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

August 27, 2015

Mr. Edward D. Halpin
Senior Vice President and
Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 56, Mail Code 104/6
Avila Beach, CA 93424

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING REVISION TO TECHNICAL SPECIFICATIONS TO ADOPT TECHNICAL SPECIFICATION TASK FORCE (TSTF) TRAVELER TSTF-432, REVISION 1, "CHANGE IN TECHNICAL SPECIFICATIONS END STATES (WCAP-16294)" (TAC NOS. MF4521 AND MF4522)

Dear Mr. Halpin:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 219 to Facility Operating License No. DPR-80 and Amendment No. 221 to Facility Operating License No. DPR-82 for the Diablo Canyon Power Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 28, 2014, as supplemented by letters dated May 7 and August 6, 2015.

The amendments revise the TSs to risk-inform requirements regarding selected Required Action End States. The changes are consistent with Technical Specification Task Force (TSTF) Traveler TSTF-432, Revision 1, "Change in Technical Specifications End States (WCAP-16294)."

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,

Siva P. Lingam

Siva P. Lingam, Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:
1. Amendment No. 219 to DPR-80
2. Amendment No. 221 to DPR-82
3. Safety Evaluation

cc w/encls: Distribution via Listserv

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

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 219
License No. DPR-80

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Pacific Gas and Electric Company (the licensee), dated July 28, 2014, as supplemented by letters dated May 7 and August 6, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. DPR-80 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 219, are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of its date of issuance and shall be implemented within 120 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility
Operating License No. DPR-80
and Technical Specifications

Date of Issuance: August 27, 2015

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

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 221
License No. DPR-82

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Pacific Gas and Electric Company (the licensee), dated July 28, 2014, as supplemented by letters dated May 7 and August 6, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. DPR-82 is hereby amended to read as follows:

    (2) Technical Specifications (SSER 32, Section 8)* and Environmental Protection Plan

    The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 221, are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of its date of issuance and shall be implemented within 120 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility
Operating License No. DPR-82
and Technical Specifications

Date of Issuance: August 27, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 219

TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 221 TO FACILITY OPERATING LICENSE NO. DPR-82

DOCKET NOS. 50-275 AND 50-323

Replace the following pages of the Facility Operating License Nos. DPR-80 and DPR-82, and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Facility Operating License No. DPR-80

REMOVE	INSERT
-3-	-3-

Facility Operating License No. DPR-82

REMOVE	INSERT
-3-	-3-

Technical Specifications

REMOVE	INSERT	REMOVE	INSERT
3.3-19	3.3-19	3.7-14	3.7-14
--	3.3-19a	3.7-16	3.7-16
3.3-47	3.3-47	--	3.7-16a
3.4-27	3.4-27	3.7-17	3.7-17
3.4-30	3.4-30	3.7-18a	3.7-18a
3.4-34	3.4-34	3.7-21	3.7-21
3.5-6	3.5-6	3.7-22	3.7-22
3.5-7	3.5-7	3.8-3	3.8-3
--	3.5-7a	--	3.8-3a
3.6-13	3.6-13	3.8-18a	3.8-18a
3.6-14	3.6-14	3.8-19	3.8-19
3.6-16	3.6-16	3.8-26	3.8-26
--	3.6-16a	3.8-29	3.8-29

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This License shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) <u>Maximum Power Level</u>

The Pacific Gas and Electric Company is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100% rated power) in accordance with the conditions specified herein.

(2) <u>Technical Specifications</u>

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix 8, as revised through Amendment No. 219 are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

(3) <u>Initial Test Program</u>

The Pacific Gas and Electric Company shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Pacific Gas and Electric Company's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

a. Elimination of any test identified in Section 14 of PG&E's Final Safety Analysis Report as amended as being essential;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This License shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The Pacific Gas and Electric Company is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100% rated power) in accordance with the conditions specified herein.

(2) Technical Specifications (SSER 32, Section 8)* and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix 8, as revised through Amendment No. 221, are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

(3) Initial Test Program (SSER 31, Section 4.4.1)

Any changes to the Initial Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

*The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

3.3 INSTRUMENTATION

3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

LCO 3.3.2 The ESFAS instrumentation for each Function in Table 3.3.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.2-1.

ACTIONS

---NOTE---

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1	Enter the Condition referenced in Table 3.3.2-1 for the channel(s) or train(s).	Immediately
B. One channel or train inoperable.	B.1	Restore channel or train to OPERABLE status.	48 hours
	<u>OR</u>		
	B.2.1	Be in MODE 3.	54 hours
		<u>AND</u>	
	B.2.2	-----------NOTE------------ LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	60 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One train inoperable.	----------------NOTE---------------- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. --		
	C.1	Restore train to OPERABLE status.	24 hours
	OR		
	C.2.1	Be in MODE 3.	30 hours
		AND	
	C.2.2	---------NOTE-------------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	36 hours

(continued)

3.3 INSTRUMENTATION

3.3.7 Control Room Ventilation System (CRVS) Actuation Instrumentation

LCO 3.3.7 The CRVS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

---NOTES---

1. Separate Condition entry is allowed for each Function.
2. Functions are common to both units.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1	Place one CRVS train in pressurization mode.	7 days
B. One or more Functions with two channels or two trains inoperable.	B.1.1	Place one CRVS train in pressurization mode.	Immediately
		<u>AND</u>	
	B.1.2	Enter applicable Conditions and Required Actions for one CRVS train made inoperable by inoperable CRVS actuation instrumentation.	Immediately
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	C.2	----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	12 hours

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.13 RCS Operational LEAKAGE

LCO 3.4.13 RCS operational LEAKAGE shall be limited to:

a. No pressure boundary LEAKAGE;

b. 1 gpm unidentified LEAKAGE;

c. 10 gpm identified LEAKAGE; and

d. 150 gallons per day primary to secondary LEAKAGE through any one steam generator (SG).

APPLICABILITY: MODES 1, 2, 3*, and 4*.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. RCS operational LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE or primary to secondary LEAKAGE.	A.1	Reduce LEAKAGE to within limits.	4 hours
B. Required Action and associated Completion Time of Condition A not met. OR Pressure boundary LEAKAGE exists. OR Primary to secondary LEAKAGE not within limit.	B.1 AND B.2	Be in MODE 3. ----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	6 hours 12 hours

* For MODES 3 and 4, if steam generator water samples indicate less than the minimum detectable activity of 5.0 E-7 microcuries/ml for principal gamma emitters, the leakage requirement of specification 3.4.13.d. may be considered met.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.2.1	Isolate the high pressure portion of the affected system from the low pressure portion by use of a second closed manual, deactivated automatic, or check valve.	72 hours
		<u>OR</u>	
	A.2.2	Restore RCS PIV to within limits.	72 hours
B. Required Action and associated Completion Time for Condition A not met.	B.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	B.2	----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------	
		Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.14.1 ----------------------------NOTES------------------------------ 1. Not required to be performed in MODES 3 and 4. 2. Not required to be performed on the RCS PIVs located in the RHR flow path when in the shutdown cooling mode of operation. 3. RCS PIVs actuated during the performance of this Surveillance are not required to be tested more than once if a repetitive testing loop cannot be avoided. ---	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Any containment sump monitor inoperable. AND Containment atmosphere particulate radioactivity monitor inoperable. AND Required CFCU condensate collection monitor inoperable.	D.1 Analyze grab samples of the containment atmosphere. AND D.2.1 Restore containment sump monitor to OPERABLE status. OR D.2.2 Restore containment atmosphere particulate radioactivity monitor to OPERABLE status. OR D.2.3 Restore required CFCU condensate collection monitor to OPERABLE status.	Once per 12 hours 7 days 7 days 7 days
E. All required monitors inoperable.	E.1 Enter LCO 3.0.3.	Immediately
F. Required Action and associated Completion Time of Condition A, B, C, or D not met.	F.1 Be in MODE 3. AND F.2 ----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	6 hours 12 hours

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - Shutdown

LCO 3.5.3 One ECCS train shall be OPERABLE.

---NOTE---
An RHR train may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned to the ECCS mode of operation.

APPLICABILITY: MODE 4.

ACTIONS

---NOTE---
LCO 3.0.4b is not applicable to ECCS Centrifugal Charging Pump subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS train inoperable.	A.1 ----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Initiate action to restore required ECCS train to OPERABLE status.	 Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	The following SRs are applicable for all equipment required to be OPERABLE: SR 3.5.2.1 SR 3.5.2.7 SR 3.5.2.3 SR 3.5.2.8 SR 3.5.2.4	In accordance with applicable SRs

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.4 Refueling Water Storage Tank (RWST)

LCO 3.5.4 The RWST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. RWST boron concentration not within limits. OR RWST borated water temperature not within limits.	A.1	Restore RWST to OPERABLE status.	8 hours
B. RWST inoperable for reasons other than Condition A.	B.1	Restore RWST to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.4.1	-----------------------------NOTE---------------------------- Only required to be performed when ambient air temperature is < 35°F. --- Verify RWST borated water temperature is ≥ 35°F.	In accordance with the Surveillance Frequency Control Program
SR 3.5.4.2	Verify RWST borated water volume is ≥ 455,300 gallons.	In accordance with the Surveillance Frequency Control Program
SR 3.5.4.3	Verify RWST boron concentration is ≥ 2300 ppm and ≤ 2500 ppm.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray and Cooling Systems

LCO 3.6.6 The containment fan cooling unit (CFCU) system and two containment spray trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One containment spray train inoperable.	A.1	Restore containment spray train to OPERABLE status.	72 hours ---------NOTE------------ For planned maintenance or inspections, the Completion Time is 72 hours. The Completion Times of Required Action A.2 are for unplanned corrective maintenance or inspections. -------------------------------
	<u>OR</u>		
	A.2	Restore containment spray train to OPERABLE status	14 days
B. Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	B.2	----------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	54 hours
C. One required CFCU system inoperable such that a minimum of two CFCUs remain OPERABLE.	C.1	Restore required CFCU system to OPERABLE status.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. One required containment spray train inoperable and one required CFCU system inoperable such that a minimum of two CFCUs remain OPERABLE.	D.1	Restore one required containment spray system to OPERABLE status,	72 hours
	OR		
	D.2	Restore one CFCU system to OPERABLE status such that four CFCUs or three CFCUs, each supplied by a different vital bus, are OPERABLE.	72 hours
E. Required Action and associated Completion Time of Condition C or D not met.	E.1	Be in MODE 3.	6 hours
	AND		
	E.2	------------NOTE-------------- LCO 3.0.4.a is not applicable when entering MODE 4. ---------------------------------- Be in MODE 4.	12 hours
F. Two containment spray trains inoperable. OR One containment spray train inoperable and two CFCU systems inoperable such that one or less CFCUs remain OPERABLE. OR One or less CFCUs OPERABLE.	F.1	Enter LCO 3.0.3.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.7 Spray Additive System

LCO 3.6.7 The Spray Additive System shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Spray Additive System inoperable.	A.1	Restore Spray Additive System to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	6 hours
	<u>AND</u>		
	B.2	-------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	54 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.2	Verify spray additive tank solution volume is ≥ 46.2% and ≤ 91.9%.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.3	Verify spray additive tank NaOH solution concentration is ≥ 30% and ≤ 32% by weight.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.5	Verify spray additive flow from each solution's flow path.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.7 Vital Component Cooling Water (CCW) System

LCO 3.7.7 Two vital CCW loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One vital CCW loop inoperable.	A.1 ------------NOTE-------------- Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by CCW. ---------------------------------- Restore vital CCW loop to OPERABLE status.	 72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 -------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	----------------------------NOTE--------------------------- Isolation of CCW flow to individual components does not render the CCW System inoperable --- Verify each CCW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program

(continued)

3.7 PLANT SYSTEMS

3.7.8 Auxiliary Saltwater (ASW) System

LCO 3.7.8 Two ASW trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ASW train inoperable.	A.1 ------------NOTE-------------- Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by ASW. ---------------------------------- Restore ASW train to OPERABLE status	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	6 hours
	AND	
	B.2 -------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.8.1	Verify each ASW manual and power operated, valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.2	Verify each ASW power operated valve in the flow path that is not locked, sealed, or otherwise secured in position, can be moved to the correct position.	In accordance with the Inservice Test Program.
SR 3.7.8.3	Verify each ASW pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.9 Ultimate Heat Sink (UHS)

LCO 3.7.9 The UHS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. With the UHS temperature > 64°F.	A.1	Place a second CCW heat exchanger in service.	8 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	-------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Not used.	
SR 3.7.9.2	Verify water temperature of UHS is within limits.	24 hours if UHS temperature is ≤ 60°F, AND 12 hours if UHS temperature > 60°F but ≤ 62°F, AND 2 hours if UHS temperature > 62°F but ≤ 64°F.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	-------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. --------------------------------	
		Be in MODE 4.	12 hours
D. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of recently irradiated fuel assemblies.	D.1.1	Place OPERABLE CRVS train in pressurization mode.	Immediately
		AND	
	D.1.2	Verify that the OPERABLE CRVS train is capable of being powered by an OPERABLE emergency power source.	Immediately
	OR		
	D.2	Suspend movement of recently irradiated fuel assemblies.	Immediately

(continued)

3.7 PLANT SYSTEMS

3.7.12 Auxiliary Building Ventilation System (ABVS)

LCO 3.7.12 Two ABVS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. The common HEPA filter and/or charcoal adsorber inoperable.	A.1 Restore the common HEPA filter and charcoal adsorber to OPERABLE status.	24 hours
B. One ABVS train inoperable.	B.1 Restore ABVS train to OPERABLE status	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 -------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.12.1	--- This surveillance shall verify that each ABVS train is aligned to receive electrical power from a separate OPERABLE vital bus. --- Operate each ABVS train for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	------------------------NOTE------------------------------ SR is not applicable to a specific ABVS train when that ABVS train is configured and performing its safety function. --- Verify each ABVS train actuates on an actual or simulated actuation signal and the system realigns to exhaust through the common HEPA filter and charcoal adsorber.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Not Used.	
SR 3.7.12.5	Not Used.	
SR 3.7.12.6	Verifying that leakage through the ABVS Dampers M2A and M2B is less than or equal to 5 cfm when subjected to a Constant Pressure or Pressure Decay Leak Rate Test in accordance with ASME N510-1989. The test pressure for the leak rate test shall be based on a maximum operating pressure as defined in ASME N510-1989, of 8 inches water gauge.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. Two required offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required features.
	AND		
	C.2	Restore one required offsite circuit to OPERABLE status.	24 hours
D. One required offsite circuit inoperable. AND One DG inoperable.	D.1	Restore required offsite circuit to OPERABLE status.	12 hours
	OR		
	D.2	Restore DG to OPERABLE status.	12 hours
E. Two or more DGs inoperable.	E.1	Ensure at least two DGs are OPERABLE.	2 hours
F. One supply train of the DFO transfer system inoperable.	F.1	Restore the DFO transfer system to OPERABLE status.	72 hours
G. Two supply trains of the DFO transfer system inoperable.	G.1	Restore one train of the DFO transfer system to OPERABLE status.	1 hour
H. Required Action and associated Completion Time of Condition A, B, C, D, E, F or G not met.	H.1	Be in MODE 3.	6 hours
	AND		
	H.2	-------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. -------------------------------- Be in MODE 4.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
I. Two or more DGs inoperable. AND One or more required offsite circuits inoperable.	I.1	Enter LCO 3.0.3.	Immediately
J. One or more DGs inoperable. AND Two required offsite circuits inoperable.	J.1	Enter LCO 3.0.3.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One battery inoperable.	B.1 Restore battery to OPERABLE status.	2 hours
	<u>OR</u>	
	B.2.1.1 ------------NOTE------------ Required Actions B.2.1.1, B.2.1.2, and B.2.2 are applicable, on a one time basis, for Unit 1 cycle 14. --------------------------------	
	Determine OPERABLE batteries are not inoperable due to common cause failure.	2 hours
	<u>OR</u>	
	B.2.1.2 Perform SR 3.8.4.1 and SR 3.8.6.1 for OPERABLE batteries.	2 hours
	<u>AND</u>	
	B.2.2 Restore battery to OPERABLE status.	4 hours
C. One DC electrical power subsystem inoperable for reasons other than Condition A or B.	C.1 Restore DC electrical power subsystem to OPERABLE status.	2 hours
D. More than one full capacity charger receiving power simultaneously from a single 480 V vital bus.	D.1 Restore the DC electrical power subsystem to a configuration wherein each charger is powered from its associated 480 volt vital bus.	14 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and Associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 -----------NOTE------------ LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	Verify each battery charger supplies ≥ 400 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each battery charger can recharge the battery to the fully charged state within 12 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	------------------------------NOTES---------------------------- 1. The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.3. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. --- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters-Operating

LCO 3.8.7 Four Class 1E Vital 120 V UPS inverters shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	A.1 -----------NOTE--------------- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any vital 120 V AC bus de-energized. ---------------------------------- Restore inverter to OPERABLE status.	24 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	B.2 -------------NOTE------------- LCO 3.0.4.a is not applicable when entering MODE 4. ---------------------------------- Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage and alignment to required AC vital buses.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 The required Class 1E AC, DC, and 120 VAC vital bus electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One AC electrical power distribution subsystem inoperable.	A.1	Restore AC electrical power distribution subsystem to OPERABLE status.	8 hours
B. One 120 VAC vital bus subsystem inoperable.	B.1	Restore 120 VAC vital bus subsystem to OPERABLE status.	2 hours
C. One DC electrical power distribution subsystem inoperable.	C.1	Restore DC electrical power distribution subsystem to OPERABLE status.	2 hours
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	-------------NOTE----------- LCO 3.0.4.a is not applicable when entering MODE 4. ------------------------------- Be in MODE 4.	12 hours
E. Two required Class 1E AC, DC, or 120 VAC vital buses with inoperable distribution subsystems that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 219 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 221 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By letter dated July 28, 2014 (Reference 1), as supplemented by letters dated May 7 and August 6, 2015 (References 2 and 3, respectively), Pacific Gas and Electric Company (PG&E, the licensee) submitted a license amendment request (LAR) to revise the Technical Specifications (TSs) for Diablo Canyon Power Plant (DCPP), Unit Nos. 1 and 2. Specifically, the licensee proposed to adopt U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Traveler TSTF-432, Revision 1, "Change in Technical Specifications End States (WCAP-16294)," dated November 29, 2010 (Reference 4). The supplemental letters dated May 7 and August 6, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on September 30, 2014 (79 FR 58823).

TSTF-432, Revision 1, incorporates the NRC-approved Westinghouse Electric Company LLC's Topical Report (TR) WCAP-16294-NP-A, Revision 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS [Nuclear Steam Supply System] PWRs [Pressurized-Water Reactors]," June 2010 (Reference 5), into NUREG-1431, Volume 1, Revision 3.0, "Standard Technical Specifications - Westinghouse Plants" (STS; Reference 6). The licensee stated that the LAR is consistent with the Notice of Availability of TSTF-432 announced in the *Federal Register* on May 11, 2012 (77 FR 27814).

TSTF-432 is one of the industry's initiatives developed under the Risk Management Technical Specifications program. The purpose of risk-informed TS changes is to maintain or improve safety while reducing unnecessary burden and to make TS requirements consistent with the Commission's other risk-informed regulatory requirements.

The Westinghouse STS define the following six operational modes. Of specific relevance to TSTF-432, Revision 1, are Modes 4 and 5:

- Mode 1 - Power Operation. The reactor is critical and thermal power is greater than 5 percent of the rated thermal power excluding decay heat.

- Mode 2 – Startup. The reactor is critical and thermal power is less than or equal to 5 percent of the rated thermal power excluding decay heat.

- Mode 3 - Hot Standby. The reactor is subcritical and the average reactor coolant system (RCS) temperature is greater than or equal to 350 degrees Fahrenheit (°F).

- Mode 4 - Hot Shutdown. The reactor is subcritical and the average RCS temperature is greater than 200 °F and less than 350 °F. The reactor vessel head closure bolts are all fully tensioned.

- Mode 5 - Cold Shutdown. The reactor is subcritical and the average RCS temperature is less than or equal to 200 °F. The reactor vessel head closure bolts are all fully tensioned.

- Mode 6 – Refueling. The reactor in this mode is shut down and one or more reactor vessel head closure bolts are less than fully tensioned.

TR WCAP-16294 identifies and evaluates new TS required action end states for a number of TS limiting conditions for operations (LCOs), using a risk-informed approach, consistent with NRC Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," November 2002, and RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decision making: Technical Specifications," August 1998 (References 7 and 8, respectively). An end state is a condition that the reactor must be placed-in if the TS required action(s) cannot be met. The end states are currently defined based on placing the unit into a mode or condition in which the TS LCO is not applicable. Mode 5 is the current end state for LCOs that are applicable in Modes 1 through 4. The risk of the transition from Mode 1 to Modes 4 or 5 depends on the availability of alternating current (AC) sources. During the realignment from Mode 4 to Mode 5, there is an increased potential for loss of shutdown cooling and loss of inventory events. Decay heat removal (DHR) following a loss-of-offsite power event in Mode 5 is dependent on AC power for shutdown cooling whereas, in Mode 4, per DCPP's TS LCO 3.7.5, only one auxiliary feedwater (AFW) train, which includes a motor driven pump, is required to be operable.

Therefore, transitioning to Mode 5 is not always the appropriate end state from a risk perspective. Thus, for specific TS conditions, TR WCAP-16294 justifies Mode 4 as an acceptable alternate end state to Mode 5. The proposed change to the TSs will allow time to perform short-duration repairs, which currently necessitate exiting the original mode of applicability. The Mode 4 TS end state is applied, and risk is assessed and managed in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants." Modified end states are limited to conditions where: (1) entry into the shutdown mode is for a

short interval, (2) entry is initiated by inoperability of a single train of equipment or a restriction on a plant operational parameter, unless otherwise stated in the applicable TS, and (3) the primary purpose is to correct the initiating condition and return to power operation as soon as is practical.

1.1 Proposed Action

As summarized in the following table, the requested TS changes would permit an end state of Hot Shutdown (Mode 4) rather than an end state of Cold Shutdown (Mode 5) for the following TS action requirements.

Proposed Changes To End States	
TS Condition	**Title**
3.3.2-B 3.3.2-C	Engineered Safety Feature Actuation System (ESFAS) Instrumentation
3.3.7-C	Control Room Ventilation System (CRVS) Actuation Instrumentation
3.4.13-B	RCS Operational LEAKAGE
3.4.14-B	RCS PIV [Pressure Isolation Valve] Leakage
3.4.15-F	RCS Leakage Detection Instrumentation
3.5.3-A	ECCS [Emergency Core Cooling System] – Shutdown
3.5.4-C	Refueling Water Storage Tank (RWST)
3.6.6-B 3.6.6-E	Containment Spray and Cooling Systems
3.6.7-B	Spray Additive System
3.7.7-B	Vital Component Cooling Water (CCW) System
3.7.8-B	Auxiliary Saltwater (ASW) System
3.7.9-B	Ultimate Heat Sink (UHS)
3.7.10-C	Control Room Ventilation System (CRVS)
3.7.12-C	Auxiliary Building Ventilation System (ABVS)
3.8.1-H	AC Sources – Operating
3.8.4-E	DC [Direct Current] Sources – Operating
3.8.7-B	Inverters – Operating
3.8.9-D	Distribution Systems – Operating

This LAR is limited to inoperability of a single train of equipment or a restriction on a plant operational parameter, unless otherwise stated in the applicable TS, and the primary purpose is to correct the inoperable component(s) and return to power operation as soon as practical.

2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to the content of the TSs are contained in 10 CFR 50.36, "Technical specifications." Pursuant to 10 CFR 50.36(c), the TS are required to include items in the following specific categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) LCOs; (3) surveillance requirements; (4) design features; and (5) administrative controls. The regulation at 10 CFR 50.36(c)(2) states, in part, that:

> When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

The regulation at 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," requires that the reactor must be provided with an ECCS that must be designed so that its calculated cooling performance following postulated loss-of-coolant accidents (LOCAs) conforms to the criteria set forth in 10 CFR 50.46(b).

Most of the TSs and the design basis analyses were developed under the perception that putting a plant in cold shutdown would result in the safest condition and the design basis analyses would bound credible shutdown accidents. In the late 1980s and early 1990s, the NRC and licensees recognized the potential significance of events occurring during shutdown conditions, and guidance was issued to improve shutdown operation. Since enactment of a shutdown rule was expected, almost all TS changes involving power operation, including a revised end state requirement, were postponed (for example, see the Final Policy Statement on TS Improvements (58 FR 39132; July 2, 1993)). However, in the mid-1990s, the Commission decided a shutdown rule was not necessary in light of industry improvements.

Controlling shutdown risk encompasses control of conditions that can cause potential initiating events and responses to those initiating events that do occur. Initiating events are a function of equipment malfunctions and human error. Responses to events are a function of plant sensitivity, ongoing activities, human error, defense-in-depth, and additional equipment malfunctions.

The regulation at 10 CFR 50.65(a)(4) requires that

> Before performing maintenance activities (including but not limited to surveillance, post-maintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. The scope of the assessment may be limited to structures, systems, and components that a risk-informed evaluation process has shown to be significant to public health and safety.

RG 1.182, "Assessing and Managing Risk before Maintenance Activities at Nuclear Power Plants," May 2000 (Reference 9), provides guidance on implementing the provisions of 10 CFR 50.65(a)(4) by endorsing a revised Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities," dated February 22, 2000 (Reference 10), to Nuclear

Management and Resources Council (NUMARC) 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

RG 1.182 was withdrawn since it was determined that the document (RG 1.182) was redundant due to the inclusion of its subject matter in Revision 3 of RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," May 2012 (Reference 11). Withdrawal of RG 1.182 was published in the *Federal Register* on November 27, 2012 (77 FR 70846). The *Federal Register* notice also stated that withdrawal of RG 1.182 neither altered any prior or existing licensing commitments based on its use, nor constituted backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and was not otherwise inconsistent with the issue finality provisions in 10 CFR Part 52.

In addition, the NRC staff observed that RG 1.160 endorsed Revision 4A of the NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," April 2011 (Reference 12). NUMARC 93-01 provides methods that are acceptable to the NRC staff for complying with the provisions of Section 50.65 of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." The model Safety Evaluation (SE) for the TSTF (Reference 13) currently refers to the guidance in Revision 2 of the NUMARC 93-01.

In a request for additional information (RAI) dated April 8, 2015 (Reference 14), the NRC staff requested that PG&E confirm that DCPP's current licensing basis is consistent with RG 1.160 guidance and commitment to the updated version of NUMARC 93-01. By letter dated May 7, 2015, PG&E stated, in part, that:

> On November 27, 2012, the NRC published a Federal Register Notice stating that Regulatory Guide (RG) 1.182 has been withdrawn and the subject matter has been incorporated into RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." RG 1.160 endorses Revision 4A of NUMARC 93-01, dated April 2011. The NRC Model Safety Evaluation for TSTF-432, Revision 1 (contained in Federal Register Volume 77, Number 92, dated May 11, 2012), references RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," which endorses the February 2000 version of NUMARC 93-01, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." References and commitments to RG 1.182 in the NRC Model Safety Evaluation for TSTF-432, Revision 1, are assumed to now refer to RG 1.160 and Revision 4A of NUMARC 93-01 instead of RG 1.182.
>
> Diablo Canyon Power Plant Departmental Administrative Procedure AD7.DC11, "Program Governance for On-Line Maintenance Risk Management," provides expectations for the On-Line Maintenance Risk Management Program structure, content, and implementation. Procedure AD7.DC11 references RG 1.160 as a regulatory standard for the program and references NUMARC 93-01, Revision 4A, as an industry document providing input to the program. Therefore, the Diablo Canyon licensing basis adheres to RG 1.160 and NUMARC 93-01, Revision 4A.

> The correction of the spelling error in the plant name in the footer of the Technical Specification (TS) Bases pages can be corrected as part of the normal implementation process for the amendment for the license amendment request (LAR) for TSTF-432, Revision 1, since during implementation of the amendments the controlled copy TS Bases pages (which contain the correct plant name spelling in the footer) are marked up with the TS Bases changes identified in the LAR (that do not contain a marked-up change to the plant name in the footer) to create the TS Bases version to be implemented.

The licensee's RAI response satisfies the NRC staff's concern on the issues stated above.

The general design criteria (GDC) in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, provides, in part, the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety.

- GDC 38, "Containment heat removal," requires the establishment of a containment heat removal system that will rapidly reduce containment pressure and temperature following any LOCA. The containment heat removal system supports the containment function by minimizing the duration and intensity of the pressure and temperature increase following any LOCA thus lessening the challenge to containment integrity. Meeting Criterion 38 will help ensure that the containment can fulfill its role as the final barrier against the release of radioactivity to the environment.

- GDC 41, "Containment Atmosphere Cleanup," requires that systems to control fission products, hydrogen, oxygen, and other substances which may be released into the reactor containment shall be provided as necessary to reduce, consistent with the functioning of other associated systems, the concentration and quality of fission products released to the environment following postulated accidents, and to control the concentration of hydrogen or oxygen and other substances in the containment atmosphere following postulated accidents to assure that containment integrity is maintained.

The licensee's application dated July 28, 2014, states, in part, that

> A description of the proposed TS change and its relationship to applicable regulatory requirements were published in the Federal Register Notice of Availability on May 11, 2012 (77 FR 27814). PG&E has reviewed the NRC Staff's model SE referenced in the CLIIP [Consolidated Line Item Improvement Process] Notice of Availability and concluded that the regulatory evaluation section is applicable to DCPP Units 1 and 2.

The NRC staff's review of the licensee's Final Safety Analysis Report (FSAR), Revision 22, Section 3.1, "Conformance With AEC [Atomic Energy Commission] General Design Criteria," shows that Criterion 52, 1967 – "Containment Heat Removal Systems (Category A)," and Criterion 37, 1967 – "Engineered Safety Features Basis for Design (Category A)," (per FSAR Table 3.1-2) satisfy the intent of GDC 38 and GDC 41 discussed above. Therefore, the NRC believes that the licensee is in compliance with the requirements of the specified GDCs.

RG 1.174 (Reference 7) describes a risk-informed approach, acceptable to the NRC, for assessing the nature and impact of proposed permanent licensing-basis changes by considering engineering issues and applying risk insights. RG 1.174 also provides risk acceptance guidelines for evaluating the results of such evaluations.

RG 1.177 (Reference 8) describes an acceptable risk-informed approach specifically for assessing proposed permanent allowed outage time and Surveillance Test Interval TS changes. RG 1.177 also provides risk acceptance guidelines for evaluating the results of such assessments. RG 1.177 identifies a three-tiered approach for the licensee's evaluation of the risk associated with a proposed completion time (CT) TS change. As noted in RG 1.177, the improved STS use the terminology "completion times" and "surveillance frequency" in place of "allowed outage time" and "surveillance test interval."

General guidance for evaluating the technical basis for proposed risk-informed changes is provided in Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP) (Reference 15). Guidance on evaluating probabilistic risk assessment (PRA) technical adequacy related to risk-informed TS changes is provided in SRP Section 16.1, "Risk-Informed Decision Making: Technical Specifications" (Reference 16), which includes CT changes as part of risk-informed decision making.

3.0 TECHNICAL EVALUATION

The changes proposed in TSTF-432 are consistent with the changes proposed and justified in TR WCAP-16294, and approved by the NRC in a SE on March 29, 2010 (Reference 17). Specifically, end states are prescribed in the TS when Required Actions are not met. The current TS actions require placing the plant in Cold Shutdown (Mode 5) based on the expectation that this condition would result in the safest condition, since most design-basis accidents (DBAs) and transients either cannot physically occur during shutdown, or would have significantly reduced plant impact and occur much less frequently due to the reduced temperatures and pressures in the plant. Accidents and transients unique to shutdown conditions were anticipated to be of less significance compared to the design bases events applicable to power operation.

The requested change to the TSs is to allow a Mode 4 end state rather than a Mode 5 end state for selected TS LCO actions. TR WCAP-16294 provides a comparative qualitative assessment of the availability of plant equipment for DHR and accident mitigation in Modes 4 and 5, and considers the likelihood and consequences of initiating events, which may occur in these modes. A quantitative risk assessment of operation in these modes, including the risk associated with the transition from Mode 4 to Mode 5 and then back to Mode 4 to support the return to service, is also provided using a shutdown and transition PRA model developed to support the review of TR WCAP-16294.

TR WCAP-16294 concludes that the availability of steam generator (SG) heat removal capability in Mode 4, and the avoidance of transitioning the plant to and from shutdown cooling, makes Mode 4 the preferred end state over Mode 5 for each of the proposed TS conditions being changed. This conclusion is further supported by quantitative risk analyses, which

demonstrate a reduction in plant risk by remaining in Mode 4 compared to the alternative of transitioning to and from Mode 5 in accordance with the existing TS requirements.

Both the qualitative and quantitative analyses of TR WCAP-16294 support a Mode 4 end state. This conclusion is primarily due to the availability of SG cooling in Mode 4 via the turbine driven AFW pump which is not reliant upon AC power, compared to the use of shutdown cooling in Mode 5 which requires the availability of AC power. Further, the transition risks associated with establishing shutdown cooling alignments and the resulting potential for loss of inventory or loss of cooling events due to human error during such alignments are avoided by remaining in Mode 4.

This general assessment is applied as the basis for changing the required end state from Mode 5 to Mode 4 for those TSs, which govern plant equipment that is not included in the PRA models, supported by qualitative assessments of the plant impact of the unavailability of the TS equipment. For those TS covering plant equipment that is included in the PRA models, a quantitative risk assessment is also provided, which assesses the comparative risk of completing repairs in Mode 4 or proceeding to Mode 5 for repairs and then returning to Mode 4 for plant startup, considering the available equipment for accident mitigation.

Changing the required end state to Mode 4 will also result in increased plant availability by decreasing the time of shutdown. The additional time required to transition to Mode 5 from Mode 4 when shutting down and also to Mode 4 from Mode 5 when restarting can be eliminated with the end state change. A typical time for the transition from Mode 4 to Mode 5 during shutdown and from Mode 5 to Mode 4 during startup is 24 hours. Therefore, this change will allow an availability increase of 24 hours.

Changing the end states allows continued operation with the LCO not met, by removing the TS requirement to exit the LCO Applicability. In this case, the requirements of LCO 3.0.4.a would apply unless otherwise stated. LCO 3.0.4.a allows entry into a mode or other specified condition in the Applicability with the LCO not met when the associated Actions to be entered permit continued operation in the mode or other specified condition in the Applicability for an unlimited period of time. Compliance with Required Actions that permit continued operation of the unit for an unlimited period of time in a mode or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the mode change. Therefore, in such cases, entry into a mode or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions.

Thus, implementing modified end states requires adding a Note to the affected Required Actions to prevent using the allowance of LCO 3.0.4.a when entering Mode 4 from Mode 5. This is done to avoid unit operation in a condition that should be prohibited by TS since LCO 3.0.4.a allows entry into a mode or other specified condition in the Applicability when the associated Actions to be entered permit continued operation in the mode or other specified condition in the Applicability for an unlimited period of time. Applying the allowance of LCO 3.0.4.a to modified end states was not analyzed in TR WCAP-16294; therefore, an appropriate limitation is applied by the addition of a Note to the affected TS Required Actions.

3.1 Licensee's Proposed TS Changes

In its LAR, as supplemented, the licensee proposed the following TS changes:

TS 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation

Current TS 3.3.2 Required Action B.2.2 states:

Be in MODE 5.

Revised TS 3.3.2 Required Action B.2.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.3.2 Required Action B.2.2 CT of "84 hours" would be revised to state "60 hours."

Current TS 3.3.2 Required Action C.2.2 states:

Be in MODE 5.

Revised TS 3.3.2 Required Action C.2.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.3.2 Required Action C.2.2 CT of "60 hours" would be revised to state "36 hours."

TS 3.3.7, Control Room Ventilation System (CRVS) Actuation Instrumentation

Current TS 3.3.7 Required Action C.2 states:

Be in MODE 5.

Revised TS 3.3.7 Required Action C.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.3.7 Required Action C.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.4.13, RCS Operational LEAKAGE

Current TS 3.4.13 Required Action B.2 states:

Be in MODE 5.

Revised TS 3.4.13 Required Action B.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.4.13 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.4.14, RCS Pressure Isolation Valve (PIV) Leakage

Current TS 3.4.14 Required Action B.2 states:

Be in MODE 5.

Revised TS 3.4.14 Required Action B.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.4.14 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.4.15, RCS Leakage Detection Instrumentation

By letter dated August 6, 2015, the licensee provided a revised TS markup related to changes for TS 3.4.15, Condition F.

Current TS 3.4.15 Condition F states:

Required Action and associated Completion Time not met.

Revised TS 3.4.15 Condition F would state:

Required Action and associated Completion Time of Condition A, B, C, or D not met.

Current TS 3.4.15 Required Action F.2 states:

Be in MODE 5.

Revised TS 3.4.15 Required Action F.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.4.15 Required Action F.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.5.3, ECCS - Shutdown

Current TS 3.5.3 Condition A states:

Required ECCS residual heat removal (RHR) subsystem inoperable.

Revised TS 3.5.3 Condition A would state:

Required ECCS train inoperable.

Current TS 3.5.3 Required Action A.1 states:

Initiate action to restore required ECCS RHR subsystem to OPERABLE status.

Revised TS 3.5.3 Required Action A.1 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Initiate action to restore required ECCS train to OPERABLE status.

Current TS 3.5.3 Conditions B and C and their associated required actions and CTs would be deleted.

TS 3.5.4, Refueling Water Storage Tank (RWST)

Current TS 3.5.4 Required Action C.2 states:

Be in MODE 5.

Revised TS 3.5.4 Required Action C.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.5.4 Required Action C.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.6.6, Containment Spray and Cooling Systems</u>

Current TS 3.6.6 Required Action B.2 states:

Be in MODE 5.

Revised TS 3.6.6 Required Action B.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.6.6 Required Action B.2 CT of "84 hours" would be revised to state "54 hours."

Current TS 3.6.6 Required Action E.2 states:

Be in MODE 5.

Revised TS 3.6.6 Required Action E.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.6.6 Required Action E.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.6.7, Spray Additive System</u>

Current TS 3.6.7 Required Action B.2 states:

Be in MODE 5.

Revised TS 3.6.7 Required Action B.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.6.7 Required Action B.2 CT of "84 hours" would be revised to state "54 hours."

<u>TS 3.7.7, Vital Component Cooling Water (CCW) System</u>

Current TS 3.7.7 Required Action B.2 states:

> Be in MODE 5.

Revised TS 3.7.7 Required Action B.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.7.7 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.7.8, Auxiliary Saltwater (ASW) System</u>

Current TS 3.7.8 Required Action B.2 states:

> Be in MODE 5.

Revised TS 3.7.8 Required Action B.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.7.8 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.7.9, Ultimate Heat Sink (UHS)</u>

Current TS 3.7.9 Required Action B.2 states:

> Be in MODE 5.

Revised TS 3.7.9 Required Action B.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.7.9 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.7.10, Control Room Ventilation System (CRVS)</u>

Current TS 3.7.10 Required Action C.2 states:

> Be in MODE 5.

Revised TS 3.7.10 Required Action C.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.7.10 Required Action C.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.7.12, Auxiliary Building Ventilation System (ABVS)</u>

Current TS 3.7.12 Required Action C.2 states:

> Be in MODE 5.

Revised TS 3.7.12 Required Action C.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.7.12 Required Action C.2 CT of "36 hours" would be revised to state "12 hours."

<u>TS 3.8.1, AC Sources – Operating</u>

Current TS 3.8.1 Required Action H.2 states:

> Be in MODE 5.

Revised TS 3.8.1 Required Action H.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.8.1 Required Action H.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.8.4, DC Sources - Operating

Current TS 3.8.4 Required Action E.2 states:

> Be in MODE 5.

Revised TS 3.8.4 Required Action E.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.8.4 Required Action E.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.8.7, Inverters - Operating

Current TS 3.8.7 Required Action B.2 states:

> Be in MODE 5.

Revised TS 3.8.7 Required Action B.2 would state:

> --NOTE--
> LCO 3.0.4.a is not applicable when entering Mode 4.
> --
>
> Be in MODE 4.

Current TS 3.8.7 Required Action B.2 CT of "36 hours" would be revised to state "12 hours."

TS 3.8.9, Distribution Systems - Operating

Current TS 3.8.9 Required Action D.2 states:

> Be in MODE 5.

Revised TS 3.8.9 Required Action D.2 would state:

---NOTE---
LCO 3.0.4.a is not applicable when entering Mode 4.

Be in MODE 4.

Current TS 3.8.9 Required Action D.2 CT of "36 hours" would be revised to state "12 hours."

3.2 NRC Staff Evaluation

This section provides the NRC staff evaluation of the impact of each proposed end state change on defense-in-depth and safety margins as applied to the corresponding safety systems. The NRC staff's evaluation approves only the proposed changes to the TSs as described below. The NRC staff finds that the TR WCAP-16294 used realistic assumptions regarding the plant conditions and the availability of various mitigating systems in analyzing the risks and considering the defense-in-depth and safety margins. Thus the NRC staff concludes that the TR WCAP-16294 uses realistic assumptions to justify the change in the end state. However, during the proposed Mode 4 end state, due to the safety injection (SI) signal blockage and non-availability of accumulators, operator actions will be required to mitigate potential events.

During the proposed Mode 4 end state, risk is assessed and managed consistent with 10 CFR 50.65. The NRC staff's review is based on the knowledge of lower RCS pressure in Mode 4, which reduces the severity of a LOCA, and limits any coolant inventory loss in the event of a LOCA.

3.2.1 Proposed Required Actions

The proposed changes add a Note stating that LCO 3.0.4.a is not applicable when entering Mode 4 from Mode 5 to each Required Action listed in the table below. In general, the end state for each Required Action shown in the table below is revised to be in Mode 4 instead of in Mode 5. The following table provides: (1) the TS number and title, (2) which Required Action is being revised, (3) the current end state and the required CT, and (4) the proposed end state and new CT.

Proposed Changes To End States			
TS Number and Title	**TS Required Action(s)**	**Current End State(s) and Completion Time(s)**	**Proposed End State(s) and Completion Time(s)**
3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation Functions: 1.a, 2.a, 3.a(1), and 3.b(1)	B.2.2	Mode 5 in 84 hours	Mode 4 in 60 hours

Proposed Changes To End States			
TS Number and Title	**TS Required Action(s)**	**Current End State(s) and Completion Time(s)**	**Proposed End State(s) and Completion Time(s)**
3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation Functions: 1.b, 2.b, 3.a(2), and 3.b(2)	C.2.2	Mode 5 in 60 hours	Mode 4 in 36 hours
3.3.7 Control Room Ventilation System (CRVS) Actuation Instrumentation	C.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.4.13 RCS Operational Leakage	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.4.14 RCS Pressure Isolation Valve Leakage	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.4.15 RCS Leakage Detection Instrumentation	F.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.5.3 ECCS – Shutdown	A.1, B.1, C.1	A.1 Initiate action to restore required ECCS RHR [Residual Heat Removal] subsystem OPERABLE status, immediately. B.1 Restore required ECCS Charging Pump subsystem [high head subsystem] to OPERABLE status in 1 hour. C.1 Mode 5 in 24 hours	A.1 Initiate action to restore required ECCS train to OPERABLE status, immediately B.1 Deleted (per TSTF-432) C.1 deleted (per TSTF-432) (see Note below for details)
3.5.4 Refueling Water Storage Tank (RWST)	C.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.6.7 Containment Spray and Cooling Systems	B.2 E.2	Mode 5 in 84 hours Mode 5 in 36 hours	Mode 4 in 54 hours Mode 4 in 12 hours
3.6.7 Spray Additive System	B.2	Mode 5 in 84 hours	Mode 4 in 54 hours
3.7.7 Vital Component Cooling Water (CCW) System	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.7.8 Auxiliary Saltwater (ASW) System	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.7.9 Ultimate Heat Sink (UHS)	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours

Proposed Changes To End States			
TS Number and Title	**TS Required Action(s)**	**Current End State(s) and Completion Time(s)**	**Proposed End State(s) and Completion Time(s)**
3.7.10 Control Room Ventilation System (CRVS)	C.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.7.12 Auxiliary Building Ventilation System (ABVS)	C.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.8.1 AC Sources – Operating	H.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.8.4 DC Sources – Operating	E.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.8.7 Inverters – Operating	B.2	Mode 5 in 36 hours	Mode 4 in 12 hours
3.8.9 Distribution Systems – Operating	D.2	Mode 5 in 36 hours	Mode 4 in 12 hours

Note: Applicability of DCPP TS LCO 3.5.3 "ECCS – Shutdown," is in Mode 4. In Table 1 of the Enclosure to the application dated July 28, 2014, the licensee stated, in part, that

> In accordance with TSTF-432, Condition B and C of TS 3.5.3 are deleted. This change would allow DCPP Units 1 and 2 remain in Mode 4 rather than transitioning to Mode 5.
>
> Also, in accordance with TSTF-432, Condition A and Required Action A.1 is revised to refer to the "required ECCS train" consistent with the LCO requirement for one ECCS train to be Operable.

The NRC staff's evaluation of the licensee's Note is provided in SE Section 3.2.2.6.

3.2.2 Evaluation of Proposed Changes

TR WCAP-16294 does not address entry into Mode 4 from Mode 5 when the Required Actions are in effect. Such a mode change would be permissible since the revised actions permit continued operation in Mode 4 for an unlimited period of time, and therefore transitioning from Mode 5 to Mode 4 would be permissible using LCO 3.0.4.a. Since applying LCO 3.0.4.a to modified end states was not analyzed in TR WCAP-16294, an appropriate note is added to each affected Required Action which identifies that the provisions of LCO 3.0.4.a are not applicable to Mode 4 entry from Mode 5.

In the Enclosure of the application dated July 28, 2014, the licensee stated, in part, that:

> PG&E previously submitted an LAR for TSTF-505 in PG&E Letter DCL-13-106, "License Amendment Request 13-02 Revision to Technical Specifications to Adopt Risk Informed Completion Times TSTF-505 (ML13330A557), Revision 1, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4B,'" dated November 25, 2013. The LAR for TSTF-505 includes changes to

TS 3.3.2, 3.6.7.A, 3.7.7, 3.7.8, 3.8.4, 3.8.4, 3.8.7, and 3.8.9, including addition of new TS Conditions for inoperability of multiple channels, trains, or systems that results in a complete loss of safety function (e.g., two engineered safety feature actuation system instrumentation trains inoperable, one containment spray train and two containment fan cooling unit trains inoperable, two or more Diesel Generators (DGs) and one or more required offsite circuits inoperable). The TSTF-432 changes to TS 3.3.2, 3.6.7.A, 3.7.7, 3.7.8, 3.8.4, 3.8.4, 3.8.7, and 3.8.9 do not include conditions in which there is a complete loss of safety function. The required revisions to the TS contained in the LAR for TSTF-505 to appropriately implement the TSTF-432 changes (for TS conditions where there is no complete loss of safety function) are described in the Notes column in Table 1. The required TS changes to the TS contained in Attachment 2 to PG&E Letter DCL-13-106 are contained in Attachment 4 to the Enclosure of this letter.

The NRC staff has reviewed the licensee's comparison of its proposed changes regarding the adoption of TSTF432 and TSTF-505 for specific TS LCOs listed above. Since there is no loss of a complete safety function as a result of the proposed changes, and the licensee's discussion either provides clarifications or relate to renumbering of the affected LCO Conditions; therefore, for the reasons discussed below, the licensee's adoption of TSTF-432 remains unaffected.

A brief description of the systems and components covered by the scope of TSTF-432 and the NRC staff's evaluation of the proposed changes to the TSs are provided in the following paragraphs. The NRC staff acknowledges the licensee's comparison with TSTF-505 in its submittal dated July 28, 2014, but does not approve any portion of the licensee's TSTF-505 submittal in this safety evaluation.

3.2.2.1 <u>TS 3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation</u>

The ESFAS instrumentation initiates necessary safety systems, based on the setpoint for selected parameters to protect against violating core design limits and the RCS pressure boundary, and to mitigate accidents. DCPP TS ESFAS instrumentation functions are listed in Table 3.3.2-1, and as described below:

<u>Function 1.a Safety Injection - Manual Initiation</u>
<u>Function 1.b Safety Injection - Automatic Actuation Logic and Actuation Relays</u>

SI system: The SI system provides two primary functions: (1) primary-side water addition to ensure maintenance or recovery of reactor vessel water level (covering the active fuel for heat removal, clad integrity, and for limiting the peak clad temperature to less than 2200 °F), and (2) boration to ensure recovery and maintenance of shutdown margin (keff less than 1.0). These functions mitigate the effects of high energy line breaks both inside and outside of containment.

Manual initiation causes actuation of all components in the same manner as any of the automatic actuation signals. The automatic actuation logic and actuation relays must be operable in Mode 4 to support system level manual initiation. DCPP TS 3.3.2 for both manual initiation and automatic actuation logic and actuation relays requires that two channels for manual initiation, or two trains for automatic actuation, shall be operable in Modes 1, 2, 3, and 4.

<u>Function 2.a Containment Spray - Manual Initiation</u>
<u>Function 2.b Containment Spray - Automatic Actuation Logic and Actuation Relays</u>

Containment spray system: The containment spray system provides two primary functions: (1) lowers containment pressure and temperature after a high energy line break in containment, and (2) reduces the amount of radioactive iodine in the containment atmosphere. These functions are necessary to ensure the containment structure pressure boundary, and limit the radioactive iodine release to the environment in the event of failure of containment structure.

The operator can initiate containment spray by actuating either of two containment spray actuation pushbuttons in the control room. Simultaneously actuating the two pushbuttons will start both trains of containment spray.

There are two trains for automatic actuation. In Mode 4, adequate time is available to manually actuate required components in the event of a DBA. However, because of the large number of components actuated, actuation is simplified by the use of the manual actuation push buttons. Automatic actuation logic and actuation relays must be operable in Mode 4 to support system level manual initiation.

DCPP TS 3.3.2 for both manual initiation and automatic actuation logic and actuation relays requires that two channels per train for manual initiation, or two trains for automatic actuation, shall be operable in Modes 1, 2, 3, and 4.

<u>Function 3.a(1) Containment Isolation - Phase A Isolation - Manual Initiation</u>
<u>Function 3.a(2) Containment Isolation - Phase A Isolation - Automatic Actuation Logic and Actuation Relays</u>
<u>Function 3.b(1) Containment Isolation - Phase B Isolation - Manual Initiation</u>
<u>Function 3.b(2) Containment Isolation - Phase B Isolation - Automatic Actuation Logic and Actuation Relays</u>
<u>Function 3.b(3) Containment Isolation - Phase B Isolation - Containment Pressure High-High</u>

Containment isolation (CI) system: The CI system provides isolation of the containment atmosphere, and selected process systems that penetrate containment, from the environment. This function is necessary to prevent or limit the release of radioactivity to the environment in the event of a large break LOCA.

There are two separate CI signals, Phase A and Phase B. The Phase A signal isolates all automatically isolable process lines exiting containment, except CCW and reactor coolant pump (RCP) seal return, at a relatively low containment pressure. The Phase A CI is actuated automatically by SI, or manually via the automatic actuation logic. All process lines penetrating containment, with the exception of CCW and RCP seal return, are isolated.

Phase B signal isolates CCW and RCP seal return. Manual Phase B CI is accomplished by the same pushbuttons that actuate containment spray. When the two containment spray pushbuttons are depressed simultaneously, Phase B CI and containment spray will be actuated in both trains.

The LCO for 3.a(1) and 3.b(1) requires that two channels be operable in Modes 1, 2, 3, and 4. The LCO for 3.a(2) and 3.b(2) requires that two trains be operable in Modes 1, 2, 3, and 4.

Evaluation of SI, Containment Spray, and CI

For Functions 1.a and 1.b, Function 1.a has two channels and Function 1.b has two trains. If one channel or train is inoperable, the other channel or train is available to initiate SI. For Functions 2.a and 2.b, if one train is inoperable, the other train is available for the operator to initiate containment spray. In addition, the containment, CI valves, containment spray system, and CCW system are available and required to be operable in Mode 4. For Functions 3.a(1), 3.a(2), 3.b(1), and 3.b(2), if one channel or train is inoperable, the other channel or train is available to the operator to initiate CI. In addition, the CI valves, containment spray system, and CCW systems are available in Mode 4.

A cool down to Mode 4 leaves the unit in a state in which transients progress slower than at power, backup core cooling is available via RHR, there is increased time for operator actions and mitigation strategies, and there is a lower overall risk than proceeding to Mode 5. Placing the unit in Mode 5 does not increase the instrumentation availability for event mitigations; and, therefore, there is limited benefit with regard to monitoring plant status by proceeding to Mode 5. Sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change is acceptable.

NOTE: Table 1 of the Enclosure of the application dated July 28, 2014, states, in part, that

> The DCPP TS do not include the NUREG-1431, Function 7.b Automatic Switchover to Containment Sump-Refueling Water Storage Tank (RWST) Level - Low Low Coincident with Safety Injection, or Function 7.c Automatic Switchover to Containment Sump- RWST Level - Low Low Coincident with Safety Injection and Coincident with Containment Sump Level - High. In DCPP Units 1 and 2, the switchover to containment sump recirculation is accomplished manually."

The NRC staff's review determines that the licensee's specific variation concerning instrumentation associated with the switchover to containment sump recirculation, i.e., functions of ESFAS instrumentation in TS LCO 3.3.2 has no adverse effect on the availability of systems in Mode 4 and the ability to manually switchover to containment sump recirculation. Based on the above, the NRC staff concludes that the proposed change to the LCO Required Action is acceptable.

The NRC staff's review determines that the plant specific system design difference has no effect on the staff's assessment for this change.

3.2.2.2 TS 3.3.7 Control Room Ventilation System (CRVS) Actuation Instrumentation

CRVS actuation instrumentation: DCPP CRVS provides an enclosed control room environment from which both units can be operated following an uncontrolled release of radioactivity. Upon receipt of an actuation signal, the CRVS shifts from normal operation and initiates filtered ventilation and pressurization of the control room.

DCPP CRVS Actuation Instrumentation system is also common to both units and consists of two trains of Automatic Actuation Relays (one train in each unit) and two channels of Control Room Radiation Atmosphere Air Intakes (two intake systems). One channel of Control Room Radiation Atmosphere Air Intakes consists of at least one of two redundant radiation monitors in a respective air intake to the control room areas. The LCO requirements ensure that instrumentation necessary to initiate the CRVS is operable. DCPP LCO requires that the CRVS Functions must be OPERABLE in MODES 1, 2, 3, 4, and during movement of irradiated fuel assemblies. The Functions must also be OPERABLE in MODES 5 and 6 when required for a waste gas decay tank rupture accident, or a fuel handling or core alteration accident to ensure a habitable environment for the control room operators.

The CRVS design provides redundancy and defense-in-depth from the multiple channels, trains, and functions available to actuate each system. For CRVS, if one or more functions are inoperable, the Required Actions require one train to be placed in the pressurization mode of operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation.

If the operator is unable to place the system in the pressurization mode, in accordance with the required actions, then the proposed TS would require the plant to be placed in Mode 4 (hot shutdown) instead of the current requirement of Mode 5 (cold shutdown). The likelihood of an initiating event is not increased by placing the unit in Mode 4. Placing the unit in Mode 5 does not increase the instrumentation availability for event mitigation; and, therefore, there is limited benefit with regard to monitoring plant status by proceeding to Mode 5. The design of the system maintains sufficient defense-in-depth when the end state is changed from Mode 5 to Mode 4. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change is acceptable.

3.2.2.3 TS 3.4.13 RCS Operational Leakage

The safety significance of RCS operational leakage varies widely depending on its source, rate, and duration. Therefore, detecting and monitoring RCS leakage into the containment area is necessary. A limited amount of leakage inside containment is expected from auxiliary systems that cannot be made 100 percent leak tight. Leakage from these systems should be detected, located, and isolated from the containment atmosphere, if possible, so as not to interfere with RCS leakage detection.

TS LCO 3.4.13 deals with protection of the reactor coolant pressure boundary (RCPB) from degradation and the core from inadequate cooling, in addition to preventing the accident analyses radiation release assumptions from being exceeded.

In Modes 1, 2, 3, and 4, RCS operational leakage shall be limited to:

a. No pressure boundary leakage,

b. 1 gallon per minute (gpm) unidentified leakage,

c. 10 gpm identified leakage, and

d. 150 gallons per day primary to secondary leakage through any one SG.

RCS leakage that is not large enough to be a small-break LOCA should be treated as an event leading to a controlled shutdown, which is not modeled in the quantitative risk analysis.

In Mode 4, the RCS pressure is significantly reduced and this reduces the leakage. All LOCA mitigating systems with the exception of the accumulators are available and the RHR serves as the backup to AFW for DHR. If RCS operational leakage is not within limits for reasons other than pressure boundary leakage or primary-to-secondary leakage, then the leakage must be reduced to within the limit in 4 hours consistent with Required Action A.1. If operational leakage is not restored to within the limit in 4 hours, in accordance with Required Action A.1, or pressure boundary leakage exists, or primary-to-secondary leakage is not within the limit, then Required Actions B.1 and B.2 become applicable. The proposed Required Actions B.1 and B.2 require that the unit be placed in Mode 3 within 6 hours and Mode 4 within 12 hours. Thus, the reactor must be brought to lower pressure conditions to reduce the severity of the leakage and its potential consequence. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change to revise Required Action B.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.4 TS 3.4.14 RCS Pressure Isolation Valve (PIV) Leakage

The regulation at 10 CFR 50.2, "Definitions," and 10 CFR 50.55a, "Codes and standards," Section 50.55a(c), "Reactor coolant pressure boundary," define RCS pressure isolation valves (PIVs) as any two normally closed valves in series within the RCPB, which separate the high-pressure RCS from an attached low-pressure system. The RCS PIV Leakage LCO allows RCS high-pressure operation when leakage through these valves exists in amounts that do not compromise safety. This is true during operation only when the loss of RCS mass through two series valves is determined by a water inventory balance. A known component of the identified leakage before operation begins is the least of the two individual leak rates determined for leaking series PIVs during the required surveillance testing; leakage measured through one PIV in a line is not RCS operational leakage if the other is leak tight. DCPP TS Bases refers to the above regulations as well as GDC 55 for DCPP's compliance with the RCS PIV leakage requirements.

The main purpose of this specification is to prevent overpressure failure of the low pressure portions of the connecting systems. The leakage limit is an indication that the PIVs between the RCS and the connecting systems are degraded or degrading. PIV leakage could lead to overpressure of the low pressure piping or components. The failure consequences could be a LOCA outside of containment, an unanalyzed accident that could degrade the ability for low pressure injection.

TS LCO 3.4.14 requires RCS PIV leakage to be within the limits in Modes 1, 2, 3, and 4 with the exception of valves in the RHR flow path when in, or during the transition to or from, the RHR mode of operation.

TS 3.4.14 limits RCS leakage because of the concern of over-pressurization of a lower pressure system that can lead to an interfacing system LOCA. In Mode 4, the RCS pressure is significantly reduced, which reduces the PIV leakage. All LOCA mitigating systems with the

exception of the accumulators are available and RHR serves as the backup to AFW for DHR. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change to revise Required Action B.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.5 TS 3.4.15 RCS Leakage Detection Instrumentation

GDC 30 of Appendix A to 10 CFR Part 50, "Quality of reactor coolant pressure boundary," requires means for detecting and, to the extent practical, identifying the location of the source of reactor coolant leakage. Leakage detection systems must have the capability to detect significant RCPB degradation as soon after occurrence as practical to minimize the potential for propagation to a gross failure. Thus, an early indication or warning signal is necessary to permit proper evaluation of all unidentified RCS leakages. DCPP TS Bases refer to GDC 30 of Appendix A to 10 CFR 50 as well as guidance of RG 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973 (Reference 18), for DCPP's compliance with the RCS PIV leakage requirements.

The LCO requires in Modes 1, 2, 3, and 4 that the following RCS leakage detection instrumentation be operable:

a. Both containment structure sumps and the reactor cavity sump level and flow monitor system,

b. One containment atmosphere particulate radioactivity monitor, and

c. Either a containment fan cooler unit (CFCU) condensate collection monitor or the containment atmosphere gaseous radioactivity monitor.

If one function is inoperable, the other functions are available to provide an indication of RCS leakage. In the unlikely event that Condition E occurs, the likelihood of an initiating event in Mode 4 is not higher than in Mode 5. Placing the unit in Mode 5 does not increase the instrumentation availability for detecting RCS leakage; and, therefore, there is limited benefit with regard to monitoring plant status by proceeding to Mode 5. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change to revise Required Action F.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.6 TS 3.5.3 ECCS – Shutdown

The function of the ECCS is to provide core cooling and negative reactivity to ensure that the reactor core is protected after any of the following accidents:

a. LOCA, coolant leakage greater than the capability of the normal charging system,

b. Rod ejection accident,

c. Loss of secondary coolant accident, including uncontrolled steam release or loss of feedwater, and

d. Steam generator tube rupture.

TS 3.5.3 is only applicable in Mode 4. The required DCPP's ECCS-shutdown train consists of two separate subsystems: centrifugal charging (high head) and RHR (low head). The ECCS flow paths consist of piping, valves, heat exchangers, and pumps such that water from the RWST can be injected into the RCS following an accident. The LCO requires one train to be operable in Mode 4.

The subsystems addressed in this TS are the ECCS RHR and ECCS centrifugal charging (high head) subsystems, which are both included in the quantitative risk evaluation in accordance with the WCAP-16294. The requested change in Action A.1 will enable the unit to remain in a mode where SG cooling is also available for DHR.

Table 3.2.1 in the final SE of the WCAP shows that the plant operating state (POS) 4 core damage probability (CDP) is approximately seven times greater than the POS 3 CDP. Proceeding to Mode 5 does not significantly increase the protection available and additional risk is introduced by switching from AFW cooling to RHR cooling. This supports remaining in Mode 4 for this configuration rather than cooling down to Mode 5.

> [Per WCAP-16294-NP-A, Rev. 1, the POS 3 is defined as the lower part of Mode 3 and the upper part of Mode 4. The RCS pressure and temperature are significantly reduced from power operation; therefore, many of the events associated with the high RCS pressure (LOCAs/pipe breaks) have a reduced frequency. In addition, accumulators are isolated. In POS 3 the plant is transitioning down (toward shutdown).
>
> The POS 4 is defined as the lower part of Mode 4 and the upper part of Mode 5. The transition from AFW cooling to RHR cooling occurs in this POS. The RCS pressure and temperature are significantly reduced from power operation; therefore, the LOCA events and SG tube rupture event are no longer applicable. The secondary side pressure is also reduced eliminating the secondary side break events. Loss of inventory related to the RCS cooling switch from AFW to RHR is an event that is added. This can occur when transitioning down or up. Cold overpressurization is also added.]

The proposed change to the Required Action A.1 end state does not change the operability requirement for the ECCS. One train still must be operable in Mode 4. If one train of RHR is inoperable, then remaining in Mode 4 provides core cooling from the AFW pumps with the operable RHR pump as a backup. If both trains of RHR are inoperable, then the unit will remain on AFW cooling while one train is restored. The probability of transients occurring that require the ECCS are less likely in Mode 4 than at-power and the risk associated with transferring to RHR cooling from AFW cooling is eliminated by remaining in Mode 4. Sufficient defense-in-depth is maintained when the unit remains in Mode 4 rather than transitioning to Mode 5.

Based on the above, the NRC staff concludes that the proposed change to revise TS 3.5.3 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.7 TS 3.5.4 Refueling Water Storage Tank (RWST)

The RWST supplies borated water to the Chemical and Volume Control System during abnormal operating conditions (boration flow path), to the refueling cavity during refueling, and to the ECCS and the Containment Spray (CS) System during accident conditions. At DCPP, the RWST supplies both trains of the ECCS through one header and both trains of the CS System through a separate supply header during the injection phase of a LOCA recovery.

During normal operation in Modes 1, 2, and 3, the SI and RHR pumps are aligned to take suction from the RWST. TS LCO 3.5.4 requires that the RWST be operable in Modes 1, 2, 3, and 4.

Since SI and recirculation may not be available due to an inoperable RWST, any loss of inventory events that cannot be isolated can lead to core damage. From Table 3.2.1, in the final SE of WCAP-16294, remaining in Mode 4 (POS 3) instead of cooldown to Mode 5 (POS 4, upper portion of Mode 5) reduces the CDP by more than a factor of 3. The primary accidents such as LOCAs and steam line breaks are less likely to occur in Mode 4. Since control rods are inserted in Mode 4, the steam line break analysis assumption of the highest worth rod stuck is an unlikely scenario. In the lower part of Mode 4 transients progress slower than at power, backup cooling is available via RHR and there is increased time for operator action and mitigation strategies. Proceeding to Mode 5 may add additional risk by switching from AFW cooling to RHR cooling. Based on Table 3.2.1, in the final SE of WCAP-16294, if RWST is inoperable, a shutdown to Mode 4 is appropriate.

In Mode 4, the transient conditions are less severe than at power so that variations in the RWST parameters or other reasons of inoperability are less significant. In addition, if the boron concentration is low, the emergency boration equipment is likely to be available to increase the RCS boron concentration. By changing the end state for Required Action C.2 to Mode 4, the possibility of a loss of inventory event due to switching to RHR cooling is eliminated, reducing the possibility that the RWST inventory would be required. Therefore, sufficient defense-in-depth is maintained when the unit remains in Mode 4 rather than transitioning to Mode 5 with LCO 3.0.4.a not applicable for entry into Mode 4. In addition, the NRC staff anticipates that equipment repairs requiring plant shutdown and entry into Mode 4 would be infrequent events of short duration. Based on the above, the NRC staff concludes that the proposed change to revise TS 3.5.4 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.8 TS 3.6.6 Containment Spray and Cooling Systems

DCPP's Containment Spray and Containment Cooling systems provide containment atmosphere cooling to limit post-accident pressure and temperature in containment to less than the design values. Reduction of containment pressure and the iodine removal capability of the spray reduces the release of fission product radioactivity from containment to the environment, in the event of a DBA, to within limits. The containment spray system consists of two separate trains. Each train includes a containment spray pump, piping and valves and is independently capable of delivering one-half of the design flow needed to maintain the post-accident containment pressure below 47 pounds per square inch gauge. Each train is powered from a

separate engineered safety feature (ESF) bus. The RWST supplies borated water to the containment spray system during the injection phase of operation. After the RWST has been exhausted, the containment recirculation pumps or RHR pumps are used to supply the containment spray ring headers.

DCPP's Containment Cooling system consists of two trains of containment fan cooling, each consisting of two CFCUs with one shared CFCU for a total of five, are provided. Each fan cooler unit consists of a motor, fan, cooling coils, dampers, duct distribution system, instrumentation and controls. Each CFCU is supplied with cooling water from one of two separate loops of CCW. Air is drawn into the coolers through the fan and discharged to the annulus ring, which supplies the SG compartments, pressurizer compartment, reactor coolant pumps, and outside the secondary shield in the lower areas of containment.

The containment spray and CFCUs are designed for accident conditions initiated at full power. Design assumptions regarding containment air cooling are met by any of the following configurations: two containment spray trains and the CFCU system consisting of four CFCUs or three CFCUs each supplied by a different vital bus. Therefore, in the event of an accident, at least one train of containment spray and two CFCUs operate, assuming the worst case single active failure occurs. If one train of either containment spray or fan cooler units is inoperable the other train is available to mitigate the accident along with both trains of the other system. If all trains of CFCUs are inoperable, containment spray can serve as the cooling system. One train of containment spray is assumed to function to improve iodine removal from the containment atmosphere. Condition F requires that if two containment spray trains are inoperable or any combination of three or more trains are inoperable the plant must immediately enter LCO 3.0.3. The requirements of Criterion 52 (discussed above), will still be met. Based on the above, the NRC staff concludes that the proposed change is acceptable.

3.2.2.9 TS 3.6.7 Spray Additive System

DCPP's Spray Additive System is a subsystem of the Containment Spray System that assists in reducing the iodine fission product inventory in the containment atmosphere resulting from a DBA (DBA LOCA). The system consists of one spray additive tank that is shared by the two trains of spray additive equipment. Each train of equipment provides a flow path from the spray additive tank to a containment spray pump and consists of an eductor for each containment spray pump, valves, instrumentation, and connecting piping. Each eductor draws the sodium hydroxide (NaOH) spray solution from the common tank using a portion of the borated water discharged by the containment spray pump as the motive flow. The eductor mixes the NaOH solution and the borated water and discharges the mixture into the spray pump suction line.

The TS currently requires the unit to be in Mode 3 in 6 hours and Mode 5 in 84 hours if the system is inoperable, and the Required Action and associated CT are not met. The LCO requires the system to be operable in Modes 1, 2, 3, and 4.

Evaluation of the Spray Additive System

The TR WCAP-16294 provides the technical basis for the proposed change by indicating that

> Events, such as a LOCA or a secondary side break, are less likely in Mode 4 due to the limited time in the mode and less severe thermal-hydraulic conditions.

> Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4."

The TR WCAP-16294 also indicates that proceeding to Mode 5 does not increase the protection available.

CS will still be available to reduce the iodine fission product inventory in the containment. The RCS pressures and temperatures are lower, the ECCS operation is maintained so the criteria of 10 CFR 50.46 are met, and the containment spray systems and containment cooling systems are available to depressurize and reduce the airborne radioiodine in containment. Based on the above, the NRC staff concludes that the proposed change is acceptable.

3.2.2.10 <u>TS 3.7.7 Vital Component Cooling Water (CCW) System</u>
<u>TS 3.7.8 Auxiliary Saltwater (ASW) System</u>

The CCW system provides a heat sink for the removal of process and operating heat from safety-related components during a DBA or transient. During normal operation, the CCW system also provides this function for various nonessential components as well as the spent fuel storage pool. The CCW system serves as a barrier to the release of radioactive byproducts between potentially radioactive systems and the ASW System, and, thus, to the environment.

The CCW system consists of three CCW pumps powered by separate vital buses, two CCW heat exchangers, and a two chamber CCW surge tank. The piping system consists of three parallel headers. The headers extend from the outlet of the heat exchangers through the header heat loads to the suction of the CCW pumps. Each of the headers are separable from the others to mitigate a passive single failure during post-LOCA long-term cooling. The divided surge tank is connected to the vital header return piping and is sized to meet system leakage requirements and maintain adequate net positive suction head on system pumps.

The principal safety-related function of the CCW system is the removal of accident-generated containment heat via the CFCUs and removal of decay heat from the reactor via the RHR system. DHR may be available during a normal or post-accident cooldown and shutdown. The LCO requires that in Modes 1, 2, 3, and 4, vital CCW loop is considered OPERABLE when:

a. Two CCW pumps, one CCW heat exchanger, one vital CCW header and the surge tank are OPERABLE; and

b. The associated piping, valves, and instrumentation and controls required to perform the safety related function are OPERABLE.

Table 1 of the Enclosure to the application dated July 28, 2014, provides the following additional detail regarding the licensee's proposed change to LCO 3.7.7:

> TS 3.7.7, Condition C, Required Actions C.1 and C.2, contained in LAR 13-02 for TSTF-505, Revision 1, applicable to TS 3. 7. 7 Conditions A or B not met, requires the unit to be in MODE 3 in 6 hours and MODE 5 in 36 hours. Upon approval of this LAR, Condition C contained in LAR 13-02 for TSTF-505, Revision 1 would be revised to apply to the Required Action and associated Completion Time of Condition A not met and Required Action C.2 would be

changed to require the unit to be in MODE 4 in 12 hours. A note would be added to Required Action C.2 that LCO 3.0.4.a is not applicable when entering MODE 4.

In addition, a new Condition D would be added to apply to the Required Action and associated Completion Time of Condition B (two vital component cooling water (CCW) loops inoperable) not met with Required Action D.1 to be in MODE 3 in 6 hours and Required Action D.2 to be in MODE 5 in 36 hours (the existing end states for TS 3.7.7).

ASW: The ASW system provides a heat sink from the Pacific Ocean for the removal of process and operating heat from the CCW system. The CCW system then provides cooling to safety-related components during all modes of operation, including a DBA, and also to various nonsafety-related components during normal operation and shutdown.

The ASW consists of two 100 percent capacity safety-related, cooling water trains. Each train consists of one 100 percent capacity pump, one CCW heat exchanger, piping, valving, and instrumentation. The pumps are automatically started upon receipt of a SI signal or 4 kiloVolt (kV) automatic transfer. Normal configuration is for one train operation with the second pump cross-tied in stand-by and the second heat exchanger valved out-of-service except when the UHS temperature is 64 °F or higher; therefore, no valve realignment occurs with a SI signal.

Per the DCPP's TS LCO, the ASW train is considered OPERABLE during Modes 1, 2, 3, and 4 when:

a. The pump is OPERABLE; and

b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety-related function are OPERABLE.

<u>Evaluation of the CCW System and ASW</u>

The CDP values listed in Table 3.2.1 of the final SE of TR WCAP-16294, from the evaluation for the scenarios, show that there is slightly less risk associated with Mode 4 than there is with a cooldown to Mode 5 when a train of CCW or ASW is inoperable. One CCW or ASW train will be operating when the unit enters Mode 4. Each train is designed to handle 100 percent of the heat loads during power operation and accident conditions. The heat loads will be significantly less in the shutdown modes and some accidents are less likely to occur. Therefore sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. Based on the above, the NRC staff concludes that the proposed change to revise TS 3.7.7 Required Action B.2 and TS 3.7.8 Required Action B.2 so that the plant would be allowed to remain in Mode 4 is acceptable. In addition, the NRC staff concludes that the licensee's explanation above regarding the renumbering of the LCO Conditions is acceptable, since the change is administrative and does not affect the TS requirements.

3.2.2.11 TS 3.7.9 Ultimate Heat Sink (UHS)

DCPP's UHS provides a heat sink for transferring heat from safety-related components during a transient or accident, as well as safety-related and non-safety-related heat loads during normal operation. This is done by utilizing the Pacific Ocean, the ASW, and the CCW system.

The UHS is common to both units and has been defined as the Pacific Ocean. The principal functions of the UHS are dissipation of heat during normal operation, dissipation of residual heat after reactor shutdown, and dissipation of residual heat after an accident. TS 3.7.9 addresses degradations to the cooling capability of the UHS. The most likely scenario for entering Condition A is that the cooling capability of the UHS is only partially degraded. A cooldown to Mode 4 places the unit in a state where heat loads are significantly less than at full power.

In Modes 1, 2, 3, and 4, the UHS is required to support the OPERABILITY of the equipment serviced by the UHS and required to be OPERABLE in these modes. In Mode 5 or 6, the OPERABILITY requirements of the UHS are determined by the systems it supports.

The UHS is designed to remove 100 percent of the heat loads generated during power operation and accident conditions. The heat load will be significantly less in the shutdown modes. Some accidents are less likely to occur during shutdown modes. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. Based on the above, the NRC staff concludes that the proposed change to revise Required Action B.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.12 TS 3.7.10 Control Room Ventilation System (CRVS)

The CRVS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity. The CRVS consists of two redundant trains that recirculate and filter the control room air. Each train consists of a high-efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system.

The CRVS is an emergency system, parts of which may also operate during normal unit operations in the standby mode of operation. Upon receipt of the actuating signal(s), normal air supply to the control room is isolated, and the stream of ventilation air is recirculated through the system filter trains. TS LCO 3.7.10 requires that two CRVS trains be operable in Modes 1 through 6 and during movement of recently irradiated fuel assemblies.

If one CRVS train is inoperable, the other train remains available to provide control room filtration. If two CRVS trains are inoperable an independent initiating event and radioactive release must occur for filtration to be required in Modes 4. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. Based on the above, the NRC staff concludes that the proposed change to revise Required Action C.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.13 TS 3.7.12 Auxiliary Building Ventilation System (ABVS)

NOTE: The licensee Enclosure in PG&E Letter DCL-14-058 shows NUREG-1431 TS LCO 3.7.12 ECCS Pump Room Exhaust Air Cleanup System as similar to the licensee's TS LCO 3.7.12 Auxiliary Building Ventilation System (ABVS). Based on its comparison of both LCOs, the NRC staff concludes that the licensee's TS LCO and system functions are similar to that of the STS LCO and system functions, therefore, the following evaluation applies to the licensee's proposed change to its LCO.

The ABVS filters air from the area of the active ECCS components during the recirculation phase of a LOCA. The ABVS, in conjunction with other normally operating systems, also provides environmental control of temperature and humidity in the ECCS pump room area, if one of the pumps is operating, and the auxiliary building.

For the purposes of meeting the requirements of this TS, the ABVS consists of two trains. Each train is powered by a separate vital bus and contains a separate exhaust fan. These trains both provide airflow through a single roughing and HEPA filter, which is common to both trains for normal operations, and a single roughing filter, HEPA filter, and charcoal adsorber bank and a single manually initiated heater are common to both trains for emergency operations. Ductwork, valves or dampers, and instrumentation also form part of the system.

Per the LCO, in Modes 1, 2, 3, and 4, the ABVS is required to be OPERABLE consistent with the OPERABILITY requirements of the ECCS. In Mode 5 or 6, the ABVS is not required to be OPERABLE since the ECCS is not required to be OPERABLE in Modes 3 and 4.

If one ABVS train is inoperable, the other train remains available to provide pump room air filtration. If two trains are inoperable due to an inoperable ECCS pump room boundary, a LOCA must also occur to require the operation of ABVS. The severity of the postulated accidents during shutdown modes is limited due to the slower pace of the accident event progression and increased time for operator actions and mitigation strategy.

A LOCA is less likely to occur during shutdown modes because the following are significantly reduced or eliminated: energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. Based on the above, the NRC staff concludes that the proposed change to revise TS 3.7.12 Required Action C.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.14 TS 3.7.13 Fuel Handling Building Ventilation System (FHBVS)

NOTE: According to the licensee's Enclosure in PG&E letter dated July 28, 2014, the DCPP FHBVS is only required operable during movement of recently irradiated fuel assemblies in the fuel handling building. Therefore, the licensee does not propose any TS changes to LCO 3.7.13. The NRC staff's assessment provided in this SE is not impacted by the licensee's determination.

3.2.2.15 TS 3.8.1 AC Sources – Operating; TS 3.8.4 DC Sources – Operating; TS 3.8.7 Inverters – Operating; and TS 3.8.9 Distribution Systems – Operating

AC Sources – Operating: The unit Class 1E AC Electrical Power Distribution System AC sources consist of offsite power sources (normal and alternate), and the onsite standby power sources (three diesel generators for each unit) as required by 10 CFR 50, Appendix A, GDC 17. The design of the AC electrical power system provides independence and redundancy to ensure an available source of power to the ESF systems.

The onsite Class 1E AC Distribution System for each unit is divided into three load groups so that the loss of any one group does not prevent the minimum safety functions from being performed. Each load group has connections to two offsite power sources and a single DG.

Offsite power is supplied to the 230 kV and 500 kV switchyards from the transmission network by two 230 kV transmission lines and three 500 kV transmission lines. These two electrically and physically separated circuits provide AC power, through auxiliary and standby startup transformers, to the 4.16 kV ESF buses.

After the DG has started, it will automatically tie to its respective bus after offsite power is tripped as a consequence of ESF bus undervoltage or degraded voltage, independent of or coincident with an SI signal. The DGs will also start and operate in the standby mode without tying to the ESF bus on an SI signal alone. Following the trip of offsite power, an undervoltage signal strips nonpermanent loads from the ESF bus. When the DG is tied to the ESF bus, loads are then sequentially connected to their respective ESF bus by the load sequencing timers (ESF timers). The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading the DG. Each ESF component is provided with its own load sequencing timer. In Modes 1, 2, 3, and 4, the TS LCO 3.8.4 requires: (1) two qualified circuits between the offsite transmission network and the onsite AC electrical power distribution system, (2) three DGs capable of supplying the onsite Class 1E power distribution subsystem(s), and two supply trains of the diesel fuel oil transfer system.

DC Sources - Operating: The station DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety-related equipment and preferred AC vital bus power (via inverters). The DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. Per the DCPP's FSAR Revision 22, the DC electrical power system also conforms to the recommendations of RG 1.6, "Independence between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems, (Safety Guide 6)," March 1971 (Reference 19), and Institute of Electrical and Electronics Engineers (IEEE) Standard IEEE-308, "IEEE Standard Criteria for Class IE Electric Systems for Nuclear Power Generating Stations."

The 125 Volts direct current (VDC) electrical power system consists of three independent safety-related Class 1E DC electrical power subsystems. Each subsystem consists of one 60-cell 125 VDC battery (Batteries 11 (21), 12 (22), and 13 (23)), the dedicated battery charger and backup charger for each battery, and all the associated switchgear, control equipment, and interconnecting cabling.

At DCPP, there are two backup chargers for the three Class 1E DC subsystems. One backup charger is shared between two Class 1E DC subsystems. The other backup charger is dedicated to the third Class 1E DC subsystem. The backup chargers provide backup service in the event that the dedicated battery charger is out of service.

During normal operation, the 125 VDC load is powered from the battery chargers with the batteries floating on the system. In case of loss of normal power to the battery charger, the DC load is automatically powered from the station batteries.

In Modes 1, 2, 3, and 4, the TS LCO 3.8.4 requires that the DC electrical power subsystems, each subsystem consisting of one battery, battery charger for each battery and the corresponding control equipment and interconnecting cabling supplying power to the associated bus are OPERABLE to ensure the availability of the required power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated DBA. Loss of any one DC electrical power subsystem does not prevent the minimum safety function from being performed.

An OPERABLE DC electrical power subsystem requires the battery and its normal or backup charger to be operating and connected to the associated DC bus.

Inverters - Operating: The function of the inverter is to convert DC to AC. Through use of an inverter, the station batteries can provide AC electrical power to the vital buses. The inverters can be powered from an AC source or from the station battery. DCPP's station battery provides an uninterruptible power source for the instrumentation and controls for the Reactor Protective System and the ESFAS.

The inverters are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of anticipated operational occurrences or abnormal transients; and

b. Adequate core cooling is provided, and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Distribution Systems - Operating: DCPP's onsite Class 1E electrical power distribution system is designed with three 4160 V and 480 V vital buses (F, G, and H) and three 125 V DC vital buses.

There are three AC electrical power subsystems, each comprised of a primary ESF 4.16 kV bus and secondary 480 V and 120 V buses, distribution panels, motor control centers and load centers. Each 4.16 kV ESF bus has two separate and independent offsite sources of power as well as a dedicated onsite DG source. Each 4.16 kV ESF bus is normally connected to the 500 kV offsite source. After a loss of this normal 500 kV offsite power source to a 4.16 kV ESF bus, a transfer to the alternate 230 kV offsite source is accomplished by utilizing a time-delayed bus undervoltage relay. If all offsite sources are unavailable, the onsite emergency DG supplies power to the 4.16 kV ESF bus. Control power for the 4.16 kV breakers is supplied from the Class 1E batteries.

The secondary AC electrical power distribution subsystem for each train includes the safety-related buses, load centers, motor control centers, and distribution panels shown in DCPP TS Table B 3.8.9-1. The 120 VAC vital buses are arranged in four buses and are normally powered from the inverters. The alternate power supply for the 120 VAC vital buses are Class 1E constant voltage source transformers powered from the same bus as the associated inverter, and its use is governed by LCO 3.8.7, "Inverters - Operating." The DC electrical power distribution subsystem consists of 125 V bus(es) and distribution panel(s).

TS LCO 3.8.9 requires that the required Class 1E AC, DC, and 120 VAC vital bus electrical power distribution subsystems shall be OPERABLE in Modes 1, 2, 3, and 4.

Evaluation of AC Sources, DC Sources, Inverters, and Distribution Systems

The final SE of TR WCAP-16294, Table 3.2.1, shows that the CDP decreases slightly when the unit is cooled down to Mode 4 instead of Mode 5 for each condition in TS 3.8.1 TS 3.8.4, TS 3.8.7, and TS 3.8.9.

For TS 3.8.4, two trains of DGs are available if two offsite power circuits are inoperable and similarly two offsite power circuits are available if two DGs are inoperable. If an offsite power circuit and/or a DG are inoperable, at least one of each remains available. For TS 3.8.4, there are two redundant trains of DC power; so if one is inoperable, the other is available to provide the necessary DC power. For TS 3.8.7, there are two redundant trains of inverters; so if one is inoperable, the other train is available to provide the necessary AC power.

The slower nature of event progression during shutdown modes provides increased time for operator actions and mitigation strategies if an event were to occur. In addition, some events are less likely to occur during shutdown modes. Therefore, sufficient defense-in-depth is maintained when the end state is changed from Mode 5 to Mode 4. Based on the above, the NRC staff concludes that the proposed change to revise TS 3.8.4 Required Action H.2, TS 3.8.4 Required Action E.2, TS 3.8.7 Required Action B.2, and TS 3.8.9 Required Action D.2 so that the plant would be allowed to remain in Mode 4 is acceptable.

3.2.2.15 Mode 4 Secondary Side Steam Pressure

TR WCAP-16294 indicates that while in Mode 4, the secondary side steam pressure will be less than normal operating pressure. NEI determined that there will be sufficient pressure available to operate the turbine driven AFW pumps. This will assure the defense-in-depth will remain available while remaining in Mode 4. Based on the above, the NRC staff concludes that the change is acceptable.

3.3 Risk Evaluation

PG&E stated in its application that the information in the Westinghouse TR WCAP-16294 and Traveler TSTF-432 are applicable to DCPP, Units 1 and 2. As stated in SE Section 2.0 above, the NRC staff reviewed TR WCAP-16294 using SRP Chapters 19.2 and 16.1, and the five key principles of risk-informed decision making presented in RG 1.174 and RG 1.177. The NRC staff concludes that the risk evaluation as discussed in the NRC staff's final SE of TR WCAP-16294 (Reference 17) is applicable to DCP, Units 1 and 2, and, therefore, the risk evaluation is acceptable.

3.6 TS Bases Changes

TSTF-432 included TS Bases changes and accordingly, the licensee submitted the following:

- A reference to the NRC-approved TR WCAP-16294 has been added to the reference section of the TS Bases for each TS affected in TSTF-432.
- The following statement was added to each TS Bases Action section affected:

> Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. [5]). In MODE 4 the steam generators and residual heat removal system are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference [5], the steam turbine driven auxiliary feedwater pump must be available to remain in MODE 4. Should steam generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

The NRC staff generally does not approve TS bases changes; however, the staff does review the changes for consistency with the proposed TS change. The NRC staff determined that TS Bases changes are consistent as stated in Reference 20 with the proposed TS changes and the Commission's Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, dated July 2, 1993 (58 FR 39132).

3.5 Summary

The NRC staff has reviewed the licensee's proposed adoption of TSTF-432 to modify the TS requirements to permit an end state of hot shutdown mode with the implementation of TR WCAP-16294 and concludes that the changes are consistent with the approved TR WCAP-16294.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no

significant hazards consideration and there has been no public comment on such finding published in the *Federal Register* on September 30, 2014 (79 FR 58823). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Allen, B. S., Pacific Gas and Electric Company, letter to U.S. Nuclear Regulatory Commission, "License Amendment Request 14-03, License Amendment Request for Adoption of Technical Specification Task Force Traveler TSTF-432, Revision 1, 'Change in Technical Specification End States (WCAP-16294),'" dated July 28, 2014 (ADAMS Accession No. ML14209B074).

2. Allen, B. S., Pacific Gas and Electric Company, letter to U.S. Nuclear Regulatory Commission, "Response to NRC Request for Additional Information Regarding License Amendment Request for Adoption of Technical Specification Task Force Traveler TSTF-432, Revision 1, 'Change in Technical Specification End States (WCAP-16294),'" dated May 7, 2015 (ADAMS Accession No. ML15127A648).

3. Allen, B. S., Pacific Gas and Electric Company, letter to U.S. Nuclear Regulatory Commission, "Revision to TS 3.4.15 for License Amendment Request for Adoption of Technical Specification Task Force Traveler TSTF-432, Revision 1, 'Change in Technical Specification End States (WCAP-16294),'" dated August 6, 2015 (ADAMS Accession No. ML15218A599).

4. Technical Specification Task Force (TSTF) Improved Standard Technical Specifications Change Traveler TSTF-432, Revision 1, "Change in Technical Specifications End States WCAP-16294," dated November 29, 2010 (ADAMS Accession No. ML103360003).

5. Westinghouse Electric Company LLC, Topical Report WCAP-16294-NP-A, Revision 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010 (ADAMS Accession No. ML103430249).

6. U.S. Nuclear Regulatory Commission, NUREG-1431, Volume 1, Revision 3.0, "Standard Technical Specifications - Westinghouse Plants, Specifications," June 2004 (ADAMS Accession No. ML041830612).

7. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.174, Revision 1, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," November 2002 (ADAMS Accession No. ML023240437).

8. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," August 1998 (ADAMS Accession No. ML003740176).

9. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," May 2000. (ADAMS Accession No. ML003699426).

10. Nuclear Management and Resources Council (NUMARC) 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities," dated February 22, 2000 (ADAMS Accession No. ML003704489).

11. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.160, Revision 3, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," May 2012 (ADAMS Accession No. ML113610098).

12. Nuclear Management and Resources Council (NUMARC) 93-01, Revision 4A, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," April 2011 (ADAMS Accession No. ML11116A198).

13. U.S. Nuclear Regulatory Commission, "Model Safety Evaluation For Plant-Specific Adoption of Technical Specifications Task Force Traveler TSTF-432, Revision 1, "Change in Technical Specifications End States (WCAP-16294)," dated May 12, 2012 (ADAMS Accession No. ML120200384).

14. Lingam, S. P., U.S. Nuclear Regulatory Commission, electronic mail to Michael Richardson, Pacific Gas and Electric Company, "Diablo Canyon 1 and 2 - Requests for Additional Information to License Amendment Request associated with Adoption of TSTF-432, Rev. 1 (TAC Nos. MF4521 and MF4522)," dated April 8, 2015 (ADAMS Accession No. ML15098A049).

15. U.S. Nuclear Regulatory Commission, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," June 2007 (ADAMS Accession No. ML071700658).

16. U.S. Nuclear Regulatory Commission, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 16.1, "Risk-Informed Decision Making: Technical Specifications," Revision 1, March 2007 (ADAMS Accession No. ML070380228).

17. Blount, T. B., U.S. Nuclear Regulatory Commission, letter to Biff Bradley, Nuclear Energy Institute, "Final Safety Evaluation for Nuclear Energy Institute Topical Report WCAP-16294-NP, Revision 0, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS [Nuclear steam Supply System] PWRs [Pressurized Water Reactors], August 2005 (TAC No. MD5134)" dated March 29, 2010 (ADAMS Package Accession No. ML100820533).

18. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973 (ADAMS Accession No. ML003740113).

19. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.6, "Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems (Safety Guide 6)," March 1971 (ADAMS Accession No. ML003739924).

20. U.S. Nuclear Regulatory Commission, NUREG-1431, Volume 2, Revision 3.0, "Standard Technical Specifications - Westinghouse Plants, Bases," June 2004 (ADAMS Accession Package No. ML041830205).

Principal Contributor: R. Grover, NRR

Date: August 27, 2015

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,

/RA/

Siva P. Lingam, Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:
1. Amendment No. 219 to DPR-80
2. Amendment No. 221 to DPR-82
3. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:
PUBLIC
LPL4-1 Reading
RidsAcrsAcnw_MailCTR Resource
RidsNrrDorlLpl4-1 Resource
RidsNrrDorlDpr Resource
RidsNrrDssStsb Resource
RidsNrrLAJBurkhardt Resource
RidsNrrPMDiabloCanyon Resource
RidsRgn4MailCenter Resource
RGrover, NRR/DSS/STSB

ADAMS Accession No. ML15204A222 *via memo

OFFICE	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	NRR/DSS/STSB/BC
NAME	SLingam	JBurkhardt	RElliott*
DATE	7/29/15	7/28/15	7/1/15
OFFICE	OGC - NLO	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM
NAME	CKanatas	MMarkley	SLingam
DATE	8/13/15	8/27/15	8/27/15

OFFICIAL RECORD COPY