

September 24, 2004

Mr. Gregory M. Rueger  
Senior Vice President, Generation and  
Chief Nuclear Officer  
Pacific Gas and Electric Company  
Diablo Canyon Power Plant  
P. O. Box 3  
Avila Beach, CA 93424

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF  
AMENDMENT RE: REVISIONS TO TECHNICAL SPECIFICATIONS 3.3.1,  
"REACTOR TRIP SYSTEM (RTS) INSTRUMENTATION" AND 3.3.2,  
"ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS)  
INSTRUMENTATION" (TAC NOS. MB6762 AND MB6763)

Dear Mr. Rueger:

The Commission has issued the enclosed Amendment No. 173 to Facility Operating License No. DPR-80 and Amendment No. 175 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 November 1, 2002, and its supplement dated April 2, 2004.

The amendments (1) change the allowances for bypassing and tripping tested channels, (2) remove a surveillance requirement for reactor trip system (RTS) turbine trip - turbine stop valve closure, (3) revise the nominal trip setpoint for RTS turbine trip - turbine stop valve closure, (4) revise the allowable value and nominal trip setpoint for RTS interlock, (5) and remove and relocate the turbine trip function from engineered safety feature actuation system turbine trip and feedwater isolation to other licensee-controlled documents.

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/**

Girija S. Shukla, Project Manager, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures: 1. Amendment No. 173 to DPR-80  
2. Amendment No. 175 to DPR-82  
3. Safety Evaluation

cc w/encls: See next page

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relocate the turbine trip function from engineered safety feature actuation system turbine trip  
and feedwater isolation to other licensee-controlled documents.

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**\*SE Dated TS ML042750035 NRR-100**  
**ACCESSION NO.: ML NRR-058**

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OFFICE	PDIV-2/PM	PDIV-2/LA	EEIB/SC*	OGC Nlo	PDIV-2/SC
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Diablo Canyon Power Plant, Units 1 and 2

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PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 173  
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 November 1, 2002, and its supplement dated April 2, 2004, 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. 173, are hereby incorporated in the license. Pacific Gas and 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

Robert A. Gramm, Chief, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: September 24, 2004

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.175  
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 November 1, 2002, and its supplement dated April 2, 2004, 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

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 175, are hereby incorporated in the license. Pacific Gas and 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

Robert A. Gramm, Chief, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: September 24, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 173

TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR-82

DOCKET NOS. 50-275 AND 50-323

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

REMOVE

3.3-3  
3.3-3a  
3.3-4  
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3.3-7  
3.3-15  
3.3-16  
3.3-20  
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3.3-22  
3.3-23  
3.3-24  
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3.3-30  
3.3-31

INSERT

3.3-3  
3.3-3a  
3.3-4  
3.3-4a  
3.3-7  
3.3-15  
3.3-16  
3.3-20  
3.3-20a  
3.3-22  
3.3-23  
3.3-24  
3.3-24a  
3.3-30  
3.3-31

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 173 TO FACILITY OPERATING LICENSE NO. DPR-80  
AND AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR-82  
PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By application dated November 1, 2002, and its supplement dated April 2, 2004, Pacific Gas and Electric Company (PG&E or licensee) requested changes to the Technical Specifications (TSs) (Appendix A to Facility Operating License Nos. DPR-80 and DPR-82) for the Diablo Canyon Power Plant (DCPP), Units 1 and 2. The proposed change would revise TS 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."

Specifically, the proposed changes would (1) change the allowances for bypassing and tripping tested channels, (2) remove a surveillance requirement (SR) for RTS turbine trip - turbine stop valve closure, (3) revise the nominal trip setpoint for RTS turbine trip - turbine stop valve closure, (4) revise the allowable value and nominal trip setpoint for RTS interlock, (5) and remove and relocate the turbine trip function from engineered safety feature actuation system turbine trip and feedwater isolation to other licensee-controlled documents.

The April 2, 2004, supplemental letter provided additional clarifying information, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination published in the *Federal Register* on January 7, 2003 (68 FR 810).

2.0 REGULATORY EVALUATION

The staff finds that the licensee in Section 5.0 of its submittal identified the following regulatory requirements for this amendment request:

10 CFR 50.36, "Technical Specifications," provides four criteria for determining whether items are required to be controlled in TS.

The licensee based the removal and relocation of the turbine trip portion of Function 5 of ESFAS TS Table 3.3.2-1 on the requirements of 10 CFR 50.36.

The staff has used the following regulatory basis for its evaluation of the licensee's amendment request:

- 10 CFR 50.36(c)(1)(ii)(A)

Paragraph (c)(1)(ii)(A) of 10 CFR 50.36, "Technical Specifications," states in part, that where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be so chosen that an automatic protective action will correct the abnormal situation before a safety limit is exceeded. The analytical limit is the limit on the process variable at which the instrument loop protective action occurs as assumed in the plant's safety analysis. Protective action at the analytical limit ensures that the safety limit is not exceeded. The analytical limit, however, does not account for uncertainties associated with the instrument loop. The instrument loop uncertainty is accounted for during calculation of an instrument loop's trip setpoint.

- 10 CFR 50.36(c)(2)(ii)

Paragraph (c)(2)(ii), of 10 CFR 50.36, "Technical Specifications," requires that a TS limiting condition for operation (LCO) of a nuclear reactor must be established for each item meeting one or more of the following criteria: (A) *Criterion 1*. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. (B) *Criterion 2*. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. (C) *Criterion 3*. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. (D) *Criterion 4*. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

- 10 CFR 50.36(c)(3)

Paragraph (c)(3) of 10 CFR 50.36, "Technical Specifications," states that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

- 10 CFR Part 50, Appendix A, Criterion 21

Criterion 21, "Protection System Reliability and Testability," requires in part that the protection system be designed for high functional reliability and inservice testability such that no single failure results in the loss of the protection function and removal from service of any component or channel does not result in the loss of the required minimum redundancy unless the acceptable reliability of operation of the protection system can be otherwise demonstrated.

### 3.0 TECHNICAL EVALUATION

The staff has reviewed the licensee's technical and regulatory analyses in support of its proposed license amendments which are described in Sections 4.0 and 5.0 of the licensee's submittal. The detailed evaluation below will support the conclusion that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

The licensee proposed revising RTS TS 3.3.1 and ESFAS TS 3.3.2 to revise the notes on testing when one channel of instrumentation is inoperable. Additionally, the licensee proposed TS changes to remove a TS 3.3.1 SR, revise TS 3.3.1 allowable values and a nominal trip setpoint, and remove and relocate a TS 3.3.2 function.

#### 3.1 Bypass Testing Notes

In accordance with WCAP-10271, "Evaluation of Surveillance Frequencies and Out of Service Times for Reactor Protection Instrumentation System," February 21, 1985; WCAP-10271, Supplement 2, "Evaluation of Surveillance Frequencies and Out of Service Times for Engineered Safety Features Actuation System," February 1986; and WCAP-10271, Supplement 2, Revision 1, "Evaluation of Surveillance Frequencies and Out of Service Times for Engineered Safety Features Actuation System," March 1987, very specific circumstances are related to the use of the bypass condition. The bypass condition is the state when a channel is removed from service but no trip condition is maintained. In this configuration, a second channel can be tested in the tripped condition without completing the reactor trip logic.

In a safety evaluation (SE) dated May 23, 1991, the NRC allowed the licensee to test in the bypass mode for certain RTS and ESFAS instrumentation based on WCAP-10271 and its supplements, provided the requirements of IEEE 279 for testing in bypass mode were met. In an SE dated October 7, 1993, the NRC accepted the installation at DCP, of the Eagle-21 protection system, which included bypass capability that met the requirements of IEEE 279, the additional requirements of WCAP-10271, and the licensee's position that testing would be routinely done in the bypass mode.

In an SE dated May 28, 1999, the NRC accepted the revision of the DCP TS to meet NUREG-1431, "Improved Standard Technical Specifications - Westinghouse Plants" (ISTS). The action statement notes regarding testing in bypass and trip modes were revised to use the ISTS format. However, the ISTS wording assumes testing in trip. Therefore, the current wording in the DCP TS assumes testing in trip and not testing in bypass. The licensee has proposed revisions, for specified Eagle-21 channels, to recognize testing in bypass and to clarify the differences between testing three-channel logic and testing four-channel logic functions.

3.1.1 RTS TS 3.3.1, Action E (Functions 6, 7, and 8.b) and Action M (Function 8.a) and ESFAS TS 3.3.2, Action D (Function 1.d), Two-Out-of-Four Logic with the Inoperable Channel in Trip

The licensee proposed changing the notes for these actions affecting RTS Function 6, "Overtemperature  $\Delta T$ "; Function 7, "Overpower  $\Delta T$ "; Function 8.a, "Pressurizer Pressure - Low"; Function 8.b, "Pressurizer Pressure - High"; and ESFAS Function 1.d, "Safety Injection - Pressurizer Pressure - Low." The proposed change is from "The inoperable channel or one additional channel may be bypassed for up to 4 hours for surveillance testing of other channels" to "The inoperable channel and/or one additional channel may be surveillance tested with one channel in bypass and one channel in trip for up to 4 hours, or both the inoperable and the additional channel may be surveillance tested in bypass for up to 4 hours. This note is not intended to allow simultaneous testing of coincident channels on a routine basis."

This change would allow an inoperable channel to be tested in either bypass or trip. If the inoperable channel could not be restored before the next channel surveillance was due, then during a four-hour period, an operable channel might be tested in bypass with the inoperable channel in trip, the operable channel might be tested in trip with the inoperable channel in bypass, or the operable channel might be tested in bypass with the inoperable channel also in bypass. This new wording would clarify how many channels might be bypassed and/or tripped for testing. For these two-out-of-four logic functions these testing configurations would provide flexibility for testing while assuring that during testing no configuration would cause an inadvertent trip or keep a valid signal from actuating the function as it was designed. This wording meets the requirements of 10 CFR Part 50, Appendix A, Criterion 21.

3.1.2 RTS TS 3.3.1, Action X (Function 14.b) and ESFAS TS 3.3.2, Action M (Function 6.d(2)), Two-Out-of-Four Logic with the Inoperable Channel in Trip

The licensee proposed changing the notes for these actions affecting RTS Function 14.b, "Steam Generator Water Level - Low Low Trip Time Delay (TTD)"; and ESFAS Function 6.d(2), "Auxiliary Feedwater - Steam Generator Water Level - Low Low TTD." The proposed change is from "The inoperable channel or one additional channel may be bypassed for up to 4 hours for surveillance testing of other channels" to "The inoperable TTD channel (processor) and/or one additional TTD channel (processor) may be surveillance tested with the affected steam generator low-low water level channels for one TTD channel (processor) in bypass and the affected SG low-low water level channels for the other TTD channel (processor) in trip for up to 4 hours. This note is not intended to allow simultaneous testing of multiple TTD channels (processors) on a routine basis."

The TTD processors are part of the steam generator low-low water level trip function and provide a delay to allow time for natural steam generator level stabilization or operator intervention to avoid an inadvertent steam generator low-low water level trip. There are four TTD processors, two with four outputs and two with two outputs. The four output TTD processors provide one input to each of the four steam generator low-low water level trip functions. One of the two output TTD processors provides input to two of the steam generator low-low water level trip functions and the other two output TTD processor provides input to the other two steam generator low-low water level trip functions.

If a TTD processor is inoperable, the time delay for that TTD processor is reduced to zero and the steam generator low-low water level channels associated with the inoperable TTD processor remains operable. If the time delay cannot be reduced to zero, then the steam generator low-low water level channels associated with the inoperable TTD processor is placed in trip.

This proposed change would allow an inoperable TTD processor and its associated steam generator low-low water level channels to be tested in either trip or bypass. If the inoperable TTD processor could not be restored before the next channel surveillance was due, then during a four-hour period, an operable TTD processor and its associated steam generator low-low water level channels might be tested in bypass. During the test, the steam generator low-low water level channels associated with the inoperable TTD processor would remain in trip if the time delay of the inoperable TTD could not be reduced to zero or would remain in operable status if the time delay of the inoperable TTD processor was reduced to zero, or during the four-hour period, an operable TTD processor and its associated steam generator low-low water level channels might be tested in trip. During the test, the steam generator low-low water level channels associated with the inoperable TTD processor would be placed in bypass if the time delay of the inoperable TTD processor could not be reduced to zero or would remain in operable status if the time delay of the inoperable TTD processor was reduced to zero.

This new wording clarifies how many TTD channels might be bypassed and/or tripped for testing. For these two-out-of-four logic functions the testing configurations would provide flexibility for testing while assuring that during testing no configuration would cause an inadvertent trip or keep a valid signal from actuating the function as it was designed. This wording meets the requirements of 10 CFR Part 50, Appendix A, Criterion 21.

### 3.1.3 RTS TS 3.3.1, Action E (Function 14.a) and Action M (Functions 9 and 10) and ESFAS TS 3.3.2, Action D (Functions 1.e(1), 4.d(1), 4.d(2), and 6.d(1)), Two-Out-of-Three Logic with the Inoperable Channel in Trip

The licensee proposed changing the notes for these actions affecting RTS Function 9, "Pressurizer Water Level - High"; Function 10, "Reactor Coolant Flow - Low"; and Function 14.a, "Steam Generator Water Level - Low Low"; and ESFAS Function 1.e(1), "Safety Injection - Steam Line Pressure - Low"; Function 4.d(1), "Steam Line Isolation - Steam Line Pressure - Low"; Function 4.d(2), "Steam Line Isolation - Steam Line Pressure - Negative Rate - High"; and Function 6.d(1), "Auxiliary Feedwater - Steam Generator Water Level - Low Low." The proposed change is from "Only the inoperable channel may be bypassed for surveillance testing of other channels" to "The inoperable channel and/or one additional channel may be surveillance tested with one channel in bypass and one channel in trip for up to 4 hours. This note is not intended to allow simultaneous testing of coincident channels on a routine basis."

This change would allow an inoperable channel to be tested in either bypass or trip. If the inoperable channel could not be restored before the next channel surveillance was due, then during a four-hour period, an operable channel might be tested in bypass with the inoperable channel in trip, or the operable channel might be tested in trip with the inoperable channel in bypass. This new wording would clarify how many channels might be bypassed and/or tripped for testing. For these two-out-of-three logic functions these testing configurations would provide

flexibility for testing while assuring that during testing no configuration would cause an inadvertent trip or keep a valid signal from actuating the function as it was designed. This wording meets the requirements of 10 CFR Part 50, Appendix A, Criterion 21.

3.1.4 ESFAS TS 3.3.2, Action J (Function 5.b), Two-Out-of-Three Logic with the Inoperable Channel in Trip

The licensee proposed changing the note for this action affecting ESFAS Function 5.b, "Turbine Trip and Feedwater Isolation - Steam Generator Water Level - High High (P-14)." The proposed change is from "The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels" to "The inoperable channel and/or one additional channel may be surveillance tested with one channel in bypass and one channel in trip for up to 4 hours. This note is not intended to allow simultaneous testing of coincident channels on a routine basis."

This change would allow an inoperable channel to be tested in either bypass or trip. If the inoperable channel could not be restored before the next channel surveillance was due, then during a four-hour period, an operable channel might be tested in bypass with the inoperable channel in trip, or the operable channel might be tested in trip with the inoperable channel in bypass. This new wording would clarify how many channels might be bypassed and/or tripped for testing. For this two-out-of-three logic function these testing configurations would provide flexibility for testing while assuring that during testing no configuration would cause an inadvertent trip or keep a valid signal from actuating the function as it was designed. This wording meets the requirements of 10 CFR Part 50, Appendix A, Criterion 21.

3.1.5 ESFAS TS 3.3.2, Action O (Function 1.c), Two-Out-of-Three Logic with the Inoperable Channel in Trip

The licensee proposed changing the note for this action affecting ESFAS Function 1.c, "Safety Injection - Containment Pressure - High," from "The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels" to "The inoperable channel may be surveillance tested in bypass for up to 4 hours, or with the inoperable channel in trip, one additional channel may be surveillance tested in bypass for up to 4 hours. This note is not intended to allow simultaneous testing of coincident channels on a routine basis."

This change would allow an inoperable channel to be tested in bypass. If the inoperable channel could not be restored before the next channel surveillance was due, then during a four-hour period, an operable channel might be tested in bypass if the inoperable channel was in trip. This new wording would not allow either the inoperable channel or an operable channel to be tested in trip and would clarify how many channels might be bypassed and/or tripped for testing. For this two-out-of-three logic function, these testing configurations would provide flexibility for testing while assuring that during testing no configuration would cause an inadvertent trip or keep a valid signal from actuating the function as it was designed. This meets the requirements of 10 CFR Part 50, Appendix A, Criterion 21.

3.1.6 ESFAS TS 3.3.2, Action E (Function 4.c) and Action P (Functions 2.c(1) and 3.b(3)), Two-Out-of-Four Logic with the Inoperable Channel in Bypass

The licensee proposed changing the notes for these actions affecting ESFAS Function 2.c(1), "Containment Spray - Containment Pressure - High High"; Function 3.b(3), "Containment Isolation - Phase B Isolation - Containment Pressure - High High"; and Function 4.c, "Steam Line Isolation - Containment Pressure - High High." The proposed change is from "One additional channel may be bypassed for up to 4 hours for surveillance testing" to "The inoperable channel and one additional channel may be surveillance tested in bypass for up to 4 hours only if any Function 1.c channel associated with the inoperable channel is in trip. This note is not intended to allow simultaneous testing of coincident channels on a routine basis."

To avoid an inadvertent actuation of containment spray and phase B containment isolation, an inoperable channel of these functions would be placed in bypass instead of trip. Each channel of these functions is included in one of four common protection loops. As a result, if one channel of a function of a common protection loop is inoperable, the entire common protection loop is considered inoperable. The entire common protection loop (the same channel for Functions 2.c(1), 3.b(3), and 4.c) would be placed in bypass. Three of the common protection loops are associated with a channel of Function 1.c, "Safety Injection - Containment Pressure - High." If the common protection loop is inoperable, any associated Function 1.c channel would also be considered inoperable. Since Function 1.c has a two-out-of-three logic, Action O requires that an inoperable channel be placed in trip to continue operability and that only one channel at a time may be bypassed for testing.

This proposed change would require that if one channel of a function of a common protection loop was inoperable, the entire common protection loop would be placed in bypass and any Function 1.c channel associated with the inoperable common protection loop would be placed in trip. The channels of the inoperable common protection loop might be tested in bypass for up to four hours and any Function 1.c channel associated with the inoperable common protection loop would remain in trip.

If the inoperable common protection loop cannot be restored before the next channel surveillance is due, then during a four-hour period, the channels of an operable common protection loop may be tested in bypass, with any Function 1.c channel associated with the operable common protection loop being tested remaining in operable status, the inoperable common protection loop remaining in bypass, and any Function 1.c channel associated with the inoperable common protection loop remaining in trip.

The proposed wording includes restrictions concerning the Function 1.c channel and is therefore considered more conservative than the current wording. The proposed wording clarifies how many channels may be bypassed and/or tripped for testing. For these two-out-of-four logic functions these testing configurations would provide flexibility for testing and would maintain the trip logic intact during surveillance testing. Although some of the testing configurations, as supported in WCAP-10271, Supplement 2, Revision 1, do not meet the single failure criterion of 10 CFR Part 50, Appendix A, Criterion 21, the failure to meet this criterion was previously approved and was justified based on the low probability of an additional channel failure during the period allowed for testing as specified by the TS required action

completion times and return to a configuration that meets the minimum requirements for operability for each of these instruments.

### 3.2 RTS TS Table 3.3.1-1, Function 16.b, "Turbine Trip - Turbine Stop Valve Closure," SR

The licensee has proposed the elimination of SR 3.3.1.10 for RTS TS Table 3.3.1-1, Function 16.b, "Turbine Trip - Turbine Stop Valve Closure." SR 3.3.1.10 is a channel calibration performed every 24 months. A channel calibration is a complete check of the instrument loop, including the sensor.

Function 16.b provides a reactor trip to minimize the pressure and temperature transients on the reactor in anticipation of the loss of secondary system heat removal capabilities. The instruments that perform this function are the valve position switches mounted on the turbine stop valves.

Function 16.b is monitored by SR 3.3.1.10 and SR 3.3.1.15 which is a trip actuating device operation test (TADOT). A channel calibration tests the sensor, instrument loop, trip bistable device and actuation device and is typically required to verify that instruments that are subject to drift are maintaining their setpoints or limits. A calibration test typically involves an as-found trip test performed at a specific limit or setpoint, and then a recalibration of the instrument to optimize the future operation on the instrument at that setpoint. A TADOT verifies the operability of all devices in the channel required for the trip actuating device operability and is performed to verify action based on function at a setpoint or limit, without reverifying or calibrating the actual setpoint or limit. TADOT tests are provided for most instruments whether or not they are subject to drift, and are typically performed more frequently than calibration tests.

The licensee stated that the turbine stop valve position switches are not subject to drift. Their actuation limits are fixed when installed. They do not have instrumentation setpoint adjustment features, but only actuate based on the position of the valve they monitor. As a result, a channel calibration for this equipment would not provide any more information than a TADOT provides. The DCCP TS prior to the conversion to the ISTS format only required a TADOT for Function 16b. During the conversion to the ISTS format the channel calibration was added.

For Function 16.b, the TADOT is performed more often (prior to exceeding the P-9 interlock whenever the unit has been in Mode 3, if not performed in the previous 30 days) than a channel calibration (24 months) and because of the nature of Function 16.b (a position switch that does not have the traditional channel configuration of sensor, instrument loop, trip bistable device, and actuation device) a channel calibration would not add any information beyond that provided by a TADOT. Although a channel calibration verifies the setting, since the position switch is a mechanical device and does not have an instrument setpoint adjustment feature there would be very little, if any, setting variation. The elimination of SR 3.3.1.10 for RTS TS Table 3.3.1-1 Function 16.b meets the requirements of 10 CFR 50.36(c)(3).

### 3.3 RTS TS Table 3.3.1-1, Function 16.b, "Turbine Trip - Turbine Stop Valve Closure," Nominal Trip Setpoint

The licensee has proposed the revision of the nominal trip setpoint for RTS TS Table 3.3.1-1 Function 16.b, "Turbine Trip - Turbine Stop Valve Closure" from "1% open" to "2% open." The allowable value for this function is " $\geq 1\%$  open." The current nominal trip setpoint is the same as the lowest allowable value. This is not consistent with the other values in the DCPD TS and does not provide any margin between the nominal trip setpoint and the allowable value.

The licensee does not have a setpoint calculation for this function. For this function, the licensee determined the nominal trip value considering setup and instrument uncertainty, thus identifying a trip setpoint that protects the allowable value. The licensee stated that past operating experience had shown that a nominal trip setpoint of 2 percent would allow for any variance in the setup and ensures maintenance of the allowable value. Prior to the conversion to the ISTS format the nominal trip setpoint value was implemented under plant procedures as a nominal value of 2 percent open.

This proposed change would provide a nominal trip setpoint that is more conservative than the current requirement and would provide margin to ensure that the allowable value is maintained. Therefore, the proposed change in nominal trip setpoint for RTS TS Table 3.3.1-1 Function 16.b meets the requirements of 10 CFR 50.36(c)(1)(ii)(A).

### 3.4 RTS TS Table 3.3.1-1, Function 18.f, "Reactor Trip System Interlock - Turbine Impulse Chamber Pressure, P-13," Allowable Value and Nominal Trip Setpoint

The licensee has proposed the revision of the allowable value and the nominal trip setpoint for RTS TS Table 3.3.1-1, Function 18.f, "Reactor Trip System Interlock - Turbine Impulse Chamber Pressure, P-13." The allowable value change would be from "10.2% RPT turbine impulse pressure equivalent" to "10.2% turbine power" and the nominal trip setpoint change would be from "10% RTP turbine impulse pressure equivalent" to "10% turbine power."

The current allowable value and nominal trip setpoint for Function 18.f are shown in the TS as turbine impulse pressure equivalent. The licensee states that this notation is inconsistent with other allowable values in the DCPD TS. The licensee further states that based on a review of the applicable safety analysis and setpoint history, the allowable value and nominal trip setpoint should be specified as turbine power.

The allowable value calculation consists of rack drift plus rack measuring and testing equipment uncertainty, which were used in the channel uncertainty calculation. The nominal trip setpoint is a nominal setting of 10 percent turbine power that provides input into the P-7 interlock (Function 18.b). Function 18.f is not credited in the DCPD safety analysis and does not have an associated analytical limit. The nominal trip setpoint was established at  $\leq 10\%$  since at these low power levels, there is adequate system thermal margin and control system capacity such that an automatic actuation of the reactor protection system is not required.

This proposed change in the allowable value and the nominal trip setpoint is consistent with the DCPD licensing basis and the standard wording in the ISTS. Therefore, the change in allowable value and nominal trip setpoint for RTS TS Table 3.3.1-1, Function 18.f, meets the requirements of 10 CFR 50.36(c)(ii).

### 3.5 ESFAS TS Table 3.3.2-1, Function 5, "Turbine Trip and Feedwater Isolation," Relocation

The licensee has proposed the removal and relocation of the turbine trip portion of ESFAS TS Table 3.3.2-1, Function 5, "Turbine Trip and Feedwater Isolation" and the renaming of the function as "Feedwater Isolation." Function 5 currently provides ESFAS instrumentation TS applicability, required channels, LCOs, SRs, allowable values, and nominal trip setpoints for both turbine trip and feedwater isolation functions on a steam generator water level - high high signal. Although these two functions are actuated from the same signal, only the feedwater isolation function is credited in any accident scenario contained in the DCPD Final Safety Analysis Report (FSAR) Update. As stated in the FSAR Update, the primary purpose of the turbine trip function from a steam generator water level - high high signal is to protect the turbine from moisture carryover. Unlike the feedwater isolation function, the turbine trip function is a nonsafety-related function and is not required for reactor protection. To clarify this difference in function, the licensee proposes to remove and relocate the turbine trip function to other owner-controlled documents.

The licensee provided an evaluation of the 10 CFR 50.36(c) criteria for functions that need to be controlled in the TS. Functions that meet these criteria must be included in the TS and must have LCOs established for them. If a function does not meet these criteria, it can be excluded from the TS. The licensee's evaluation addressed each of the four criteria in 10 CFR 50.36(c) and determined that the turbine trip portion of Function 5 does not fall under the requirements of these criteria.

The licensee also stated that although the turbine trip function would be removed and relocated to other owner-controlled documents, all TS limits currently stated in Table 3.3.2-1 for the feedwater isolation function would remain the same concerning the applicable modes, required channels, LCOs, allowable values, and nominal trip setpoints.

Based on a review of the licensee's evaluation of the 10 CFR 50.36(c) criteria, the removal and relocation of the turbine trip portion of ESFAS TS Table 3.3.2-1, Function 5, and the renaming of ESFAS TS Table 3.3.2-1, Function 5, meets the requirements of 10 CFR 50.36(c).

Based on the evaluation above, the staff finds that the proposed TS changes are acceptable.

## 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 and change a

surveillance requirement. 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 (68 FR 810). 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) 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.

Principal Contributor: B. Marcus

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