.5.13 Control Room Habitability Program** **A Control Room Habitability Program shall be established and implemented to ensure that Control Room habitability is maintained such that, with an OPERABLE CREOAS System, Control Room occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge from outside the Control Room envelope. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the Control Room under accident conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:** **a. The definition of the Control Room envelope and the Control Room boundary;** **b. Requirements for maintaining Control Room boundary integrity, including configuration control, management of breaches, and preventive maintenance.** **c. Requirements for assessing Control Room habitability at the frequencies specified in Regulatory Guide 1.197 "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.** **d. Requirements for determining the unfiltered air inleakage past the Control Room boundary into the Control Room envelope in accordance with the testing methods and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003.** **Continued next page**

Not used

Description and Safety Assessment for Specific Changes to TS and TS Bases		
Change #5	**Current Technical Specification:** Continued	**Proposed Change:** **Continued** **e. Measurement of the Control Room envelope positive pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREOAS System every 24 months on a STAGGERED TEST BASIS. The results shall be trended and compared to the positive pressure measurements taken or to be taken during the Control Room inleakage testing. These evaluations shall be used as part of an assessment of Control Room boundary integrity between Control Room inleakage tests.** **f. The quantitative limits on unfiltered air inleakage past the Control Room boundary into the Control Room envelope. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph d. The unfiltered air inleakage limits must demonstrate that radiation dose and hazardous chemical exposure to the Control Room occupants will be within the assumptions in the licensing basis.** **g. Limitations on the use of compensatory measures to consider the CREOAS System OPERABLE when there are degraded or nonconforming conditions that result in the unfiltered air inleakage through the Control Room boundary into the Control Room envelope greater than the unfiltered inleakage assumed in the licensing basis analyses. Compensatory measures are interim actions used to maintain OPERABILITY of the CREOAS System until full qualification of the Control Room boundary is restored. Degraded or nonconforming conditions affecting the Control Room boundary integrity should be resolved in a time frame commensurate with the safety significance of the condition.**

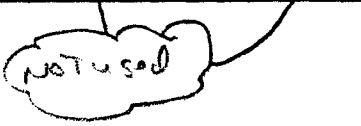
not used

Description and Safety Assessment for Specific Changes to TS and TS Bases		
Change #5	**Current Technical Specification:** Continued	**Proposed Change:** Continued **The program shall place additional limits on the use of compensatory measures which address a degraded or nonconforming Control Room barrier that results in unfiltered air inleakage into the Control Room envelope greater than the unfiltered air inleakage assumed in the licensing basis analysis for the following two conditions:** **1. When such compensatory measures may adversely affect the ability of the Control Room occupants to respond to an accident (including, but not limited to, the use of personal air filtration or bottled air systems), their use may be credited to support OPERABILITY of the CREAOS System until the next entry into MODE 2 following a refueling outage or for a maximum of 12 months, whichever is greater; and** **2. When such compensatory measures may complicate the response of the Control Room occupants to an accident (including, but not limited to, the use of potassium iodine, temporary system configurations, or manual actions), their use may be credited to support OPERABILITY of the CREAOS System for a maximum of 36 months.** **The provision of SR 3.0.2 is applicable to the Control Room inleakage testing frequencies.**

Not used

Description and Safety Assessment for Specific Changes to TS and TS Bases	
Change #5	**Basis / Safety Assessment:** In NRC Generic Letter 2003-01, Licensees were alerted to findings at facilities that existing technical specifications surveillance requirements for the Control Room Emergency Filtration System (CREFS) may not be adequate. Specifically the results of tracer gas tests at facilities indicated that the differential pressure surveillance is not a reliable method for demonstrating Control Room integrity. The Technical Specification Task force and the Nuclear Energy Institute Control Room habitability task Force have developed proposed changes to the Improved Standard Technical Specifications (NUREGs 1430 through 1434) to replace the differential pressure surveillance with a tracer gas surveillance and to institute a Control Room Habitability Program that will ensure that Control Room habitability is maintained. These changes were incorporated into TSTF-448, Revision 2, Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler (Reference 12.2). As a result of this Traveler, TS Section 5.5.13 was added. Please note, that PPL is aware that this Traveler may be revised in the near future and require additional revisions to TS Section 5.5.13.

Description and Safety Assessment for Specific Changes to TS and TS Bases		
Change #8	**Basis / Safety Assessment:** Changes were made to the TS Bases for clarity and to conform to the changes made to the associated TS. The revisions to the TS bases incorporate supporting information for the proposed TS changes. Bases do not establish actual requirements, and as such, do not change technical requirements of the TS. The Bases changes are therefore acceptable, since they administratively document the reasons and provide additional understanding for the associated TS requirements.	
Change #9	**Current Technical Specification:** The TS Bases provide an explanation and rationale for associated TS requirements, and in some cases, how they are to be implemented. The current TS Bases of Section B 3.6.4.1, SURVEILLANCE REQUIREMENTS, provides the maximum drawdown time required by the SGTS to establish and maintain the secondary containment to $\geq$ 0.25 inches of vacuum water gauge. Per Attachment 2 of this LAR, a drawdown time of 600 seconds was utilized in the DBA LOCA analysis.	**Proposed Change:** Associated changes to the TS Bases were made to provide some relief for establishing secondary containment drawdown pressure and still provide significant margin with DBA LOCA drawdown time requirements. The maximum drawdown time was increased from 125 and 117 seconds for Zones I, II, & III and Zones I & III respectively, to 300 seconds for both cases. This change is administrative in nature.
Change #9	**Basis / Safety Assessment:** Changes to the TS Bases were made to provide some relief for establishing secondary containment drawdown pressure and still provide significant margin with DBA LOCA drawdown time requirements. The surveillance requirement establishes a time of 300 seconds for the maximum drawdown time. The DBA LOCA analysis assumes a maximum drawdown time of 10 minutes for the unfiltered release to the environs. Consequently, the change in the allowable maximum drawdown time does not represent an increase in the calculated Control Room, EAB, or LPZ doses. Changes were made to the TS Bases for clarity and to conform to the changes made to the associated TS. The revisions to the TS bases incorporate supporting information for the proposed TS changes. Bases do not establish actual requirements, and as such, do not change technical requirements of the TS. The Bases changes are therefore acceptable, since they administratively document the reasons and provide additional understanding for the associated TS requirements.	
Change #10	**Current Technical Specification:** The TS Bases provide an explanation and rationale for associated TS requirements, and in some cases, how they are to be implemented. The current TS Bases of Section B 3.7.3 discusses the Control Room emergency outside air supply (CREOAS) system.	**Proposed Change:** Associated changes to the TS Bases were made to address the requirements of TSTF-448, Revision 2, Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler and incorporate the Control Room Habitability Program. This change is administrative in nature.



not used

Description and Safety Assessment for Specific Changes to TS and TS Bases		
Change #10	**Basis / Safety Assessment:** Changes were made to the TS Bases for clarity and to conform to the changes made to the associated TS. The revisions to the TS bases incorporate supporting information for the proposed TS changes. Bases do not establish actual requirements, and as such, do not change technical requirements of the TS. The Bases changes are therefore acceptable, since they administratively document the reasons and provide additional understanding for the associated TS requirements. In NRC Generic Letter 2003-01, Licensees were alerted to findings at facilities that existing technical specifications surveillance requirements for the Control Room Emergency Filtration System (CREFS) may not be adequate. Specifically, the results of tracer gas tests at facilities indicated that the differential pressure surveillance is not a reliable method for demonstrating Control Room integrity. The Technical Specification Task force and the Nuclear Energy Institute Control Room Habitability Task Force have developed proposed changes to the Improved Standard Technical Specifications (NUREGs 1430 through 1434) to replace the differential pressure surveillance with a tracer gas surveillance and to institute a Control Room Habitability Program that will ensure that Control Room habitability is maintained. These changes were incorporated into TSTF-448, Revision 2, Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler (Reference 12.2). As a result of this Traveler, TS Section 3.7.3 was revised. Please note, that PPL is aware that this Traveler may be revised in the near future and require additional revisions to TS Section 3.7.3.	
Change #11	**Current Technical Specification:** The TS Bases provide an explanation and rationale for associated TS requirements, and in some cases, how they are to be implemented. The current TS Bases of Section B 3.9.6, APPLICABLE SAFETY ANALYSES, provides the fuel rod gap release fractions per RG 1.25 for a FHA. Per Attachment 2 of this LAR, the FHA was revised to reflect the new release fractions of RG 1.183.	**Proposed Change:** Associated changes to the TS Bases were made to update the FHA to reflect RG 1.183 fuel rod gap release fractions. The original analysis assumes that 10% of the total fuel rod iodine inventory in the gap is available for release. Per RG 1.183 requirements, 8% of the I-131, and 5% of the I-132, I-133, I-134, & I-135 inventory is available for release from the gap. This change is administrative in nature.
Change #11	**Basis / Safety Assessment:** Changes were made to the TS Bases for clarity and to conform to the changes made to the associated TS. The revisions to the TS bases incorporate supporting information for the proposed TS changes. Bases do not establish actual requirements, and as such, do not change technical requirements of the TS. The Bases changes are therefore acceptable, since they administratively document the reasons and provide additional understanding for the associated TS requirements.	

Attachment 6 to PLA-5963

Proposed Technical Specification Changes
Units 1 & 2 Mark-ups

Table 6-1: List of Proposed Technical Specification Changes (Marked ups)

Units 1 & 2 Sections	Title
1.1	Definitions
3.1.7	Standby Liquid Control (SLC) System
3.3.6.1	Primary Containment Isolation Instrumentation
~~3.7.3~~	~~Control Room Emergency Outside Air Supply (CREOAS) System~~
~~5.5~~	~~Programs and Manuals~~

No changes proposed to this page.

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Outside Air Supply (CREOAS) System

LCO 3.7.3 Two CREOAS subsystems shall be OPERABLE.

NOTE
The control room habitability envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREOAS subsystem inoperable for reasons other than Condition B.	A.1 Restore CREOAS subsystem to OPERABLE status.	7 days
B. ~~Two~~ One or more CREOAS subsystems inoperable due to inoperable control room habitability envelope boundary in MODES 1, 2 ~~and~~ or 3.	Insert 1 B.~~1~~ 2 Restore control room habitability envelope boundary to OPERABLE status.	Immediately 24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

(continued)

Insert 1: B.1 Implement mitigating actions
AND

No changes proposed to this page.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CREOAS subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	NOTE LCO 3.0.3 is not applicable.	
	F.1 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	AND	
	F.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	F.3 Initiate action to suspend OPDRVs.	Immediately

OR

Required Action and associated Completion Time of Condition B not met during movement of irradiated fuel assemblies in secondary containment, during CORE ALTERATIONS, or during OPDRVs.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Operate each CREOAS filter train for ≥ 10 continuous hours with the heaters operable.	31 days
SR 3.7.3.2	Perform required CREOAS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3	Verify each CREOAS subsystem actuates on an actual or simulated initiation signal.	24 months

(continued)

No changes proposed to this page.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~SR 3.7.3.4~~	~~Verify each CREOAS subsystem can maintain a positive pressure of ≥ 0.125 inches water gauge relative to the outside atmosphere during the pressurization/filtration mode of operation at a flow rate of ≤ 5810 cfm.~~	~~24 months on a STAGGERED TEST BASIS~~
SR 3.7.3.4	Verify control room boundary integrity in accordance with the Control Room Habitability Program.	In accordance with the Control Room Habitability Program

no changes proposed to this page.

5.5 Programs and Manuals

5.5.11 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered. When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system.

5.5.12 Primary Containment Leakage Rate Testing Program

A program shall be established, implemented, and maintained to comply with the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program", dated September 1995, as modified by the following exception:

a. NEI 94-01-1995, Section 9.2.3: The first Type A test performed after the May 4, 1992 Type A test shall be performed no later than May 3, 2007.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 45.0 psig.

The maximum allowable primary containment leakage rate, La, at Pa, shall be 1% of the primary containment air weight per day.

Leakage Rate Acceptance Criteria are:

a. Primary Containment leakage rate acceptance criterion is $\leq$ 1.0 La. During each unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq$ 0.60 La for Type B and Type C tests and $\leq$ 0.75 La for Type A tests:

b. Air lock testing acceptance criteria are:

   1) Overall air lock leakage rate is $\leq$ 0.05 La when tested at $\geq$ Pa.

   2) For each door, leakage rate is $\leq$ 5 scfh when pressurized to $\geq$ 10 psig.

The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

Insert 2

Insert 2:

5.5.13 Control Room Habitability Program

A Control Room Habitability Program shall be established and implemented to ensure that control room habitability is maintained such that, with an OPERABLE CREOAS System, control room occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge from outside the control room envelope. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

a. The definition of the control room envelope and the control room boundary;
b. Requirements for maintaining control room boundary integrity, including configuration control, management of breaches, and preventive maintenance.
c. Requirements for assessing control room habitability at the frequencies specified in Regulatory Guide 1.197 "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.
d. Requirements for determining the unfiltered air inleakage past the control room boundary into the control room envelope in accordance with the testing methods and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003.
e. Measurement of the control room envelope positive pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREOAS System every 24 months on a STAGGERED TEST BASIS. The results shall be trended and compared to the positive pressure measurements taken or to be taken during the control room inleakage testing. These evaluations shall be used as part of an assessment of control room boundary integrity between control room inleakage tests.
f. The quantitative limits on unfiltered air inleakage past the control room boundary into the control room envelope. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph d. The unfiltered air inleakage limits must demonstrate that radiation dose and hazardous chemical exposure to the control room occupants will be within the assumptions in the licensing basis.
g. Limitations on the use of compensatory measures to consider the CREOAS System OPERABLE when there are degraded or nonconforming conditions that result in the unfiltered air inleakage through the control room boundary into the control room envelope greater than the unfiltered inleakage assumed in the licensing basis analyses. Compensatory measures are interim actions used to maintain OPERABILITY of the CREOAS System until full qualification of the control room boundary is restored. Degraded or nonconforming conditions affecting the control room boundary integrity

should be resolved in a time frame commensurate with the safety significance of the condition. The program shall place additional limits on the use of compensatory measures which address a degraded or nonconforming control room barrier that results in unfiltered air inleakage into the control room envelope greater than the unfiltered air inleakage assumed in the licensing basis analysis for the following two conditions:

1. When such compensatory measures may adversely affect the ability of the control room occupants to respond to an accident (including, but not limited to, the use of personal air filtration or bottled air systems), their use may be credited to support OPERABILITY of the CREAOS System until the next entry into MODE 2 following a refueling outage or for a maximum of 12 months, whichever is greater; and
2. When such compensatory measures may complicate the response of the control room occupants to an accident (including, but not limited to, the use of potassium iodine, temporary system configurations, or manual actions), their use may be credited to support OPERABILITY of the CREAOS System for a maximum of 36 months.

The provision of SR 3.0.2 is applicable to the control room inleakage testing frequencies.

No changes proposed to this page.

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Outside Air Supply (CREOAS) System

LCO 3.7.3 Two CREOAS subsystems shall be OPERABLE.

NOTES

The control room habitability envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREOAS subsystem inoperable for reasons other than Condition B.	A.1 Restore CREOAS subsystem to OPERABLE status.	7 days
B. ~~Two~~ CREOAS subsystems inoperable due to inoperable control room habitability envelope boundary in MODES 1, 2, ~~and~~ or 3.	Insert 1 B.2 Restore control room habitability envelope boundary to OPERABLE status.	Immediately 24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

(continued)

Insert 1: B.1. Implement mitigating actions
AND

No changes proposed to this page

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CREOAS subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	NOTE LCO 3.0.3 is not applicable.	
	F.1 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	AND	
	F.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	F.3 Initiate action to suspend OPDRVs.	Immediately

OR
Required Action and associated Completion Time of Condition B not met during movement of irradiated fuel assemblies in secondary containment, during CORE ALTERATIONS, or during OPDRVs.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Operate each CREOAS filter train for ≥ 10 continuous hours with the heaters operable.	31 days
SR 3.7.3.2	Perform required CREOAS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3	Verify each CREOAS subsystem actuates on an actual or simulated initiation signal.	24 months

(continued)

No changes proposed to this page.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
~~SR 3.7.3.4~~	~~Verify each CREOAS subsystem can maintain a positive pressure of ≥ 0.125 inches water gauge relative to the outside atmosphere during the pressurization/filtration mode of operation at a flow rate of ≤ 5810 cfm.~~	~~24 months on a STAGGERED TEST BASIS~~
SR 3.7.3.4	Verify control room boundary integrity in accordance with the Control Room Habitability Program.	In accordance with the Control Room Habitability Program

No changes proposed to this page.

5.5 Programs and Manuals

5.5.11 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered. When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system.

5.5.12 Primary Containment Leakage Rate Testing Program

A program shall be established, implemented, and maintained to comply with the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program", dated September 1995, as modified by the following exception:

a. NEI 94-01-1995, Section 9.2.3: The first Type A test performed after the October 31, 1992 Type A test shall be performed no later than October 30, 2007.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 45.0 psig.

The maximum allowable primary containment leakage rate, La, at Pa, shall be 1% of the primary containment air weight per day.

Leakage Rate Acceptance Criteria are:

a. Primary Containment leakage rate acceptance criterion is $\leq$ 1.0 La. During each unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq$ 0.60 La for Type B and Type C tests and $\leq$ 0.75 La for Type A tests;

b. Air lock testing acceptance criteria are:

   1) Overall air lock leakage rate is $\leq$ 0.05 La when tested at $\geq$ Pa,

   2) For each door, leakage rate is $\leq$ 5 scfh when pressurized to $\geq$ 10 psig.

The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

Insert 2

Insert 2:

5.5.13 Control Room Habitability Program

A Control Room Habitability Program shall be established and implemented to ensure that control room habitability is maintained such that, with an OPERABLE CREOAS System, control room occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge from outside the control room envelope. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

a. The definition of the control room envelope and the control room boundary;
b. Requirements for maintaining control room boundary integrity, including configuration control, management of breaches, and preventive maintenance.
c. Requirements for assessing control room habitability at the frequencies specified in Regulatory Guide 1.197 "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.
d. Requirements for determining the unfiltered air inleakage past the control room boundary into the control room envelope in accordance with the testing methods and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003.
e. Measurement of the control room envelope positive pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREOAS System every 24 months on a STAGGERED TEST BASIS. The results shall be trended and compared to the positive pressure measurements taken or to be taken during the control room inleakage testing. These evaluations shall be used as part of an assessment of control room boundary integrity between control room inleakage tests.
f. The quantitative limits on unfiltered air inleakage past the control room boundary into the control room envelope. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph d. The unfiltered air inleakage limits must demonstrate that radiation dose and hazardous chemical exposure to the control room occupants will be within the assumptions in the licensing basis.
g. Limitations on the use of compensatory measures to consider the CREOAS System OPERABLE when there are degraded or nonconforming conditions that result in the unfiltered air inleakage through the control room boundary into the control room envelope greater than the unfiltered inleakage assumed in the licensing basis analyses. Compensatory measures are interim actions used to maintain OPERABILITY of the CREOAS System until full qualification of the control room boundary is restored. Degraded or nonconforming conditions affecting the control room boundary integrity

should be resolved in a time frame commensurate with the safety significance of the condition. The program shall place additional limits on the use of compensatory measures which address a degraded or nonconforming control room barrier that results in unfiltered air inleakage into the control room envelope greater than the unfiltered air inleakage assumed in the licensing basis analysis for the following two conditions:

1. When such compensatory measures may adversely affect the ability of the control room occupants to respond to an accident (including, but not limited to, the use of personal air filtration or bottled air systems), their use may be credited to support OPERABILITY of the CREAOS System until the next entry into MODE 2 following a refueling outage or for a maximum of 12 months, whichever is greater; and
2. When such compensatory measures may complicate the response of the control room occupants to an accident (including, but not limited to, the use of potassium iodine, temporary system configurations, or manual actions), their use may be credited to support OPERABILITY of the CREAOS System for a maximum of 36 months.

The provision of SR 3.0.2 is applicable to the control room inleakage testing frequencies.

Attachment 7 to PLA-5963

For Information -
Proposed Technical Specification Bases Changes
Units 1 & 2 Mark-ups

Table 7-1: List of Proposed Technical Specification Bases Changes (Marked ups)

Units 1 & 2 Sections	Title
B 2.1.1	Reactor Core SLs
B 2.1.2	Reactor Coolant System (RCS) Pressure SL
B 3.1.7	Standby Liquid Control (SLC) System
B 3.1.8	Scram Discharge Volume (SDV) Vent and Drain Valves
B 3.2.3	Linear Heat Generation Rate (LHGR)
B 3.3.6.1	Primary Containment Isolation Instrumentation
B 3.3.6.2	Secondary Containment Isolation Instrumentation
B 3.3.7.1	Control Room Emergency Outside Air Supply (CREOAS) System Instrumentation
B 3.4.7	Reactor Coolant Specific Activity
B 3.6.1.1	Primary Containment
B 3.6.1.3	Primary Containment Isolation Valves (PCIVs)
B 3.6.4.1	Secondary Containment
B 3.7.3	Control Room Emergency Outside Air Supply (CREOAS) System
B 3.7.5	Main Condenser Offgas
B 3.7.7	Spent Fuel Storage Pool Water Level
B 3.9.6	Reactor Pressure Vessel (RPV) Water Level

Attachment 8 to PLA-5963

Activities to be Completed Before AST Implementation

2. Applicable Sections of the TS and Bases were revised to reflect changes associated with the implementation of the proposed AST. The Control Room Habitability Program was added as Section 5.5.13. There are new manual operator actions associated with the SLC System required as part of this LAR that are not currently considered in the SSES design basis and must be directed by new Emergency Operation procedures that will be written and approved before SSES AST implementation. The operator actions assumed in the proposed DBA LOCA AST dose consequence analyses is the initiation of the SLC system for boron injection to maintain the suppression pool water pH above 7.0, precluding iodine re-evolution. TS Sections 3.1.7, "Standby Liquid Control (SLC) System and 3.3.6.1, "Primary Containment Isolation Instrumentation" and their Bases were also revised to address this change in the SLC system requirements (see Attachments 5 through 7). No hardware changes are necessary to use SLC in this new functional mode. Applicable procedure(s) will be reviewed/revised as necessary to ensure the operation of the SLC System during a DBA LOCA. See #4. Applicable sections of the TS Matrix shall be revised. As a result of the revision to the TS Bases concerning the definition of Dose Equivalent I-131, Plant Chemistry will evaluate revising appropriate software, counting system library (data file), and chemistry (CH) and emergency plan position specific (EP-PS) procedures. This assumes that the limiting values for coolant concentrations of 0.2 and 4.0 uCi/g DE I-131 are not re-evaluated. If Chemistry chooses to re-evaluate the limits, other changes would also be required.	A markup of the TS and Bases impacted by implementation of the AST is provided in Attachments 6 and 7 respectively. Applicable procedure(s) requirements and TS Matrix revisions shall be completed prior to implementation of the AST License Amendments for Units 1 & 2. The necessary software, data file, and procedural changes required to reflect the change in the DE I-131 definition shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.
3. Nuclear Fuels Engineering Technical Instruction NF-202 shall be modified to incorporate limits on LHGR for burnups exceeding 54 GWD/MTU per Footnote 11 of RG 1.183 and core average burnup of 39 GWd/MTU.	The procedural changes required to reflect compliance with Footnote 11 of RG 1.183 shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.

7.	The χ/Qs calculated at the CRHE outside air intake are based on a new location, located on the roof of the Unit 2 Reactor Building (at column lines U and 36). A preliminary evaluation of the new location determined that seismic and security concerns were found to be acceptable. A more thorough evaluation of the acceptability of the new CRHE outside air intake location, including the impact of hazardous chemical and smoke on CRHE operators will be conducted. Appropriate drawings, station modification package(s), 10 CFR 50.59s, hazardous chemical and smoke evaluations, and other activities, as deemed appropriate, will be completed. Generate applicable TS changes to allow for the shutdown of the CREOASS to allow for connection of the existing CRHE ductwork to the new air intake.	The documentation and evaluation of the new CRHE outside air intake shall be completed prior to implementation of the AST License Amendments for Units 1 & 2. Appropriate drawings, station modification package(s), 10 CFR 50.59s, hazardous chemical and smoke evaluations, TS changes and other activities, as deemed appropriate, shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.
8.	The following assumptions were utilized in the AST analysis, based on projected EPU values: • For the DBA LOCA, the maximum bulk suppression pool water temperature shall not exceed 212 °F. • For the MSLB accident, the mass releases were increased by 20%. • For the DBA LOCA, a 50% reduction of primary containment leakage, secondary containment bypass leakage, and MSIV leakage at 24 hours. These assumptions shall be verified when the information becomes available, but prior to AST implementation.	The evaluations shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.
9.	The Emergency Plan and implementing procedures will be reviewed and updated as appropriate to reflect TEDE.	The reviews shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.
10.	The Control Room Habitability Program shall be developed.	Development of the Control Room Habitability Program shall be completed prior to implementation of the AST License Amendments for Units 1 & 2.

NOT used

Attachment 9 to PLA-5963

No Significant Hazards Consideration Determination & Environmental Consideration for the Proposed Changes

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Description of Amendment Request

PPL Susquehanna, LLC (PPL) is proposing to amend the operating license for Susquehanna Steam Electric Station (SSES) Units 1 and 2, by revising the Technical Specifications (TS) and incorporating an alternative source term (AST) methodology into the facility's licensing basis. The proposed license amendment involves a full implementation of an AST methodology by revising the current accident source term and replacing it with an AST, as prescribed in 10 CFR 50.67.

AST analyses were performed using the guidance provided by Regulatory Guide 1.183, "Alternative Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," dated July 2000, and Standard Review Plan Section 15.0.1, "Radiological Consequences Analyses Using Alternative Source Terms." The four BWR limiting design basis accidents (DBAs) identified in RG 1.183 considered were the Control Rod Drop Accident, the Refueling Accident, the Loss of Coolant Accident, and the Main Steam Line Break Accident. As a result of the application of a revised accident source term, changes are proposed to the TS which revise the definition of dose equivalent I-131, and the operation of the SLC.

The AST analyses are based on new offsite and CRHE atmospheric dispersion coefficients (χ/Qs) based on site specific meteorological data determined based on Regulatory Guides 1.145 and 1.194.

In addition to revising the SSES licensing basis to adopt the AST, licensing basis changes are proposed and justified to respond to NRC Generic Letter 2003-01, "Control Room Habitability", dated June 12, 2003 (Reference 12.1). These proposed changes are pursuant to the Technical Specification Task Force Improved Standard Technical Specifications Change Traveler TSTF-448, Revision 2 (Reference 12.2).

Basis for No Significant Hazards Determination:

Pursuant to 10 CFR 50.92, SSES has reviewed the proposed change and concludes that the change does not involve a significant hazards consideration, since the proposed change satisfies the criteria in 10 CFR 50.92(c). These criteria require that the operation of the facility in accordance with the proposed amendment will not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (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. The discussion below addresses each of these criteria and demonstrates that the proposed amendment does not constitute a significant hazard.

1.0 Does the proposed change involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated?

Response: No.

Adoption of the AST and pursuant TS changes, changes to the TS's to address NRC Generic Letter 2003-01 (Reference 12.1) and the changes to the atmospheric dispersion factors, have no impact to the initiation of DBAs. Once the occurrence of an accident has been postulated, the new accident source term and atmospheric dispersion factors are an input to analyses that evaluate the radiological consequences. Some of the proposed changes do affect the design or manner in which the facility is operated following an accident; however, the proposed changes do not involve a revision to the design or manner in which the facility is operated that could increase in the probability of an accident previously evaluated of a DBA discussed in Chapter 15 of the FSAR.

Therefore, the proposed change does not involve an increase in the probability of an accident previously evaluated.

The structures, systems and components affected by the proposed changes act as mitigators to the consequences of accidents. Based on the revised analyses, the proposed changes do revise certain performance requirements; however, the proposed changes do not involve a revision to the parameters or conditions that could contribute to the initiation of a DBA discussed in Chapter 15 of the FSAR.

Plant-specific radiological analyses have been performed using the AST methodology and new atmospheric dispersion factors. Based on the results of these analyses, it has been demonstrated that the CRHE dose consequences of the limiting events considered in the analyses meet the regulatory guidance provided for use with the AST, and the offsite doses are well within acceptable limits. This guidance is presented in 10 CFR 50.67, RG 1.183, and Standard Review Plan Section 15.0.1.

Therefore, the proposed amendment does not result in a significant increase in the consequences of any previously evaluated accident.

2.0 Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

Implementation of AST and the associated proposed TS changes and new atmospheric dispersion factors do not alter or involve any design basis accident initiators. These changes do not affect the design function or mode of operations of structures, systems and components in the facility prior to a postulated accident. Since structures, systems and components are operated essentially no differently after the AST implementation, no new failure modes are created by this proposed change.

Licensing basis changes are proposed and justified to credit use of the SLC System to buffer suppression pool pH to prevent iodine re-evolution following a postulated design basis loss of coolant accident. There are new required manual operator actions associated with the SLC System that are not currently considered in the SSES design basis. Operator training will be updated to reflect the new manual operator actions for the pH control function of the SLC System as defined in the TS Section 3.1.7. These changes are not significant because the operators are already trained for the operation of the SLC System. Procedural changes are mostly limited to the timing of SLC initiation and termination. In addition, no new hardware changes are necessary to use SLC in this new functional mode.

Licensing basis changes are proposed and justified for the operation of the CREOASS to respond to NRC Generic Letter 2003-01 and TSTF-448. No new hardware changes are necessary to implement these changes. Since CREOASS will not be operated differently as a result of these changes, no new failure modes are created by these changes.

Therefore, the proposed license amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3.0 Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The results of the accident analyses revised in support of the proposed change are subject to the acceptance criteria in 10 CFR 50.67. The analyzed events have been carefully selected, and the analyses supporting these changes have been performed using approved methodologies to ensure that analyzed events are bounding and safety margin has not been reduced. The dose consequences of these limiting events are within the acceptance criteria presented in 10 CFR 50.67, RG 1.183, and SRP 15.0.1. Thus, by meeting the applicable regulatory limits for AST, there is no significant reduction in a margin of safety.

Changes to the SLC System to credit use of the Standby Liquid Control (SLC) System to buffer suppression pool pH to prevent iodine re-evolution and the CREOASS to address NRC Generic Letter 2003-01 and TSTF-448 improve the margin of safety.

New offsite and Control Room atmospheric dispersion factors (χ/Qs) based on site specific meteorological data, calculated in accordance with the guidance of RGs 1.145 and 1.194, utilizes more recent data and improved calculational methodologies.

Therefore, because the proposed changes continue to result in dose consequences within the applicable regulatory limits, the changes are considered to not result in a significant reduction in a margin of safety.

Conclusion

On the basis of the above, SSES has determined that operation of the facility in accordance with the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92(C), in that it: (1) does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) does not involve a significant reduction in a margin of safety.

Attachment 12 to PLA-5963

References

12.0 REFERENCES

1. NRC Generic Letter 2003-01, "Control Room Habitability", dated June 12, 2003.

2. TSTF-448, Revision 2, BWOG-111, R0, "Technical Specification Task Force – Improved Standard Technical Specifications Change Traveler."

Attachment 2 to PLA-6112

PPL Susquehanna

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by PPL Susquehanna in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Michael H. Crowthers.

REGULATORY COMMITMENT	DUE DATE
Submit changes to the SSES Technical Specifications in accordance with TSTF-448 to address Control Room Habitability.	After the Notice for Availability is published in accordance with the CLIIP.