



APR 17 2007

10 CFR 50.90

LR-N07-0061

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NO. NPF-57
NRC DOCKET NO. 50-354

Subject: **APPLICATION TO REVISE TECHNICAL SPECIFICATIONS (LCR
H07-01) REGARDING CONTROL ROOM ENVELOPE HABITABILITY
IN ACCORDANCE WITH TSTF-448, REVISION 3, USING THE
CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS**

In accordance with the provisions of 10 CFR 50.90, PSEG Nuclear, LLC (PSEG) is submitting a request to the technical specifications (TS) for Hope Creek Generating Station.

The proposed amendment would modify TS requirements related to control room envelope habitability in accordance with Technical Specification Task Force traveler (TSTF)-448, Revision 3, "Control Room Habitability."

Attachment 1 provides a description of the proposed changes, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides existing TS Bases pages marked up. These Bases pages are being submitted for information only and do not require issuance by the NRC. Attachment 4 provides the revised Technical Specification/Bases pages.

These proposed changes have been reviewed by the Station's Plant Operations Review Committee.

PSEG requests approval of the proposed License Amendment by April 17, 2008, with the amendments being implemented within 180 days of issuance of the approved amendment. PSEG is developing the Control Room Envelope Habitability Program consistent with the requirements specified in TSTF-448, Revision 3 and described in the Attachment 2 TS mark-up pages.

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In accordance with 10 CFR 50.91(b)(1), a copy of this application, with attachments, is being provided to the designated state official for the State of New Jersey.

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

If you should have any questions regarding this submittal, please contact Mr. Jamie Mallon at (610) 765-5507.

Executed on 4/17/07
(Date)

Sincerely,



George Barnes
Site Vice President
Hope Creek Generating Station

- Attachments:
1. Description of Proposed Changes, Technical Analysis, and Regulatory Analysis
 2. Markup of the Facility Operating License and Technical Specifications
 3. Markup of Technical Specification Bases pages (for information only)
 4. Revised Technical Specification/Bases pages

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ATTACHMENT 1

License Amendment Request

Hope Creek Generating Station

NRC Docket No. 50-354

DESCRIPTION AND ASSESSMENT

Subject: APPLICATION TO REVISE TECHNICAL SPECIFICATIONS REGARDING
CONTROL ROOM ENVELOPE HABITABILITY IN ACCORDANCE WITH
TSTF-448, REVISION 3, USING THE CONSOLIDATED LINE ITEM
IMPROVEMENT PROCESS

1.0 DESCRIPTION

2.0 ASSESSMENT

3.0 REGULATORY ANALYSIS

4.0 ENVIRONMENTAL EVALUATION

1.0 DESCRIPTION

The proposed amendment would modify technical specification (TS) requirements related to control room habitability in TS 3/4.7.6 Control Room Emergency Filtration System and TS Section 6.0, Administrative Controls.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) change TSTF-448, Revision 3, "Control Room Habitability." The availability of this TS improvement was published in the Federal Register on January 17, 2007 as part of the consolidated line item improvement process (CLIIP).

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

PSEG has reviewed the safety evaluation dated January 17, 2007 as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-448. PSEG has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to Hope Creek Generating Station, and justify this amendment for the incorporation of the changes to the Hope Creek TS.

2.2 Optional Changes and Variations

PSEG is not proposing any significant variations or deviations from the TS changes described in the TSTF-448, Revision 3, or the applicable parts of the NRC staff's model safety evaluation dated January 17, 2007. A plant specific listing of differences is provided below. These differences reflect adjustments, as needed, to account for Hope Creek specific control room habitability design, current licensing basis, or differences due to plant specific non-Standard Technical Specification wording or format. Additionally, the parts of Section 3.0 of the model safety evaluation that are applicable for Hope Creek Generating Station are stated below.

- A. The following proposed changes to the Hope Creek Generating Station TS are consistent with TSTF-448 and the Evaluations from the TSTF-448, Rev. 3, Model Safety Evaluation, Section 3.3.

1. PSEG is proposing to modify the TS Actions 3.7.2.a.2 and 3.7.2.b.3 by adding a note allowing the Control Room Envelope (CRE) boundary to be opened intermittently under administrative controls. As stated in the Bases, this Note “only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.” (Model Safety Evaluation – Evaluation 2)
2. PSEG proposes to establish new action requirements for an inoperable CRE boundary. The existing TS 3.7.2 Control Room Emergency Filtration System actions are more restrictive than would be appropriate in situations for which CRE occupant implementation of compensatory measures or mitigating actions would temporarily afford adequate CRE occupant protection from postulated airborne hazards. To account for such situations in Operational Condition 1, 2, or 3, PSEG proposes to add a new TS 3.7.2 Action a.2, “With one or more control room emergency filtration subsystems inoperable due to an inoperable CRE boundary.” New TS 3.7.2 Action a.2.c would allow 90 days to restore the CRE boundary to operable status, provided the mitigating actions are immediately implemented (TS 3.7.2 Action a.2.a) and within 24 hours are verified to ensure, that in the event of a DBA, CRE occupant radiological exposures will not exceed the calculational dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke (TS 3.7.2 Action a.2.b). (Model Safety Evaluation – Evaluation 2)
3. To distinguish the new TS 3.7.2 Action a.2 from the existing Actions for the control room emergency filtration subsystem inoperable, PSEG is proposing that TS 3.7.2 Action a.1, in Operational Condition 1, 2, or 3, be revised to state, “With one control room emergency filtration subsystem inoperable for reasons other than Condition a.2”, (Model Safety Evaluation – Evaluation 2)
4. PSEG proposes a new TS 3.7.2 Action b.3 that states, “With one or more control room emergency filtration subsystems inoperable due to an inoperable CRE boundary, immediately suspend handling of

recently irradiated fuel and operations with a potential for draining the reactor vessel.” This new condition in TS 3.7.2 Action b.3 is needed because the proposed Action 3.7.2.a requirements will only apply in Operational Condition 1, 2, and 3 and the TS is applicable in all operational conditions including during handling of recently irradiated fuel and during operations with a potential for draining the reactor vessel. The addition of the new condition to TS 3.7.2 Action b will ensure that the Actions continue to specify a condition for an inoperable CRE boundary during all modes of applicability. (Model Safety Evaluation – Evaluation 4)

5. PSEG proposes to delete the portion of CRE pressurization Surveillance Requirement 4.7.2.1.e.3 that requires verification that the subsystem can maintain a positive pressure of at least 1/8 inches water gauge relative to the adjacent areas during subsystem operation at a flow rate of ≤ 1000 cfm. The deletion of this Surveillance Requirement is proposed because measurements of unfiltered air leakage into the CRE at numerous reactor facilities has demonstrated that a basic assumption of this Surveillance Requirement, an essentially leak-tight CRE boundary, was incorrect for most facilities. Therefore, meeting this Surveillance Requirement by achieving the required CRE pressure is not necessarily a conclusive indication of CRE boundary leak tightness (i.e., CRE boundary operability). In the PSEG response to NRC Generic Letter (GL) 2003-01, “Control Room Habitability,” dated December 9, 2003, PSEG proposed to replace the existing TS control room pressurization surveillance, TS SR 4.7.2.e.3, with an leakage measurement Surveillance Requirement and CRE Habitability Program in TS, in accordance with the approved version of TSTF-448, Revision 3. (Model Safety Evaluation – Evaluation 6)
6. In place of the pressurization Surveillance Requirement, PSEG proposes to add a new Surveillance Requirement 4.7.2.2 that will require performance of CRE unfiltered air leakage testing in accordance with the Control Room Envelope Habitability Program. (Note: Existing Surveillance Requirement 4.7.2 was renumbered 4.7.2.1 to accommodate this new Requirement) The CRE Habitability Program TS, proposed TS 6.16 (described below), requires that the program include requirements for determining the unfiltered air leakage past the CRE boundary into the CRE in accordance with the testing methods and at the frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0. This guidance references ASTM E741 as an acceptable method for ascertaining the unfiltered leakage into the

CRE. PSEG proposes to follow this method. (Model Safety Evaluation – Evaluation 6)

7. PSEG proposes a new administrative controls program TS consistent with the model program TS in TSTF-448, Revision 3. This new program is described in TS 6.16, "Control Room Envelope Habitability Program." In combination with the new Surveillance Requirement 4.7.2.2, this program is intended to ensure the operability of the CRE boundary, which as part of an operable Control Room Emergency Filtration System will ensure that the CRE habitability is maintained such that CRE 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. The program will ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under DBA conditions without personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. The Hope Creek Generating Station CRE Habitability Program contains the required elements identified in TSTF-448, Revision 3. The TSTF-448, Revision 3, Control Room Habitability Program administrative control requirement, Item d, has been revised to state that the results of the CRE pressurization tests shall be trended and used as part of the 3-year assessment of the CRE boundary. This 3-year assessment period is consistent with the Regulatory Guide 1.197 required CRE assessment period.
- B. To account for Hope Creek specific control room habitability design, current licensing basis, or differences due to plant specific non-Standard Technical Specification wording or format, the following adjustments have been incorporated into the proposed TS markups:
1. Hope Creek Generating Station has not adopted the Standardized Technical Specification Format. TSTF-448 has been incorporated into existing sections with new sections being added as applicable.
 2. For the Control Room Habitability Program description of measurement frequency of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation given in new TS 6.16.d, the stated Hope Creek frequency will be "36 months on a STAGGERED TEST BASIS" verses the TSTF value of 18 months. This variance is due to the difference between the Hope Creek TS definition of STAGGERED TEST BASIS and the definition used by Standard Technical Specifications (STS). The Hope Creek definition is:

“A STAGGERED TEST BASIS shall consist of a test schedule for (n) systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into (n) equal subintervals. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.”

The STS definition is:

A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during n Surveillance Frequency intervals, where n is the total number of systems, subsystems, channels, or other designated components in the associated function.

Therefore, for Hope Creek, in order to prescribe testing one of the subsystems every 18 months as stated in TSTF-448, the frequency must be stated as “36 months on a STAGGERED TEST BASIS”.

3. TSTF-448, Rev. 3, TS 3.7.4, Required Action 'B.2' in reference to ensuring exposure to smoke hazards will not exceed limits was reworded to state "actions to mitigate exposure to smoke hazards are taken" as the limit is qualitative not quantitative.

With the exceptions identified above, the proposed TS Bases changes have been prepared to reflect applicable Bases statements from TSTF-448, Revision 3. These changes will be processed in accordance with the requirements of TS 6.15, “Technical Specifications (TS) Bases Control Program,” which provides assurance that PSEG has established and will maintain the adequacy of the Bases.

2.3 License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements

PSEG proposes the following as a license condition to support implementation of the proposed TS changes:

Upon implementation of this Amendment adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 4.7.2.2; in accordance with TS 6.16.c(i), the assessment of CRE habitability as required by Specifications 6.16.c(ii), and the measurement of CRE pressure as required by Specifications 6.16.d, shall be considered met. Following implementation:

- (a) The first performance of SR 4.7.2.2, in accordance with Specifications 6.16, shall be within the specified frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, Specifications 6.16.c(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- (c) The first performance of the periodic measurement of CRE pressure, Specifications 6.16.d, shall be within 18 months, plus the 138 days allowed by SR 4.0.2, as measured from April 5, 2006, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

PSEG has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. PSEG has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to Hope Creek Generating Station, and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Commitments

There are no new regulatory commitments contained in this request.

4.0 ENVIRONMENTAL EVALUATION

PSEG has reviewed the environmental evaluation included in the model safety evaluation dated January 17, 2007 as part of the CLIIP. PSEG has concluded that the staff's findings presented in that evaluation are applicable to Hope Creek Generating Station, and the evaluation is hereby incorporated by reference for this application.

ATTACHMENT 2

License Amendment Request

Hope Creek Generating Station

NRC Docket Nos. 50-354

TSTF-448 Control Room Envelope Habitability

Proposed Technical Specification Changes (Mark-up)

MARKED-UP TECHNICAL SPECIFICATION PAGES

Hope Creek Generating Station

Facility Operating License
Page

7

Technical Specification
Pages

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6-26

4) The trust agreement shall not be modified in any material respect without prior written notification to the Director, Office of Nuclear Reactor Regulation.

5) The trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(3) of the Federal Energy Regulatory Commission's regulations.

INSERT 1
→(16)→

c. PSEG Nuclear LLC shall not take any action that would cause PSEG Power LLC or its parent companies to void, cancel, or diminish the commitment to fund an extended plant shutdown as represented in the application for approval of the transfer of this license from PSE&G to PSEG Nuclear LLC.

D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. An exemption from the criticality alarm requirements of 10 CFR 70.24 was granted in Special Nuclear Material License No. 1953, dated August 21, 1985. This exemption is described in Section 9.1 of Supplement No. 5 to the SER. This previously granted exemption is continued in this operating license. An exemption from certain requirements of Appendix A to 10 CFR Part 50, is described in Supplement No. 5 to the SER. This exemption is a schedular exemption to the requirements of General Design Criterion 64, permitting delaying functionality of the Turbine Building Circulating Water System-Radiation Monitoring System until 5 percent power for local indication, and until 120 days after fuel load for control room indication (Appendix R of SSER 5). Exemptions from certain requirements of Appendix J to 10 CFR Part 50, are described in Supplement No. 5 to the SER. These include an exemption from the requirement of Appendix J, exempting main steam isolation valve leak-rate testing at 1.10 Pa (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing on traversing incore probe system shear valves (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing for instrument lines and lines containing excess flow check valves (Section 6.2.6 of SSER 5); and an exemption from Appendix J, exempting Type C testing of thermal relief valves (Section 6.2.6 of SSER 5). These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. These exemptions are hereby granted. The special circumstances regarding each exemption are identified in the referenced section of the safety evaluation report and the supplements thereto. These exemptions are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

Insert 1

- (16) Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by Surveillance Requirement 4.7.2.2.a, in accordance with TS 6.16.c.(i), the assessment of CRE habitability as required by Specification 6.16.c.(ii), and the measurement of CRE pressure as required by Specification 6.16.d, shall be considered met. Following implementation:
- a. The first performance of Surveillance Requirement 4.7.2.2.a, in accordance with Specification 6.16.c.(i), shall be within the specified frequency of 6 years, plus the 18 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - b. The first performance of the periodic assessment of CRE habitability, Specification 6.16.c(ii), shall be 3 years, plus the 9 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - c. The first performance of the periodic measurement of CRE pressure, Specification 6.16.d, shall be within 18 months, plus the 138 days allowed by Surveillance Requirement 4.0.2, as measured from April 5, 2006, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.

PLANT SYSTEMS

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2 Two independent control room emergency filtration system subsystems shall be OPERABLE with each subsystem consisting of:

- a) One control room supply unit,
- b) One filter train, and
- c) One control room return air fan.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and *.

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3, with one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In OPERATIONAL CONDITION *:

1. With one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the pressurization/recirculation mode of operation.
2. With both control room emergency filtration subsystems inoperable, suspend handling of recently irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

3 (INSERT 3)
c. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

SURVEILLANCE REQUIREMENTS

4.7.2.1 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 85°F#.
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, the control area chilled water pump, flow

*When recently irradiated fuel is being handled in the secondary containment and during operations with a potential for draining the reactor vessel.

#This does not require starting the non-running control emergency filtration subsystem.

HOPE CREEK

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Amendment No.156

Corrected letter dated October 29, 2004

The main control room envelope (CRE) boundary may be opened intermittently under administrative control

Insert 2

a. In OPERATIONAL CONDITION 1, 2 or 3

1. With one control room emergency filtration subsystem inoperable for reasons other than Condition a.2, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
2. With one or more control room emergency filtration subsystems inoperable due to an inoperable control room envelope (CRE) boundary^{##},
 - a. Immediately, initiate action to implement mitigating actions; and
 - b. Within 24 hours, verify mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed the limits and actions to mitigate exposure to smoke hazards are taken; and
 - c. Within 90 days, restore the CRE boundary to operable status;

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Insert 3

With one or more control room emergency filtration subsystems inoperable due to an inoperable CRE boundary^{##}, immediately suspend handling of recently irradiated fuel and operations with a potential for draining the vessel.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- a) High Drywell Pressure
 - b) Reactor Vessel Water Level Low Low Low, Level 1
 - c) Control room ventilation radiation monitors high.
3. Verifying with the control room hand switch in the outside air mode that on each of the below pressurization mode actuation test signals, the subsystem automatically switches to the pressurization mode of operation and the control room is maintained at a positive pressure of at least 1/8 inch water gauge relative to adjacent areas during subsystem operation at a flow rate less than or equal to 1000 cfm.
- a) High Drywell Pressure
 - b) Reactor Vessel Water Level Low Low Low, Level 1
 - c) Control room ventilation radiation monitors high.
4. Verifying that the heaters dissipate 13 ± 1.3 Kw when tested in accordance with ANSI N510-1980 and verifying humidity is maintained less than or equal to 70% humidity through the carbon adsorbers by performance of a channel calibration of the humidity control instrumentation.
- f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter bank satisfies the in-place penetration testing acceptance criteria of less than 0.05% in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 4000 cfm $\pm 10\%$.
- g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the in-place penetration testing acceptance criteria of less than 0.05% in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 4000 cfm $\pm 10\%$.

4.7.2.2

(INSERT 4)

Insert 4

4.7.2.2 The control room envelope boundary shall be demonstrated OPERABLE:

- a. At a frequency in accordance with the Control Room Envelope Habitability Program by performance of control room envelope unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.

6.15 TECHNICAL SPECIFICATION (TS) BASES CONTROL PROGRAM

This program provides a means for processing changes to the Bases of these Technical Specifications.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. PSEG may make changes to the Bases without prior NRC approval provided the changes do not require either of the following:
 - 1. A change in the TS incorporated in the License, or
 - 2. A change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.
- c. Proposed changes to the Bases that require either condition of Specification 6.15.b above shall be reviewed and approved by the NRC prior to implementation.
- d. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).
- e. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

6.16 INSERT 6

Insert 6

6.16 CONTROL ROOM ENVELOPE HABITABILITY PROGRAM

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Filtration System, CRE 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. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) 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 CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.
- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the Control Room Emergency Filtration System, operating at the flow rate required by Surveillance Requirement 4.7.2.1.c.1, at a Frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.

- e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of Specification 4.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

ATTACHMENT 3

License Amendment Request

Hope Creek Generating Station

NRC Docket No. 50-354

TSTF-448 Control Room Envelope Habitability

Proposed Changes To Technical Specification Bases Pages (Mark-up)

(For information only)

MARKED-UP TECHNICAL SPECIFICATION BASES PAGES

Hope Creek Generating Station

Page

B 3/4 7-1

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 SERVICE WATER SYSTEMS

The OPERABILITY of the station service water and the safety auxiliaries cooling systems ensures that sufficient cooling capacity is available for continued operation of the SACS and its associated safety-related equipment during normal and accident conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

The OPERABILITY of the control room emergency filtration system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for ~~operations~~ *occupants* ~~personnel~~ during and following all design basis accident conditions. Continuous operation of the system with the heaters and humidity control instruments OPERABLE for 10 hours during each 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less total effective dose equivalent (TEDE). This limitation is consistent with the requirements of 10 CFR Part 50.67, "Accident Source Term."

INERT 5

3/4.7.3 FLOOD PROTECTION

The requirement for flood protection ensures that facility flood protection features are in place in the event of flood conditions. The limit of elevation 10.5' Mean Sea Level is based on the elevation at which facility flood protection features provide protection to safety related equipment.

Insert 5

The Control Room Envelope (CRE) is the area within the confines of the CRE boundary that contains the spaces that control room occupants inhabit to control the unit during normal and accident conditions. This area encompasses the control room, and other non-critical areas including adjacent support offices, toilet and utility rooms. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, ceiling, ducting, valves, doors, penetrations and equipment that physically form the CRE. The OPERABILITY of the CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. The CRE and its boundary are defined in the Control Room Envelope Habitability Program.

In order for the control room emergency filtration subsystems to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and that CRE occupants are protected from hazardous chemicals and smoke.

TS Actions a.2 and b.3 are modified by a Note allowing the CRE boundary to be opened intermittently under administrative controls. This Note only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose

of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

Immediate action(s), in accordance with the LCO Action Statements, means that the required action should be pursued without delay and in a controlled manner.

Surveillance Requirement 4.7.2.2 verifies the OPERABILITY of the CRE boundary by testing for unfiltered air inleakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

ATTACHMENT 4

License Amendment Request

Hope Creek Generating Station

NRC Docket Nos. 50-354

TSTF-448 Control Room Envelope Habitability

Revised Technical Specification/Bases Pages

REVISED TECHNICAL SPECIFICATION/BASES PAGES

Hope Creek Generating Station

Facility Operating License

Pages

7, 8, 9

Technical Specification

Pages

3/4 7-6

3/4 7-6a

3/4 7-7

3/4 7-8

6-26

6-27

Technical Specification Bases

Pages

B3/4 7-1

B 3/4 7-1a

B 3/4 7-1b

- 4) The trust agreement shall not be modified in any material respect without prior written notification to the Director, Office of Nuclear Reactor Regulation.
 - 5) The trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(3) of the Federal Energy Regulatory Commission's regulations.
 - c. PSEG Nuclear LLC shall not take any action that would cause PSEG Power LLC or its parent companies to void, cancel, or diminish the commitment to fund an extended plant shutdown as represented in the application for approval of the transfer of this license from PSE&G to PSEG Nuclear LLC.
- (16) Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by Surveillance Requirement 4.7.2.2.a, in accordance with TS 6.16.c.(i), the assessment of CRE habitability as required by Specification 6.16.c.(ii), and the measurement of CRE pressure as required by Specification 6.16.d, shall be considered met. Following implementation:
- a. The first performance of Surveillance Requirement 4.7.2.2.a, in accordance with Specification 6.16.c.(i), shall be within the specified frequency of 6 years, plus the 18 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - b. The first performance of the periodic assessment of CRE habitability, Specification 6.16.c(ii), shall be 3 years, plus the 9 month allowance of Surveillance Requirement 4.0.2, as measured from July 29, 2001, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - c. The first performance of the periodic measurement of CRE pressure, Specification 6.16.d, shall be within 18 months, plus the 138 days allowed by Surveillance Requirement 4.0.2, as measured from April 5, 2006, the date of the most recent successful pressure measurement test, or within 180 days if not performed previously.

D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. An exemption from the criticality alarm requirements of 10 CFR 70.24 was granted in Special Nuclear Material License No. 1953, dated August 21, 1985. This exemption is described in Section 9.1 of Supplement No. 5 to the SER. This previously granted exemption is continued in this operating license. An exemption from certain requirements of Appendix A to 10 CFR Part 50, is described in Supplement No. 5 to the SER. This exemption is a schedular exemption to the requirements of General Design Criterion 64, permitting delaying functionality of the Turbine Building Circulating Water System-Radiation Monitoring System until 5 percent power for local indication, and until 120 days after fuel load for control room indication (Appendix R of SSER 5). Exemptions from certain requirements of Appendix J to 10 CFR Part 50, are described in Supplement No. 5 to the SER. These include an exemption from the requirement of Appendix J, exempting main steam isolation valve leak-rate testing at 1.10 Pa (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing on traversing incore probe system shear valves (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing for instrument lines and lines containing excess flow check valves (Section 6.2.6 of SSER 5); and an exemption from Appendix J, exempting Type C testing of thermal relief valves (Section 6.2.6 of SSER 5). These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. These exemptions are hereby granted. The special circumstances regarding each exemption are identified in the referenced section of the safety evaluation report and the supplements thereto. These exemptions are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54 (p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Salem-Hope Creek Nuclear Generating Station Security Plan," with revisions submitted through December 17, 2001; "Salem-Hope Creek Nuclear Generating Station Security Training and Qualification Plan," with revisions submitted through June 2, 1998. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.
- F. Except as otherwise provided in the Technical Specifications or Environmental Protection Plan, PSEG Nuclear LLC shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e).
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- H. This license is effective as of the date of issuance and shall expire at midnight on April 11, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION

original signed by H.R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Appendix A - Technical Specifications (NUREG-1201)
- 2. Appendix B - Environmental Protection Plan

Date of Issuance: July 25, 1986

PLANT SYSTEMS

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

=====

3.7.2 Two independent control room emergency filtration system subsystems shall be OPERABLE with each subsystem consisting of:

- a) One control room supply unit,
- b) One filter train, and
- c) One control room return air fan.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and *.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3
 - 1. With one control room emergency filtration subsystem inoperable for reasons other than Condition a.2, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - 2. With one or more control room emergency filtration subsystems inoperable due to an inoperable control room envelope (CRE) boundary^{##},
 - a. Immediately, initiate action to implement mitigating actions; and
 - b. Within 24 hours, verify mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed the limits and actions to mitigate exposure to smoke hazards are taken; and
 - c. Within 90 days, restore the CRE boundary to operable status.Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION *:
 - 1. With one control room emergency filtration subsystem inoperable for reasons other than Condition b.3, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the pressurization/recirculation mode of operation.

*When recently irradiated fuel is being handled in the secondary containment and during operations with a potential for draining the reactor vessel.

^{##}The main control room envelope (CRE) boundary may be opened intermittently under administrative control.

PLANT SYSTEMS

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION (continued)

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2. With both control room emergency filtration subsystems inoperable for reasons other than Condition b.3, suspend handling of recently irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.
 3. With one or more control room emergency filtration subsystems inoperable due to an inoperable CRE boundary^{##}, immediately suspend handling of recently irradiated fuel and operations with a potential for draining the vessel.
- c. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

SURVEILLANCE REQUIREMENTS

=====

4.7.2.1 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 85°F[#].
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, the control area chilled water pump, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters on in order to reduce the buildup of moisture on the carbon adsorbers and HEPA filters.

*When recently irradiated fuel is being handled in the secondary containment and during operations with a potential for draining the reactor vessel.

[#]This does not require starting the non-running control emergency filtration subsystem.

^{##}The main control room envelope (CRE) boundary may be opened intermittently under administrative control.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

=====

- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem filter train by:
 - 1. Verifying that the subsystem satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system filter train flow rate is 4000 cfm \pm 10%.
 - 2. Verifying within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 0.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and a relative humidity 70%.
 - 3. Verifying a subsystem filter train flow rate of 4000 cfm \pm 10% during subsystem operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal from the Control Room Emergency Filtration units that a laboratory analysis of a representative carbon sample, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows a methyl iodide penetration less than 0.5% when tested in accordance with ATSM D3803 - 1989 at a temperature of 30°C and a relative humidity of 70%.
- e. At least once per 18 months by:
 - 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 7.5 inches Water Gauge while operating the filter train subsystem at a flow rate of 4000 cfm \pm 10%.
 - 2. Verifying with the control room hand switch in the recirculation mode that on each of the below recirculation mode actuation test signals, the subsystem automatically switches to the isolation mode of operation and the isolation dampers close within 5 seconds:

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- a) High Drywell Pressure
 - b) Reactor Vessel Water Level Low Low Low, Level 1
 - c) Control room ventilation radiation monitors high.
3. Verifying with the control room hand switch in the outside air mode that on each of the below pressurization mode actuation test signals, the subsystem automatically switches to the pressurization mode of operation:
- a) High Drywell Pressure
 - b) Reactor Vessel Water Level Low Low Low, Level 1
 - c) Control room ventilation radiation monitors high.
4. Verifying that the heaters dissipate 13 ± 1.3 Kw when tested in accordance with ANSI N510-1980 and verifying humidity is maintained less than or equal to 70% humidity through the carbon adsorbers by performance of a channel calibration of the humidity control instrumentation.
- f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter bank satisfies the inplace penetration testing acceptance criteria of less than 0.05% in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 4000 cfm \pm 10%.
- g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the inplace penetration testing acceptance criteria of less than 0.05% in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 4000 cfm \pm 10%.
- 4.7.2.2 The control room envelope boundary shall be demonstrated OPERABLE:
- a. At a frequency in accordance with the Control Room Envelope Habitability Program by performance of control room envelope unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.

6.15 TECHNICAL SPECIFICATION (TS) BASES CONTROL PROGRAM

This program provides a means for processing changes to the Bases of these Technical Specifications.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. PSEG may make changes to the Bases without prior NRC approval provided the changes do not require either of the following:
 1. A change in the TS incorporated in the License, or
 2. A change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.
- c. Proposed changes to the Bases that require either condition of Specification 6.15.b above shall be reviewed and approved by the NRC prior to implementation.
- d. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).
- e. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

6.16 CONTROL ROOM ENVELOPE HABITABILITY PROGRAM

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Filtration System, CRE 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. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) 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 CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

6.16 CONTROL ROOM ENVELOPE HABITABILITY PROGRAM (Continued)

- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the Control Room Emergency Filtration System, operating at the flow rate required by Surveillance Requirement 4.7.2.1.c.1, at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.
- e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of Specification 4.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 SERVICE WATER SYSTEMS

The OPERABILITY of the station service water and the safety auxiliaries cooling systems ensures that sufficient cooling capacity is available for continued operation of the SACS and its associated safety-related equipment during normal and accident conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

The OPERABILITY of the control room emergency filtration system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for occupants during and following all design basis accident conditions. Continuous operation of the system with the heaters and humidity control instruments OPERABLE for 10 hours during each 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less total effective dose equivalent (TEDE). This limitation is consistent with the requirements of 10 CFR Part 50.67, "Accident Source Term."

The Control Room Envelope (CRE) is the area within the confines of the CRE boundary that contains the spaces that control room occupants inhabit to control the unit during normal and accident conditions. This area encompasses the control room, and other non-critical areas including adjacent support offices, toilet and utility rooms. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, ceiling, ducting, valves, doors, penetrations and equipment that physically form the CRE. The OPERABILITY of the CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. The CRE and its boundary are defined in the Control Room Envelope Habitability Program.

In order for the CREFAS subsystems to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and that CRE occupants are protected from hazardous chemicals and smoke.

The LCO is modified by a Note allowing the CRE boundary to be opened intermittently under administrative controls. This Note only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

3/4.7 PLANT SYSTEMS

BASES

CONTROL ROOM EMERGENCY FILTRATION SYSTEM (Continued)

If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered inoperable, immediate action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

Immediate action(s), in accordance with the LCO Action Statements, means that the required action should be pursued without delay and in a controlled manner.

SR 4.7.2.2 verifies the OPERABILITY of the CRE boundary by testing for unfiltered air inleakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

3/4.7.3 FLOOD PROTECTION

The requirement for flood protection ensures that facility flood protection features are in place in the event of flood conditions. The limit of elevation 10.5' Mean Sea Level is based on the elevation at which facility flood protection features provide protection to safety related equipment.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.4 REACTOR CORE ISOLATION COOLING SYSTEM

The reactor core isolation cooling (RCIC) system is provided to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without requiring actuation of any of the Emergency Core Cooling System equipment. The RCIC system is conservatively required to be OPERABLE whenever reactor steam dome pressure exceeds 150 psig. This pressure is substantially below that for which the RCIC system can provide adequate core cooling for events requiring the RCIC system.

The RCIC system specifications are applicable during OPERATIONAL CONDITIONS 1, 2 and 3 when reactor vessel steam dome pressure exceeds 150 psig because RCIC is the primary non-ECCS source of emergency core cooling when the reactor is pressurized.

With the RCIC system inoperable, adequate core cooling is assured by the OPERABILITY of the HPCI system and justifies the specified 14 day out-of-service period.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001

Revision 2

Page 1 of 1

Station/Unit(s): Hope Creek

Activity/Document Number: Tech Spec Bases for License Change H07-01 Revision Number: -

Title: Tech Spec Bases revision related to License Change H07-01

NOTE: For 50.59 Evaluations, information on this form will provide the basis for preparing the biennial summary report submitted to the NRC in accordance with the requirements of 10 CFR 50.59(d)(2).

Description of Activity:

(Provide a brief, concise description of what the proposed activity involves.)

Revisions to Tech Spec Bases 3/4.7.2 (Control Room Emergency Filtration System) are being performed to align with the Tech Spec revision to Section 3/4.7.2 to comply with Generic Letter 2003-01. The revision to the Tech Spec is changing the Control Room Habitability surveillance requirements and instituting a Control Room Habitability Program in conformance with TSTF-448/CLIIP recommendations.

Reason for Activity:

(Discuss why the proposed activity is being performed.)

Tech Spec Bases 3/4.7.2 is being revised to align with the proposed Tech Spec change to Section 3/4.7.2 to comply with Generic Letter 2003-01 and TSTF-448. License Change H07-01 is processing the Tech Spec change.

Effect of Activity:

(Discuss how the activity impacts plant operations, design bases, or safety analyses described in the UFSAR.)

Tech Spec bases documentation is being revised in accordance with the requested license change.

Summary of Conclusion for the Activity's 50.59 Review:

(Provide justification for the conclusion, including sufficient detail to recognize and understand the essential arguments leading to the conclusion. Provide more than a simple statement that a 50.59 Screening, 50.59 Evaluation, or a License Amendment Request, as applicable, is not required.)

Tech Spec Bases 3/4.7.2 is being revised to align with the proposed License Change H07-01 that is implementing Generic Letter 2003-01 in accordance with TSTF-448/ CLIIP. The requested Tech Spec Bases change complies with the evaluation provided in the TSTF-448/ CLIIP.

Attachments:

Attach all 50.59 Review forms completed, as appropriate.

(NOTE: if both a Screening and Evaluation are completed, no Screening No. is required.)

Forms Attached: (Check all that apply.)

☒ Applicability Review

☐ 50.59 Screening 50.59 Screening No. _____ Rev. _____

☐ 50.59 Evaluation 50.59 Evaluation No. _____ Rev. _____

50.59 APPLICABILITY REVIEW FORM

LS-AA-104-1002

Revision 2

Page 1 of 1

Activity/Document Number: Tech Spec Bases for License Change H07-01 Revision Number: _____

Address the questions below for all aspects of the Activity. If the answer is yes for any portion of the Activity, apply the identified process(es) to that portion of the Activity. Note that it is not unusual to have more than one process apply to a given Activity. See Section 4 of the Resource Manual (RM) for additional guidance.

I. Does the proposed Activity involve a change:		
1. Technical Specifications or Operating License (10CFR50.90)?	<input type="checkbox"/> NO <input checked="" type="checkbox"/> YES	See Section 4.2.1.1 of the RM
2. Conditions of License Quality Assurance program (10CFR50.54(a))? Security Plan (10CFR50.54(p))? Emergency Plan (10CFR50.54(q))?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.2 of the RM
3. Codes and Standards IST Program Plan (10CFR50.55a(f))? ISI Program Plan (10CFR50.55a(g))?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.3 of the RM
4. ECCS Acceptance Criteria (10CFR50.46)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.4 of the RM
5. Specific Exemptions (10CFR50.12)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.5 of the RM
6. Radiation Protection Program (10CFR20)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.6 of the RM
7. Fire Protection Program (applicable UFSAR or operating license condition)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.7 of the RM
8. Programs controlled by the Operating License or the Technical Specifications (such as the ODCM).	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.7 of the RM
9. Environmental Protection Program	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1.7 of the RM
10. Other programs controlled by other regulations.	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.1 of the RM
II. Does the proposed Activity involve maintenance which restores SSCs to their original condition or involve a temporary alteration supporting maintenance that will be in effect during at-power operations for 90 days or less?		
	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.2 of the RM
III. Does the proposed Activity involve a change to the:		
1. UFSAR (including documents incorporated by reference) that is excluded from the requirement to perform a 50.59 Review by NEI 96-07 or NEI 98-03?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.3 of the RM
2. Managerial or administrative procedures governing the conduct of facility operations (subject to the control of 10CFR50, Appendix B)	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.4 of the RM
3. Procedures for performing maintenance activities (subject to 10CFR50, Appendix B)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.4 of the RM
4. Regulatory commitment not covered by another regulation based change process (see NEI 99-04)?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.3/4.2.4 of the RM
IV. Does the proposed Activity involve a change to the Independent Spent Fuel Storage Installation (ISFSI) (subject to control by 10 CFR 72.48)		
	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	See Section 4.2.6 of the RM

Check one of the following:

- ☒ If all aspects of the Activity are controlled by one or more of the above processes, **then** a 50.59 Screening is not required and the Activity may be implemented in accordance with its governing procedure.
- ☐ If any portion of the Activity is **not** controlled by one or more of the above processes, then process a 50.59 Screening for the portion not covered by any of the above processes. The remaining portion of the activity should be implemented in accordance with its governing procedure.

Signoff:

50.59 Screener/50.59 Evaluator:
(Circle One)

John Cichello
(Print name)

Sign: John P. Cichello
(Signature)

Date: 03/29/07