

January 31, 2005

Mr. Charles D. Naslund
Senior Vice President and Chief Nuclear Officer
Union Electric Company
Post Office Box 620
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 - ISSUANCE OF AMENDMENT RE: PLANT
PROTECTION TEST TIMES, COMPLETION TIMES, AND SURVEILLANCE
TEST INTERVALS (TAC NO. MC1756)

Dear Mr. Naslund:

The Commission has issued the enclosed Amendment No. 165 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 17, 2003 (ULNRC-04929), as supplemented by the letters dated October 28 (ULNRC-05073) and November 16 (ULNRC-05087), 2004.

The amendment revises TSs 3.3.1, "Reactor Trip System (RTS) Instrumentation," 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," and 3.3.9, "Boron Dilution Mitigation System (BDMS)" to adopt the completion time, test bypass time, and surveillance time interval changes in NRC-approved WCAP-14333-P-A, "Probabilistic Risk Analysis of the RPS [reactor protection system] and ESFAS Test Times and Completion Times," and WCAP-15376-P-A, "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times." The TS changes revise required actions for certain action conditions; increase the completion times for several required actions (including some notes); delete notes in certain required actions; increase frequency time intervals (including certain notes) in several surveillance requirements (SRs); add an action condition and required actions; revise notes in certain SRs; and revise Table 3.3.2-1. There is also an administrative correction to the format of the TSs.

The application of December 17, 2003, submitted what was stated in the letter to be proprietary information. In response to the affidavit, the NRC issued its letter dated April 26, 2004, stating that the proprietary information submitted will be withheld from the public in accordance with 10 CFR 2.790. In issuing this amendment, pursuant to the renumbered 10 CFR 2.390, we have determined that the enclosed safety evaluation (SE) does not contain proprietary information. However, we will delay placing the SE in the public document room for a period of ten working days from the date of this letter to provide you with the opportunity to comment on the proprietary aspects. If you believe that any information in the SE is proprietary, please identify such information line-by-line and define the basis pursuant to the criteria of 10 CFR 2.390.

C. Naslund

- 2 -

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

Sincerely,

/RA/

Jack Donohew, Senior Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures: 1. Amendment No. 165 to NPF-30
2. Safety Evaluation

cc w/encls: See next page

C. Naslund

- 2 -

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

Sincerely,

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Jack Donohew, Senior Project Manager, Section 2
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cc w/encls: See next page

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PDIV-2 Reading

RidsNrrDlpmPdiv (HBerkow)

RidsNrrDlpmPdiv2 (RGramm)

RidsNrrPMJDonohew

RidsNrrLAEPeyton

RidsOgcRp

RidsACRSACNWMailCenter

TBoyce

MRubin

EMarinos

RidsRegion4MailCenter (D. Graves)

GHill (2)

TS: ML050330183 NRR-100

ACCESSION NO.: ML050320484

PKG.: ML050320489

Nrr-058

w/changes

OFFICE	PDIV-2/PM	PDIV-2/LA	EEIB/SC	SPSB/SC	IROB-A/SC	OGC Nlo	PDIV-2/SC
NAME	JDonohew:mp	EPeyton	EMarinos*	MRubin*	TBoyce*	RHoefling	RGramm
DATE	1/14/05	1/12/05	08/03/2004	11/05/2004	12/17/2004	1/24/05	1/26/05

DOCUMENT NAME:

changes made JND 1/24/05

OFFICIAL RECORD COPY

Callaway Plant, Unit 1

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UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 165
License No. NPF-30

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Union Electric Company (UE, the licensee) dated December 17, 2003, as supplemented by the letters dated October 28 and November 16, 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. NPF-30 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 165 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of its date of issuance, and shall be implemented within 120 days of its 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: January 31, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 165

FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

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

REMOVE

3.3-3
3.3-4
3.3-6
3.3-7
3.3-8
3.3-9
3.3-11
3.3-13
3.3-14
3.3-26 to 3.3-72*

INSERT

3.3-3
3.3-4
3.3-6
3.3-7
3.3-8
3.3-9
3.3-11
3.3-13
3.3-14
3.3-26 to 3.3-72
3.3-73

* The change to most of these pages is the re-numbering of the page because page 3.3-33 is being added to the TSs.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 165 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By application dated December 17, 2003, as supplemented by the letters dated October 28 and November 16, 2004, Union Electric Company (the licensee) requested changes to the Technical Specifications (TSs, Appendix A to Facility Operating License No. NPF-30) for the Callaway Plant, Unit 1 (Callaway). The amendment would revise Technical Specifications (TSs) 3.3.1, "Reactor Trip System (RTS) Instrumentation," 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," and 3.3.9, "Boron Dilution Mitigation System (BDMS)."

The purpose of the amendment is to adopt the completion time (CT), test bypass time, and surveillance frequency time changes approved by the NRC in Topical Reports (TRs) WCAP-14333-P-A, "Probabilistic Risk Analysis of the RPS [reactor protection system] and ESFAS Test Times and Completion Times," Revision 1 (hereafter referred to as WCAP-14333), dated October 1998, and WCAP-15376-P-A, "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," Revision 1 (hereafter referred to as WCAP-15376), dated March 2003. The proposed changes would revise the required actions for certain action conditions in TSs 3.3.1 and 3.3.2; increase the CTs for several required actions (including some notes) in TSs 3.3.1 and 3.3.2; delete notes in certain required actions in TS 3.3.1; increase frequency time intervals (including certain notes) in several surveillance requirements (SRs) in TSs 3.3.1, 3.3.2, and 3.3.9; add an action condition and required actions; revise notes in certain SRs in TS 3.3.2; and revise Table 3.3.2-1 in TS 3.3.2. There is also an administrative correction to the format of the TSs. The administrative change and the change to SR 3.3.2.6 are not based on WCAP-14333 and WCAP-15376.

The licensee stated that the above relaxations will allow additional time to perform maintenance and test activities, enhance safety, provide additional operational flexibility, and reduce the potential for forced outages related to compliance with the current RTS/ESFAS instrumentation TSs. The licensee explained that industry information has shown that a significant number of reactor trips that have occurred are related to instrumentation test and maintenance activities, which indicates that the TSs should provide sufficient time to complete these activities in an orderly and efficient manner. The proposed amendment is to incorporate such "sufficient" times in the TSs for such activities.

A meeting was held with the licensee on March 23, 2004, at the request of the NRC staff for the licensee to explain its application. A summary of the meeting was issued by the NRC staff on April 2, 2004 (ADAMS Accession No. ML040970259).

The additional information provided in the supplemental letters dated October 28 and November 16, 2004, do not expand the scope of the application as noticed and does not change the NRC staff's original proposed no significant hazards consideration determination published in the *Federal Register* on February 3, 2004 (69 FR 5211).

2.0 BACKGROUND

Technical Specifications Improvements Project

Since 1983, NRC and industry representatives (e.g., the Westinghouse Owners Group [WOG]) have worked to develop guidelines for improving nuclear power plant TS content and quality. In August 1983, an NRC task group was formed to investigate problems with surveillance testing required by TSs and to recommend approaches to make improvements. NUREG-1024, "Technical Specifications – Enhancing Safety Impact," resulted, and it contained recommendations to review the basis for test frequencies; to ensure that the tests promote safety and do not degrade equipment; and to review surveillance tests so that they do not unnecessarily burden personnel.

In December 1984, the Technical Specifications Improvement Project (TSIP) was established to provide a framework for rewriting and improving the Standard Technical Specifications (STS). The NRC developed criteria, as described in the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (58 FR 39132), to determine which of the design conditions and associated surveillances should be located in the TSs as limiting conditions for operation (LCO). In September 1992, NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 0, the improved STS for Westinghouse plants, including Callaway, was issued using the criteria for defining the scope of TSs for these plants. Four criteria were subsequently incorporated into the regulations by an amendment to 10 CFR 50.36 (60 FR 36953).

WOG Technical Specifications Optimization Program (TOP)

The TSIP study formed the basis for the WOG TOP requested TS relaxations. In February 1983, the WOG submitted WCAP-10271. The report proposed TSs changes in operability test intervals and allowable out-of-service and test times for RTS analog channels, actuation logic and reactor trip breakers. In February 1985, the NRC staff issued a safety evaluation (SE) approving WCAP-10271 for reference in license applications based on stated acceptance criteria. This action was part of the implementation of the recommendations for review of surveillance test requirements made in NUREG-1024. TSs approved in WCAP-10271 were incorporated into the STS in NUREG-1431, Revision 0, dated September 1992.

In June 1995, the WOG submitted WCAP-14333 including draft TSs based on NUREG-1431, Revision 1. The TR proposed further relaxing WCAP-10271 approved TSs requirements by increasing the test bypass times and the CTs for both the solid state protection system (SSPS)

and relay protection system RTS and ESFAS designs. The report indicated a small increase in core damage frequency of approximately 3.1 percent from internal events based on the proposed TS changes. On July 15, 1998, the NRC staff issued an SE approving WCAP-14333 for reference in license applications based on stated acceptance criteria. The NRC staff's SE included approval of draft TS 3.3.1 and TS 3.3.2; however, the TSs for WCAP-14333 were not incorporated into NUREG-1431, Revision 2.

Technical Specification Task Force (TSTF) Changes

The review of a proposed generic change to the STS is a multi-staged process designed to ensure that each STS remains internally consistent, maintains coherence among the various vendors' STS, and incorporates the knowledge and operating experience of the industry and the NRC. Changes to the STS are proposed to the NRC through publically available submittals.

The NRC staff reviews the changes to the STS proposed by the TSTF (referred to as TSTF changes) and will accept, modify, or reject them. The TSTF change process facilitates licensees' adopting NRC-accepted changes to the STS for their specific plant TS. This process is intended to streamline the license amendment review process involving NRC-accepted STS changes in order to increase NRC efficiency and reduce unnecessary regulatory burden. The NRC role in maintaining plant safety is achieved by the technical review of proposed changes to the STS as well as plant-specific applications to adopt NRC-accepted changes to the STS.

For WCAP-14333 and WCAP-15376, the NRC has approved TS changes to incorporate the extended test bypass times, CTs, and surveillance test intervals (STIs) for certain RTS/ESFAS functions that are justified in the WCAPs in TSTF-418, Revision 2 (TSTF-418R2) and TSTF-411, Revision 1 (TSTF-411R1), respectively.

Series of WOG WCAPs Approved by NRC

As explained in Section 3.0, "Background," in Attachment 1 to the application, the WOG has completed a series of TRs that document the relaxation of RTS and ESFAS test times, CTs, and STIs for RTS/ESFAS instrumentation. The relaxations were based on analyses of RTS/ESFAS reliability and the impact of that reliability on plant risk. The licensee stated that the original study is the TOP and documented in a series of reports under WCAP-10271. This has continued with the WOG's submittal of WCAP-14333 and WCAP-15376 for relaxations beyond those approved in WCAP-10721.

The changes to the RTS/ESFAS requirements in the TSs based on WCAP-10721 are the following:

1. Increase STI for RTS analog channel operational tests (COTs) from once per month to once per quarter.
2. Increase time in which an operable RTS analog channel may be maintained in an untripped condition from 1 hour to 6 hours.

3. Increase time an inoperable RTS analog channel may be bypassed to allow testing of another channel in the same function from 2 hours to 4 hours. Also, the channel test may be done in the bypass mode leaving the inoperable channel in the tripped condition.
4. Allow testing of the RTS analog channels in a bypass condition instead of in a tripped condition.

The current licensing basis (CLB) for Callaway includes WCAP-10271 which has been implemented in Amendments Nos. 17, 64, and 137 and is discussed below. WCAP-10271 is risk-informed, as are WCAP-14333 and WCAP-15376, which are being implemented at Callaway in the proposed amendment.

The proposed changes to the TSs are based primarily on WCAP-14333 and WCAP-15376, which have been reviewed and approved for application to plant TSs by the NRC staff. As stated above, these two WCAPs are a continuation of WCAP-10271. The licensee explained that the approach used in WCAP-14333 and WCAP-15376 is consistent with the approach taken in WCAP-10271. Differences in analysis methods from the methods in WCAP-10271 are addressed in Section 7.1 of WCAP-14333 and Section 8.3.5 of WCAP-15376. The relaxations from WCAP-10271 that are justified in WCAP-14333 and WCAP-15376 are the following:

Changes Based on WCAP-14333 and WCAP-15376

The changes to the RTS/ESFAS requirements based on WCAP-14333 are the following:

1. Increase CTs from 6 to 72 hours for inoperable analog instrumentation.
2. Increase test bypass times from 4 to 12 hours for surveillance testing of analog channels.
3. Increase CTs from 6 to 24 hours for an inoperable logic cabinet or master and slave relays.

The NRC staff approved WCAP-14333, Revision 0, in its letter dated July 15, 1998, which is included in WCAP-14333, Revision 1, dated October 1998. The NRC staff stated that it would withhold the proprietary information in the WCAP in its letter of April 26, 2004.

Vogtle Electric Generating Plant Units 1 and 2, Amendments 116 and 94 respectively, also established a precedent for implementing the NRC-approved WCAP-14333 relaxations in the TSs.

The changes to the RTS/ESFAS requirements based on WCAP-15376 are the following:

Plants With SSPS

1. Increase the STIs for logic cabinets and master relays from 2 months to 6 months.

2. Increase the STIs for analog channels from 3 months to 6 months.
3. Increase the STIs for reactor trip breakers (RTBs) from 2 months to 4 months.
4. Increase test bypass times and CTs for RTBs from 2 hours to 4 hours (bypass times) and from 1 hour to 24 hours (CTs).

Plants With RPS

1. Increase the STIs for logic cabinet from 1 month to 6 months.
2. Increase the STIs for analog channels from 3 months to 6 months.
3. Increase the STIs for RTBs from 2 months to 4 months.
4. Increase test bypass times and CTs from 2 hours to 4 hours (bypass times) and from 1 hour to 24 hours (CTs)

The NRC staff approved WCAP-15376, Revision 0, in its letter dated December 20, 2002, which is included in WCAP-15376, Revision 1, dated March 2003. The NRC staff stated that it would withhold the proprietary information in the WCAP in its letter of April 26, 2004.

3.0 REGULATORY EVALUATION

Section 50.36(c)(3), "Technical Specifications," of 10 CFR requires a licensee's TSs to have SRs relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operations are within safety limits, and that the LCOs will be met. The SRs may include mode restrictions based on the safety aspects of conducting the surveillances in excluded modes.

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. In 10 CFR 50.36, the Commission establishes the regulatory requirements related to the content of TSs. In doing so, the Commission emphasized those matters related to preventing accidents and mitigating accident consequences. The Commission noted that applicants were expected to incorporate into their TSs "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity" (see Statement of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," of December 17, 1968 (33 FR 18610)).

Section 50.36 of 10 CFR requires that plant TSs have the following five specific categories:

- (1) safety limits, limiting safety system settings and limiting control settings,
- (2) LCOs,
- (3) SRs,
- (4) design features, and
- (5) administrative controls.

Although the rule does not specify specific TS requirements, implicit within 10 CFR 50.36 is the requirement that the required actions for an LCO not being met and the test bypass times, CTs, and STIs specified in the TSs must be based on reasonable protection of the public health and safety. Therefore, the NRC staff must be able to conclude that there is reasonable assurance that the RTS/ESFAS functions affected by these proposed TS changes will perform their required safety functions in accordance with the design basis accidents in Chapter 15 of the licensee's Final Safety Analysis Report (FSAR), based on the proposed test bypass times, CTs, and STIs.

The NRC staff reviewed the licensee's discussion on applicable regulatory requirements in Section 5.2 of Attachment 1 to its application. The licensee referred to General Design Criteria (GDC) 2, 4, 13, 20, 21 through 25, and 29 of Appendix A to 10 CFR Part 50 which provide the following design criteria for nuclear power plants:

- GDC 2 which requires structures, systems, and components (SSCs) important to safety to be designed to withstand natural phenomena. Components include RTS/ESFAS instrumentation.
- GDC 4 which requires SSCs important to safety be designed to accommodate environmental conditions associated with normal plant operation, maintenance, and accidents.
- GDC 13 which requires instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, anticipated operational occurrences, and accidents.
- GDC-20 which requires protection systems (which include RTS/ESFAS instrumentation) be designed to initiate automatic operation of appropriate systems to assure fuel safety limits are not exceeded.
- GDC-21 which requires protection systems be designed for high functionality and testability.
- GDC-22 through -25, and GDC-29, which require design attributes for protection systems including independence, safe failure modes, separation from control systems, requirements for reactivity control malfunctions, and protection against anticipated operational occurrences.

The licensee also referred to several guidance documents that are not listed in the NRC regulations and only provide acceptable methods to meet NRC regulations.

The licensee stated in Section 5.2 of Attachment 1 to its application that there are no changes to the design of the RTS/ESFAS instrumentation such that "compliance with any of the regulatory requirements and guidance documents above would come into question." The NRC staff has reviewed the amendment application and, because the only aspects of the RTS/ESFAS instrumentation being changed are the test bypass times, CTs, and STIs,

concludes that the RTS/ESFAS instrumentation involved with the proposed changes in the application continue to meet the above GDC.

Based on this, the NRC staff will review the proposed TS changes against the requirement stated above for 10 CFR 50.36 that, based on the changes there is reasonable assurance that the RTS/ESFAS instrumentation affected by the proposed changes will perform their required safety functions.

4.0 TECHNICAL EVALUATION

4.1 Introduction

In its application, the licensee stated that the proposed changes to TSs 3.3.1, 3.3.2, and 3.3.9 are in the following categories:

1. The allowed CT to restore an inoperable RTS or ESFAS analog channel, before the channel is placed in the tripped condition, is increased from 6 hours to 72 hours.
2. The allowed time for an inoperable RTS or ESFAS analog channel to be bypassed for testing other analog channels is increased from 4 to 12 hours.
3. The allowed CT to restore an inoperable train of the SSPS logic (TSs 3.3.1 and 3.3.2) or actuation relays (TS 3.3.2) before the plant is required to shut down is increased from 6 hours to 24 hours.
4. The allowed time for one RTB train to be bypassed for surveillance testing is increased from 2 hours to 4 hours.
5. The allowed CT to restore an inoperable RTB train before the plant is required to shut down is increased from 1 hour to 24 hours.
6. The STI for the RTB trip actuating device operational test (TADOT) is increased from 31 days to 62 days, both on staggered test basis.
7. The STI for the SSPS actuation logic test and master relay test is increased from 31 days to 92 days, both on staggered test basis.
8. The STI for the COTs in TSs 3.3.1, 3.3.2, and 3.3.9 is increased from 92 days to 184 days.
9. The Note above SR 3.3.2.6 is revised to reflect that slave relay K750 is not tested on a 92-day frequency, but is tested on an 18-month frequency under SR 3.3.2.14.
10. Revise the required actions in Condition D of TS 3.3.1 for one power range neutron flux - high channel inoperable.
11. Delete notes from the required actions in Condition R of TS 3.3.1.

12. Revise required actions in Condition K of TS 3.3.2.
13. Add Condition S to TS 3.3.2.
14. Revise notes in SRs for TS 3.3.2.
15. Revise ESFAS functions in TS Table 3.3.2-1.
16. Administrative change to correct the format of the existing TSs.

4.2 Relationship of Amendment to WCAP-14333 and WCAP-15376

The proposed changes to the TSs can be grouped into the following areas of change: (1) the changes based directly on WCAP-14333 and WCAP-15376, (2) the changes based indirectly on these WCAPs, and (3) the changes not related to these WCAPs. Tables 1 and 2 attached to this SE show the proposed changes, the RTS/ESFAS functions in TS Tables 3.3.1-1, "Reactor Trip System Instrumentation," and 3.3.2-1, "Engineered Safety Feature Action System Instrumentation" associated with the changes, and which of the two WCAPs is related to the changes. The proposed changes are numbered from 1 to 31 in Table 1 attached to this SE and are in the order given in Attachment 2 to the licensee's application.

The NRC staff's evaluation of the proposed changes will be in four parts: (1) applicability of WCAP-14333 and WCAP-15376 to Callaway, (2) implementation of the SE conditions for the two WCAPs at Callaway, (3) evaluation of the proposed changes that are associated with, and deviate from, the WCAPs, and (4) evaluation of the proposed changes not associated with the WCAPs.

4.3 Applicability of WCAPs to Callaway

Both WCAP-1433 and WCAP-15376 use probabilistic risk assessment to justify plant-specific changes to the TSs in accordance with Regulatory Guides (RGs) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Current Licensing Bases," dated July 1998, and 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," dated August 1998. In these documents and in the NRC staff's SEs on these documents, there are references to Tier 1, Tier 2, and Tier 3.

Tier 1, using the probabilistic risk assessment (PRA) for the plant, assesses the impact of the proposed change on the core damage frequency (CDF), incremental conditional core damage probability (ICCDP), large early release frequency (LERF), and incremental conditional large early release probability (ICLERP). Tier 2, the avoidance of risk-significant plant-specific configurations, considers potential risk-significant plant operating conditions and addresses the need to preclude potentially risk-significant plant equipment outage configurations should additional equipment outages occur during the required action CT period of time. Tier 3, risk-informed plant configuration control and management, addresses the plant-specific configuration risk management program (CRMP), including the risk-informed assessment for outages and what SSCs are controlled by the program.

An acceptable program is one that during normal plant operations ensures the risk impact of out-of-service equipment is evaluated prior to performing maintenance and uncovers risk-significant plant equipment outage configurations in a timely manner. Tier 3 confirms that CRMP insights will be incorporated into the licensee's decision making process before taking equipment out of service prior to or during the required action CT period of time. Tier 1 was dealt with in the review of the two WCAPs, and Tiers 2 and 3 are addressed in the plant-specific applications of the WCAPs.

WCAP-14333 Conditions

WCAP-14333 justifies (1) an increase in the bypass times for testing and the CTs for both the SSPS and relay protection for RPS and ESFAS instrumentation, and (2) a revised action statement for an inoperable slave relay. In Section 4.0 of the SE that approved WCAP-14333, the NRC staff specified the following conditions and limitations of the applicability of the WCAP on a plant-specific basis:

1. Confirm the applicability of WCAP-14333 analyses to their plant.
2. Address the Tier 2 and Tier 3 analyses. Licensees are to (1) confirm that the necessary restrictions will be placed on concurrent equipment outages in order to avoid risk significant configurations, and (2) describe the provisions of the configuration risk management program consistent with the guidance of draft Regulatory Guide 1065 (DG-1065) for assessing risk associated with various planned and unplanned work activities.

WCAP-15376 Conditions

WCAP-15376 justifies an increase in the (1) bypass times for testing and CTs for RTBs, and (2) STIs for components of the RPS. In Section 5.0 of the SE that approved WCAP-15376, the NRC staff specified the following conditions and limitations on the applicability of the WCAP on a plant-specific basis:

1. A licensee is expected to confirm the applicability of WCAP-15376 to their plant, and to perform a plant-specific assessment of containment failures and address any design or performance differences that may affect the proposed changes.
2. Address the Tier 2 and Tier 3 analyses including risk significant configuration insights and confirm that these insights are incorporated into the plant-specific CRMP.
3. The risk impact of concurrent testing of one logic cabinet and associated RTB needs to be evaluated on a plant-specific basis to ensure conformance with WCAP-15376 and should be confirmed to be applicable to the plant-specific configuration.
4. To ensure consistency with the reference plant, the model assumptions for human reliability in WCAP-15376 should be confirmed to be applicable to the plant-specific configuration.

5. For future digital upgrades with increased scope, integration and architectural differences beyond that of Eagle 21, the NRC staff finds that generic applicability of WCAP-15376 to future digital systems not clear and should be considered on a plant-specific basis.

In addition to these five SE conditions, the licensee stated that a commitment was made by the WOG in the response to NRC Question 18 (Appendix D of WCAP-15376) that requires that each licensee review its setpoint calculation methodology and assumptions to determine the impact of extending the STI of the COT from 92 to 184 days.

Applicability of WCAPs to Callaway

The licensee addressed these conditions and limitations in Attachment 6 to its application. Attachment 6A is the proprietary version and Attachment 6B is the non-proprietary version. In its letter dated April 26, 2004, the NRC staff concluded that in accordance with 10 CFR 2.390 the proprietary information in Attachment 6A would be withheld.

In Attachment 6A, the licensee addressed the applicability of both WCAPs to Callaway by providing tables comparing RTS/ESFAS plant-specific data to that assumed in the WCAPs. Based on a review of this data, the NRC staff concludes that WCAP-14333 and WCAP-15376 can be applied to the RTS and ESFAS instrumentation at Callaway.

Tier 2 Analyses

In Attachment 1, pages 13 to 16, the licensee addressed the results of the Tier 2 analysis performed for Callaway based on WCAP-14333 and WCAP-15376. Tier 2, the avoidance of risk-significant plant-specific configurations, considers potential risk-significant plant operating conditions.

For WCAP-14333, the licensee provided information based on the responses to requests for additional information (RAI) issued by the NRC staff in the review of WCAP-14333. The licensee stated that for its application Westinghouse performed (1) an evaluation of equipment according to its contribution to plant risk while the equipment covered by the proposed CTs are out-of-service for test or maintenance, and (2) an importance analysis for 25 top events in the event trees for each of the test or maintenance configurations associated with the proposed CTs. This importance analysis determined the system importance for plant configurations with (1) no ongoing test and maintenance activities (all components available), and (2) ongoing test or maintenance activities individually on the analog channels, logic trains, master relays, and slave relays. The licensee explained that, with test or maintenance activities in progress, the component or train involved is assumed to be unavailable. Therefore, the importance analysis compared cases with the following two situations:

- The case with individual components not available.
- The case with all components available.

The licensee stated that the results in terms of importance ranking were the following:

- For the cases of analog channels, master relays, and slave relays, the importance rankings among the systems involved did not change.
- For the case of an SSPS logic train in maintenance, several systems (auxiliary feedwater [AFW], reactor trip, high pressure injection, low pressure injection, and containment cooling) have a relatively significant increase in their importance ranking.

In addition, in terms of ICCDP values for the various test and maintenance configurations that Callaway may be in when the proposed CTs would be in effect, the licensee stated that the only configuration that significantly impacts CDF is that with a logic train inoperable. Based on this, the licensee concluded that the only plant configuration with an appreciable impact on CDF or a significant impact on the relative importance of other systems is that configuration of one logic train of a system being inoperable. Based on this conclusion, the licensee further stated the following about Tier 2 limitations:

- Tier 2 limitations are appropriate for when a logic train is inoperable; however,
- Tier 2 limitations are not appropriate when a slave relay, master relay, or analog channel is inoperable.

Based on these Tier 2 limitations, the licensee stated that to meet the WCAP-14333 SE condition to include Tier 2 insights in the decision making process before taking equipment out-of-service, there will be the following restrictions on concurrent removal of certain equipment when a logic train is inoperable for maintenance:

- To preserve the anticipated transient without scram (ATWS) mitigation capability, activities that would degrade the availability of the AFW system, RCS pressure relief system (i.e., pressurizer power operated relief valves and safety valves), ATWS mitigation system actuation circuitry (AMSAC), or turbine trip should not be scheduled when a logic train is inoperable for maintenance.
- To preserve loss-of-coolant accident (LOCA) mitigation capability, one complete train of the emergency core cooling system (ECCS) that can be actuated automatically must be maintained when a logic train is inoperable for maintenance.
- To preserve reactor trip and safeguards actuation capability activities that cause master relays or slave relays in the available train to be unavailable and activities that cause analog channels to be unavailable should not be scheduled when a logic train is inoperable for maintenance.
- Activities on electrical systems (e.g., alternating current (AC) and direct current (DC) power) and cooling systems (e.g., essential service water and component cooling water systems) that support the systems or functions listed in the previous three bullets should not be scheduled when a logic train is inoperable for maintenance. In other words, the licensee stated that any train that supports a function noted in the previous three bullets

(e.g., ATWS mitigation capability, AFW system, RCS pressure relief system, LOCA mitigation capability, electrical systems, cooling systems) must be available.

The licensee has committed to follow these restrictions and has listed them in Attachment 5 to its application as regulatory commitments. In a clarification of the use of the term safeguards actuation capability above, the licensee stated that the reference to this capability in the fourth bullet above is a reference to ESFAS capability.

The licensee clarified one point concerning the importance, or lack of importance, of the containment cooling system in the Callaway PRA. The importance ranking discussed above in terms of WCAP-14333 showed a relatively significant increase in importance ranking when a logic train in the containment cooling system is inoperable. The licensee explained that based on the Callaway PRA containment cooling has no effect on CDF. Therefore, the licensee stated that increasing the availability of the containment system will not offset or counter an inoperable logic train. This is the reason that the containment cooling system was not included in the Tier 2 restrictions given above for Callaway.

In reviewing the licensee's discussion of restrictions on concurrent removal of equipment when a logic train is inoperable for maintenance, the NRC staff concludes that the licensee has satisfactorily addressed the Tier 2 analyses and avoidance of risk-significant plant-specific configurations required to implement WCAP-14333 at Callaway.

For WCAP-15376, the licensee stated that to meet the WCAP-15376 SE condition to include Tier 2 insights in the decision making process before taking equipment out-of-service, there will be the following Tier 2 restrictions on concurrent removal of certain equipment when an RTB is out-of-service (e.g., inoperable for maintenance):

- Because the probability of failing to trip the reactor on demand will increase when an RTB train is removed from service, systems designed for mitigating an ATWS should be maintained available. RCS pressure relief, AFW flow for RCS heat removal, AMSAC, and turbine trip are important as alternative ATWS mitigation. Therefore, activities that degrade the availability of these systems should not be scheduled when an RTB train is inoperable for maintenance.
- Because of the increased dependence on the available reactor trip train when one logic train or one RTB train is inoperable for maintenance, activities that (1) degrade other components of the RTS, including master relays or slave relays, and (2) cause analog channels to be unavailable, should not be scheduled when a logic train or an RTB train is inoperable for maintenance.
- Activities on electrical systems (e.g., AC and DC power) and cooling systems (e.g., essential service water) that support the systems or functions listed in the previous two bullets should not be scheduled when an RTB train is inoperable for maintenance. In other words, the licensee explained that Tier 2 restrictions will control activities on the electrical and cooling support systems that support functions noted in the previous two bullets (e.g., ATWS mitigation capability, AFW system, RCS pressure relief system, LOCA mitigation capability, electrical systems, cooling systems) such that at least one

complete train of both the electrical and cooling support systems are available when RTBs are scheduled for maintenance.

The licensee stated that the above restrictions for Callaway are based on the recommended Tier 2 restrictions in Section 8.5 of the WCAP for the case of when an RTB train is inoperable for maintenance. The NRC staff has compared the above three restrictions to the three restrictions given in Section 8.5 of the WCAP and concludes that the above Tier 2 restrictions for Callaway are the same. The licensee has committed to follow these restrictions and has listed them in Attachment 5 to its application as regulatory commitments.

In reviewing the licensee's discussion of restrictions on concurrent removal of equipment when a logic train is inoperable for maintenance, the NRC staff concludes that the licensee has satisfactorily addressed the Tier 2 analyses and avoidance of risk-significant plant-specific configurations required to implement WCAP-15376 at Callaway.

Tier 3 Analyses

On page 16 of Attachment 1 of the licensee's application, the licensee addressed the results of the Tier 3 analysis performed for Callaway based on WCAP-14333 and WCAP-15376. Tier 3, risk-informed plant configuration control and management, addresses the plant-specific CRMP, including the risk-informed assessment for outages and what SSCs are controlled by the program.

In its application, the licensee stated that Tier 3 requires a proceduralized program, the CRMP, to assess the risk associated with both planned and unplanned work activities. The objective of Tier 3 is to ensure that the impact on plant operational risk from out-of-service equipment is evaluated before performing any maintenance work. A viable program per RG 1.177 Section 2.3 would be "one that is able to uncover risk-significant plant equipment outage configurations in a timely manner during normal plant operation." In other words, Tier 3 provides assurance of continuing plant safety for the case that the licensee's Tier 2 evaluations have not developed sufficient Tier 2 operational restrictions (which are discussed above) to cover all possible risk-significant plant configurations (e.g., emergent conditions).

The licensee stated in its application that procedures are in place at Callaway for the CRMP which serve to address this Tier 3 objective. The licensee gave specifics about the procedures in that Procedures APA-ZZ-00315, "Configuration Risk Management Program," and EDP-ZZ-01129, "Callaway Plant Risk Assessment," are an integral part of the CRMP process at Callaway.

In discussing the CRMP at Callaway, the licensee explained that the CRMP ensures that plant configuration risk is assessed through a computer-based program at Callaway, the PRA-based safety monitor, which assesses the impact on plant risk of equipment being out-of-service. In accordance with 10 CFR 50.65(a)(4), this risk must be managed prior to initiating any maintenance activity and the mechanism for this management is the CRMP. Therefore, the CRMP exists to meet 10 CFR 50.65 and exists at all times to manage risk. The licensee explained that risk thresholds have been established to ensure that the average baseline risk is maintained within an acceptable band. The risk threshold bands referred to are those given in

Section 11.3.7.2 of NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 3, dated July 2000, which was endorsed with qualifications by NRC, as stated in Section C of Regulatory Guide 1.182. The qualifications do not include the bands given in NUMARC 93-01 which define action thresholds based on ICDP and ILERP. The red, yellow, and green safety monitor status colors refer to different bands based on higher to lower ICDP and ILERP risk for the situation.

In its application, the licensee concluded with the statement that if a risk significant configuration occurs, it would take immediate action through the CRMP to protect safety-related SSCs relied upon to mitigate events and accidents and the CRMP ensures that risk is properly assessed for the case where emergent conditions which could result in a plant configuration that has not been previously assessed.

In reviewing the licensee's discussion on Tier 3 risk-informed configuration risk management, discussed above, the NRC staff concludes that the licensee has satisfactorily addressed the Tier 3 analyses required in the SEs for WCAP-14333 and WCAP-15376 so that both WCAPs may be implemented at Callaway.

Relationship Between Tier 2 and Tier 3 for WCAP-14333 and WCAP-15376

The above Tier 2 restrictions are the avoidance of risk-significant plant-specific configurations based on WCAP-14333 and WCAP-15376, and Tier 3 is the risk-informed plant configuration control and management of 10 CFR 50.65, which includes the CRMP to make risk-informed assessments. The Tier 2 restrictions discussed above are not always in effect, but the CRMP being part of 10 CFR 50.65 operates at all times managing the risk during maintenance at the plant. The above Tier 2 requirements exists only because of WCAP-14333 and WCAP-15376 and exists only when the plant is in an extended test bypass time, CT, or STI that is based on the two WCAPs.

In discussing the Tier 2 restrictions, the licensee further stated that these restrictions would not be applied when a logic train is being tested under the existing test bypass time notes in TSs 3.3.1 Condition Q, 3.3.2 Condition C, and 3.3.2 Condition G, which allows one train to be bypassed for up to 4 hours for surveillance testing provided the other train is operable. In other words, as long as the inoperable train is inoperable only because of surveillance testing and only for up to 4 hours, the above restrictions would not be applied to provide risk-based compensatory measures. This is because the inoperable train is only being considered inoperable because of the surveillance testing and the current TSs for Callaway allows a test bypass time of 4 hours. The licensee further stated, because these three conditions are typically entered due to equipment failure and unplanned for versus planning to take the equipment out-of-service for maintenance, it follows that some of the Tier 2 restrictions may not be met at the time of entry into any of the conditions for equipment failure. If this situation were to occur (i.e., a train becomes inoperable because of equipment failure) during the proposed extended 24-hour CT to restore the inoperable train to operable status, the licensee stated that the Tier 3 CRMP will assess the emergent condition and decide from a risk management perspective to (1) restore the inoperable logic train and exit the condition, (2) implement the Tier 2 restrictions (i.e., given above in the discussion of the licensee's Tier 2 analyses), or (3) shut the plant down. Therefore, the CRMP could decide to shut down the plant sooner than

required by the proposed extended 24-hour CTs in any of the three TS conditions; however, because the current TSs (based on WCAP-10271) for the three conditions allows 6 hours to restore the inoperable train to operable status before requiring the plant to start shutting down, it would be unlikely that the Tier 3 CRMP would have the plant start shutting down before the train had been inoperable for at least 6 hours.

The following TS conditions are similar to the above TSs 3.3.1 Condition Q, 3.3.2 Condition C, and 3.3.2 Condition G in that these conditions have notes about bypassing a train and requirements to restore the inoperable train or channel to operable status: TSs 3.3.1 Condition R and 3.3.2 Condition K. However, the licensee did not include these conditions in its discussion that some of the above Tier 2 restrictions may not be met under certain conditions. The reason for this is that TS 3.3.1 Condition R is for inoperable RTBs and TS 3.3.2 Condition K is for analog channels, whereas TSs 3.3.1 Condition Q, 3.3.2 Condition C, and 3.3.2 Condition G are for logic trains. RTBs are addressed in WCAP-15376 and TS 3.3.1 Condition R would come under the Tier 2 restrictions in WCAP-15376 discussed below and the Tier 3 CRMP requirements on pages 15 and 16 of Attachment 1 to the licensee's application. For analog channels, there are no Tier 2 or Tier 3 restrictions.

For the proposed changes to TS conditions where the required action is to place the channel in trip, the licensee also did not include these conditions in its discussion above on Tier 2 requirements may not be met under certain conditions. The reason that these TS conditions were not included in the discussion is that they are for analog channels and Tier 2 restrictions are not required for inoperable analog channels.

In discussing the Tier 2 restrictions for RTBs from WCAP-15376, the licensee further stated that these restrictions would not be applied when an RTB train is being tested under the existing note in TS 3.3.1 Condition R, which allows one train to be bypassed for up to 4 hours for surveillance testing provided the other train is operable. In other words, as long as the inoperable train is inoperable only because of surveillance testing and only for up to 4 hours, the above restrictions would not be applied to prevent the surveillance testing of the train. This is because the inoperable train is only being considered inoperable because of the surveillance testing. The licensee further stated, because this condition is typically entered due to unplanned RTB train failure versus planning to take the RTB train out-of-service for maintenance, it follows that some of the Tier 2 restrictions may not be met at the time of entry into any of the conditions for RTB train failure. If this situation were to occur (i.e., an RTB train becomes inoperable because of equipment failure) during the proposed extended 24-hour CT to restore the inoperable train to operable status, the licensee stated that the Tier 3 CRMP will assess the emergent condition and decide from a risk management perspective to (1) restore the inoperable RTB train and exit the condition, (2) implement the Tier 2 restrictions, or (3) shut the plant down. Therefore, the CRMP could decide to shut down the plant sooner than required by TS 3.3.1 Condition R.

In reviewing the licensee's application, the NRC staff has reviewed how the licensee will implement the Tier 2 and Tier 3 requirements from WCAP-14333 and WCAP-15376, and concludes that the licensee's implementation, as described above, is acceptable.

Third Through Fifth Conditions in SE on WCAP-15376

The only two conditions in the NRC staff's SE on WCAP-14333 and the first two conditions in the SE on WCAP-15376 were addressed in the above discussions on Tier 2 and Tier 3 analyses. The remaining SE conditions concern only WCAP-15376. These remaining SE conditions were addressed by the licensee on pages 17 through 19 of Attachment 1 to its application.

The third SE condition on WCAP-15376 is the following: The risk impact of concurrent testing of one logic cabinet and associated RTB needs to be evaluated on a plant-specific basis to ensure conformance with the WCAP should be confirmed to be applicable to the plant-specific configuration.

The licensee stated (1) that this condition is answered by the WOG's response to NRC RAI Question 4 in the NRC staff's review of WCAP-15376, (2) that this condition is, therefore, addressed on a plant-specific basis by demonstrating the WCAP-15376 analysis is applicable to Callaway, and (3) that this demonstration of WCAP applicability to Callaway is given in Attachment 6 to its application.

The licensee explained that the response to NRC RAI Question 4 provided the ICCDP for the configuration of both logic train and associated RTB train out-of-service for preventive maintenance for a total of 30 hours, which is 24 hours for the CT and 6 hours for plant shutdown to Mode 3. The licensee stated that because of the following:

- The configuration addressed in NRC RAI Question 4 is the same configuration in the third SE condition, and 30 hours is the same unavailability time for both cases.
- The ICCDP in WCAP-15376 for the 30-hour unavailability is $3.2E-07$.
- Because WCAP-15376 is applicable to Callaway, the plant-specific ICCDP for Callaway for the configuration is not greater than $3.2E-07$, and
- The ICCDP of $3.2E-07$ is less than the acceptance criterion of $5E-07$ in RG 1.177.

The plant-specific ICCDP of concurrent testing of one logic cabinet and associated RTB at Callaway is within the acceptance criterion of RG 1.177.

The NRC staff has reviewed the licensee's basis for concluding that it has acceptably addressed the third SE condition for WCAP-15376 and finds that this basis is acceptable. In the above discussion of the applicability of the WCAPs to Callaway, the NRC staff addressed the licensee's basis that WCAP-15376 can be applied to Callaway and concluded that the WCAP can be applied to Callaway.

The fourth SE condition on WCAP-15376 is the following: to ensure consistency with the reference plant, the model assumptions for human reliability in WCAP-15376 should be confirmed to be applicable to the plant-specific configuration.

The licensee stated that it addressed this SE condition in Attachment 6 to its application. The licensee has reviewed the key assumptions for operator actions in WCAP-15376 and compared them to operator actions at Callaway. The licensee provided Table 5, "WCAP-15376 Implementation Guidelines: Applicability of the Human Reliability Analysis," that addresses plant procedures in place for operator action. Based on its review of the contents of Attachment 6, as described above, the NRC staff concludes that the licensee has confirmed that the model assumptions for human reliability in WCAP-15376 are applicable to Callaway.

The fifth SE condition on WCAP-15376 is the following: for future digital upgrades with increased scope, integration and architectural differences beyond that of Eagle 21, the NRC staff finds that the generic applicability of WCAP-15376 to future digital systems is not clear and should be considered on a plant-specific basis.

The licensee stated that this condition does not apply to Callaway in that future digital upgrades will be the subject of future applications to the NRC.

Based on the above discussion, the NRC staff concludes that the licensee has acceptably addressed SE Conditions 3 through 5 for WCAP-15376.

Additional Commitment through WOG Response to NRC Question 18

In addition to the five SE conditions for WCAP-15376, the licensee stated that a commitment was made by the WOG in the response to NRC Question 18 (Appendix D of WCAP-15376) that requires each plant review its setpoint calculation methodology and assumptions to determine the impact of extending the surveillance interval of the COT from 92 to 184 days. The licensee addressed this commitment in its application.

Because the rack drift term used in the Callaway setpoint study is based on the 92-day interval for COTs, the licensee stated that the increase in the COT STI from 92 to 184 days will be verified to have no impact on the licensee's setpoint study. The licensee explained that after the NRC had approved the quarterly (i.e., 92 days) COT surveillance interval in Amendment Nos. 17 and 64, dated September 8, 1986, and October 9, 1991, respectively, it committed to review the as-found and as-left data for a year. Based on this review, it found no impact on the setpoint study, nominal trip setpoints, allowable values, or surveillance frequencies. Based on this review, the licensee does not expect any impact because of increasing the COT interval from 92 days to 184 days. However, the licensee stated that it would trend the as-found and as-left data for the three representative trip functions analyzed in WCAP-15376 for two years (four data points) after the amendment approves the longer COT interval. This statement is a regulatory commitment and included by the licensee in Attachment 5 of the application. Based on this regulatory commitment, the NRC staff concludes that the licensee has acceptably addressed this additional commitment made through the WOG response to NRC Question 18 for WCAP-15376.

Effect of Applying Both WCAPs to Plant

The licensee addressed the effect of applying both WCAP-14333 and WCAP-15376 to Callaway in providing the combined WCAPs risk metric results. Because Callaway is changing

from the WCAP-10271 CT/bypass test time conditions to the WCAP-15376 conditions they are requesting less of a change than a licensee starting from the pre-TOP (or pre-WCAP-10271-P-A) conditions. This effect of implementing both WCAPs is discussed on page 12 of Attachment 1 to the licensee's application where there is a table of the change in CDF and LERF per year, ICCDP, and ICLERP for the following cases: first, the change from WCAP-10271 to WCAP-14222; and second, the change from WCAP-14333 to WCAP-15376. The changes are for two-out-of-four (2/4) logic and two-out-of-three (2/3) logic trains. The changes range from a low of $1.1\text{E-}11$ to a high of $8.5\text{E-}07$ for the different logics and for maintenance or testing. The acceptance criteria in the licensee's table comes from the acceptance guidelines in Section 2.2.4 of RG 1.174 (for ΔCDF and ΔLERF) and Section C.2.4 of RG 1.177 (for ICCDP and ICLERP). The values of ΔCDF and ΔLERF in the table for 2/4 logic and 2/3 logic are taken from (1) the differences in CDF in Table 8.4 and the differences in LERF in Table Q13.1 for "TOP" and "proposed" of WCAP-14333, and (2) Tables 8.29 and 8.32 of WCAP-15376 for Case 7.

The licensee stated that values of ICCDP and ICLERP depend on the particular component being tested or in maintenance (i.e., the values are situational in nature because they depend only on specific component and the proposed CT); however, the values of ΔCDF and ΔLERF are cumulative from the current licensing basis for Callaway (i.e., WCAP-10271) to the new proposed licensing basis (i.e., WCAP-14333 and WCAP-15376). The licensee stated that the change in risk given in the table in the application for ICCDP and ICLERP, and the cumulative ΔLERF (i.e., from WCAP-10271 to WCAP-15376) are within the NRC acceptance criterion; however, the cumulative ΔCDF of $1.16\text{E-}06$ (for 2/4 logic) and $1.46\text{E-}06$ (for 2/3 logic), the sum of the probabilities for the change from WCAP-10271 to WCAP-15376, are above the RG 1.174 ΔCDF acceptance criteria of less than $1\text{E-}06$.

It is stated in RG 1.174 that, if the ΔCDF for a risk-informed amendment is greater than $1.0\text{E-}06$, then the licensee must reasonably show that the total CDF is less than $1.0\text{E-}04$. The licensee addressed the fact that the ΔCDF s for 2/4 logic and 2/3 logic for the proposed amendment are above the acceptance criterion in RG 1.174 by stating that Section 8.4.4 and Table 8.33 of WCAP-15376 addresses the ΔCDF for the case of pre-WCAP-10271 (pre-TOP) to WCAP-15376 and shows the ΔCDF for the 2/4 logic and 2/3 logic are $5.7\text{E-}07$ and $1.1\text{E-}06$, respectively. The sequence in implementing WCAP reports in the relaxation of bypass test times, CTs, and STIs for RTS/ESFAS instrumentation has been in the following order: pre-WCAP-10271 (pre-TOP), WCAP-10271, WCAP-14333, and WCAP-15376. WCAP-10271-P-A has already been implemented in previous amendments at Callaway, and the licensee now proposes to implement WCAP-14333 and WCAP-15376.

Because the ΔCDF for 2/4 logic for a change from pre-TOP to WCAP-15333 is less than the acceptance criterion, the licensee concludes that the proposed amendment for 2/4 logic meets the ΔCDF acceptance criterion in RG 1.174. This means that although the ΔCDF for 2/4 logic for the proposed amendment (i.e., applying the changes from WCAP-10271 to WCAP-15376) does not meet the RG 1.174 ΔCDF acceptance criterion, starting from an earlier point (i.e., pre-TOP) in the development of CTs and STIs in the Callaway TSs, the change to the proposed amendment does meet the acceptance criterion. The NRC staff has considered this application of calculating ΔCDF to meet the RG 1.174 acceptance criterion and concludes that this is an acceptable approach to using the guidance in RG 1.174.

The licensee, however, also stated that the cumulative Δ CDF in Table 8.3.3 of WCAP-15376 for the 2/3 logic is still slightly greater than the RG 1.174 Δ CDF acceptance criterion. The licensee explained that the 1.1E-06 probability is for the case of pre-WCAP-10271 to WCAP-15376 and the proposed amendment for Callaway is only for the case of WCAP-10271 to WCAP-15376. Therefore, the Δ CDF for changing from WCAP-10271 to WCAP-15376 (the proposed amendment) should have a Δ CDF of less than 1.0E-06. Also, the licensee pointed out that there is the supplemental consideration of the shutdown risk avoided with extended CTs, which is discussed in Section 8.4 of WCAP-15376. Based on this, the licensee concluded that the Δ CDF for the proposed amendment met the acceptance criterion of RG 1.174. After its review of the licensee's justification, the NRC staff concluded that it agreed with the licensee although, in the discussion of shutdown and transition risk in Section 3.1.4 of WCAP-15376, the staff stated that the evaluation of transition risk would only occur when unscheduled corrective maintenance cannot be completed within the allotted time specified in the TSs and, in the case of the proposed amendment, the maintenance would be scheduled.

Based on the above discussion, the NRC staff concludes that it is acceptable for the licensee to apply both WCAP-14333 and WCAP-15376 to Callaway and that the licensee has acceptably addressed the acceptance criteria in RGs 1.174 and 1.177.

4.4 Plant-Specific Evaluations of RTS/ESFAS Instrumentation Functions

Not all of the RTS/ESFAS instrumentation functions listed in Tables 3.3.1-1 and 3.3.2-1 have been generically approved for the extended test bypass times, CTs, and STIs in the SEs for WCAP-14333 and WCAP-15376. Based on its review and approval of WCAP-10271, WCAP-14333, and WCAP-15376, the NRC staff concludes that the functions listed in Tables 3.3.1-1 and 3.3.2-1 of the Westinghouse STS in NUREG-1431, Revision 2, dated April 2001, have been approved for changes to test bypass times, CTs, and STIs through the approval of the WCAPs except for the following functions in ESFAS Table 3.3.2-1 which are also listed as exceptions in TSTF-411R1 and TSTF-418R2:

- ESFAS Function 7.b: Refueling water storage tank (RWST) level - low low (coincident with safety injection).
- ESFAS Function 7.c: RWST level - low low (coincident with safety injection and containment sump level - high).

In order to apply the TS time relaxations justified in the WCAPs to RTS/ESFAS functions not covered by the WCAPs, licensees must submit plant-specific evaluations for NRC review and approval. On page 19 of Attachment 1 to its application, the licensee stated that the changes to the bypass test times, CTs, and STIs were approved by the NRC for the functions in Tables 3.3.1-1 and 3.3.2-1 of the TSs, except for the following functions:

- RTS Functions 14.c and d: Steam generator water level - low low (vessel Δ T equivalent including trip time delay (TTD) and containment pressure - environmental allowance modifier (EAM).

- ESFAS Functions 5.e.(3) and (4): Steam generator water level low-low (adverse and normal containment environment) by turbine trip and feedwater isolation.
- ESFAS Functions 6.d.(3) and (4): Steam generator water level low-low (adverse and normal containment environment) by auxiliary feedwater.
- ESFAS Function 7.b: RWST level - low low (coincident with safety injection)

The ESFAS Function 7.c given above is not listed by the licensee since this function is not in TS Table 3.3.2-1.

In identifying that the above functions were not covered by the NRC-approved WCAPs, the licensee stated further that these functions had been approved by the NRC in Amendment No. 64 issued October 9, 1991 in item 11 (pages 6 and 7) of the NRC staff's SE. The NRC staff reviewed its SE dated October 9, 1991 and concluded that the amendment approved the application of WCAP-10271 to the above RTS/ESFAS functions. Based on this, the NRC staff further concludes that the licensee has met the requirement that it submit acceptable plant-specific evaluations for the RTS/ESFAS functions included in its amendment application, but not included in WCAP-14333 and WCAP-15376.

Therefore, based on the above discussion, the NRC staff concludes that the RTS/ESFAS functions, which are associated to the changes in test bypass times, CTs, and STIs in the licensee's proposed amendment, are covered by WCAP-10271, WCAP-14333, or WCAP-15376.

Conclusions

Based on the evaluation given above, the NRC staff concludes that the licensee in its application has demonstrated the following:

- WCAP-14333 and WCAP-15376 apply to Callaway.
- The conditions in the SEs whereby the NRC staff approved the WCAPs have been met at Callaway.
- The RTS/ESFAS instrumentation associated with the proposed changes (see Table 1 attached to this SE) have been approved by the NRC staff to have the relaxations in test bypass times, CTs, and STIs given in the WCAPs.

4.5 Proposed Changes to the TSs

The proposed TS changes described in Section 4.1 of this SE are the 31 changes listed in Table 1 attached to this SE. They are listed in the order of the licensee's marked-up TS pages in Attachment 2 of the licensee's application. The proposed changes are evaluated below as changes that (1) are based directly on WCAPs-14333 and WCAP-15376, (2) deviate from the WCAPs, and (3) are not related to the WCAPs:

4.5.1 Changes Based Directly on WCAP-14333 and WCAP-15376

The NRC staff approved TSTF-411R1 and TSTF-418R2 to provide acceptable TSs to implement the changes given in WCAP-15376 and WCAP-14333, respectively, for RTS/ESFAS functions listed in TS Tables 3.3.1-1 and 3.3.2-1 that have been approved by the NRC staff.

The licensee's proposed changes to TSs 3.3.1 and 3.3.2 that are the same as the TSs in TSTF-411R1 and TSTF-418R2 are change numbers 1, 3 through 20, 22, 23, 26, 28, and 31 in Table 1 attached to this SE. Change numbers 8, 9, 20, 22, and 23, which are listed in Table 3 attached to the SE for deviations to the TSTFs, are included in this section based on the discussion in Section 4.5.2.

Based on the following:

- The licensee has demonstrated that WCAP-14333 and WCAP-15376 applies to Callaway.
- The licensee has demonstrated for Callaway that it has met the conditions in the NRC staff's SEs that approved WCAP-14333 and WCAP-15376.
- The licensee has made acceptable regulatory commitments on Tier 2 restrictions in Attachment 5 to its application, which are discussed in Section 4.3 of this SE.
- The RTS/ESFAS functions associated with the proposed TS changes have been approved for the extended test bypass times, CTs, and STIs in the WCAPs, as discussed in Section 4.4.
- The proposed TS changes are the same as the TS wording in TSTF-411R1 and TSTF-418R2, which the NRC approved for implementing the WCAPs.
- The licensee has implemented the maintenance rule (10 CFR 50.65) at Callaway and the last NRC inspection to determine if the licensee's maintenance efforts met the regulation identified no findings of significance as documented in Inspection Report 50-483/2003006 dated February 5, 2004.
- The licensee has concluded on page 28 of Attachment 1 to its application that there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, which is operation with the proposed test bypass times, CTs, and STIs.

The NRC staff concludes that the proposed changes identified as change numbers 1, 3 through 20, 22, 23, 26, 28, and 31 in Table 1 attached to this SE meet 10 CFR 50.36 because the proposed test bypass times, CTs, and STIs are based on reasonable protection of the public health and safety in that there is reasonable assurance that the RTS/ESFAS functions affected by these proposed TS changes will perform their required safety functions in accordance with the design basis accidents in Chapter 15 of the FSAR, based on the proposed test bypass times, CTs, and STIs.

4.5.2 Changes that Deviate from WCAP-14333 and WCAP-15376

The licensee stated in its application that there are proposed changes to the TSs that are deviations from the two TSTFs in that the changes are either (1) simply different from those in TSTF-411R1 and TSTF-418R2 for plant-specific reasons, or (2) required because of another change which is based on the TSTFs (i.e., a change based on either of the two TSTFs requires another change not given in either of the TSTFs). The changes identified by the licensee as deviations from the TSTFs are in Table 3 attached to this SE.

For the first item in Table 3 attached to this SE, in its application and the supplemental letter dated November 16, 2004, the licensee has proposed different required actions for TS 3.3.1 Condition D. The licensee stated that Condition D was restructured to avoid confusion as to when a neutron flux map for quadrant power tilt ratio (QPTR) is required in that Condition D in TSTF-418R2 could "incorrectly lead an operator to believe that he could pursue just the option of Required Actions D.1.1 and D.1.2, potentially overlooking the requirement to do a flux map for QPTR within 12 hours per the Note above SR 3.2.4.2." The licensee also stated that the format of the STS is such that the required actions with shorter CTs are supposed to appear before those with longer CTs and the proposed Condition D follows this format. The licensee concluded with the statement that the proposed TS 3.3.1 Condition D captures the test bypass time of 12 hours and the maintenance time before tripping of 72 hours, while eliminating the QPTR and formatting confusions.

In reviewing this deviation from TSTF-418R2, the NRC staff has decided that by adopting the 72-hour CT allowance in TSTF-418R2 for placing a power range neutron flux (PRNF) channel in trip, Condition D can be restructured as proposed by the licensee to adopt the STS formatting convention for listing increasing CTs. This is accomplished by combining the required action requirement to reduce power to less than or equal to 75 percent RTP (Required Action D.1.2 of TSTF-418R2) with the note that specifies performing SR 3.2.4.2 (Required Action D.2.2 of TSTF-418R2). Because of this and because the PRNF input to QPTR is not credited at thermal power less than 75 percent RTP, the NRC staff concludes that this deviation from TSTF-418R2 is acceptable.

For the second item, the licensee has stated that the notes for test bypass times for plants with installed bypass test capability (i.e., Inserts 1, 2, 6, 7, 9, 17, and 18 for required action notes on channels being bypassed for surveillance testing in TSTF-418R2) are not used for the Callaway TSs because the plant does not have this capability for analog channels, except for ESFAS Function 2.c, containment spray, containment pressure high-3. The licensee has decided not to propose the bypass test capability note for ESFAS Function 2.c for TS 3.3.2 Condition E, even though the licensee has proposed to extend the test bypass time in the note for this condition in change number 17. Because it is not a requirement for licensees' with installed bypass test capability to propose these inserts and it is only one function at Callaway that has this capability, the NRC staff does not have a disagreement with this decision.

For the third item, the licensee stated that it did not propose the changes in TSTF-418R2 regarding the RCP breaker position RTS trip function because this function is not used at Callaway. Based on this, the NRC staff concludes that the deviation from the TSTF is acceptable.

For the fourth item, the licensee stated that it proposed the change in TSTF-411R1 regarding the TS 3.3.1 condition for RTBs which superceded the change in TSTF-418R2. The licensee explained that it proposed Option 3 of Insert 6 in TSTF-411R1. This refers to Insert 6, reviewer's note, for the TS 3.3.1 Bases for TSTF Condition O (this is Condition R for the Callaway TSs) in which there are three options listed for the implementation of WCAP-14333 with respect to WCAP-15376 and vice versa. The licensee stated that it has chosen Option 3 which is for the implementation of both WCAPs together in which TSTF-411R1 states that TSTF Condition O will contain only one note with 4 hours as the bypass test time for an RTB train. The deviation is that the licensee's proposed changes to TS 3.1.1 Condition R follow TSTF-411R1 instead of TSTF-418R2 and, therefore, the proposed changes are only a deviation to TSTF-418R2 because the licensee has followed the reviewer's note in TSTF-411R1. Because the licensee is following the guidance in TSTF-411R1 for implementing both WCAPs together, the NRC staff concludes that the proposed changes to TS 3.3.1 Condition R are not a deviation from both TSTFs. It is acceptable that TSTF-411R1 was followed instead of TSTF-418R2, and that the changes to TS 3.3.1 Condition R can be addressed as part of Section 4.5.1.

For the fifth item, the licensee has proposed an extended test bypass time for TS 3.3.2 Condition K for ESFAS Function 7.b in change number 20, and this function was not included in either WCAP-14333 or WCAP-15376. This is addressed in Section 4.4 of this SE where the NRC staff concluded that this ESFAS function, based on a previous amendment, was accepted by the NRC to be covered by WCAP-10271, and thus now comes under WCAP-14333 and WCAP-15376. Based on this conclusion in Section 4.4, the NRC staff further concludes that the extension of the test bypass time in TS 3.3.2 Condition K for this function can also be addressed as part of Section 4.5.1 because the proposed test bypass time does not deviate from the value in TSTF-418R2.

For the sixth item, the licensee has proposed to revise the required actions for TS 3.3.2 Condition K in change number 21. The licensee stated that extending the test bypass time in the note for Condition K to 12 hours (the fifth item above) makes the Required Action K.1, to place the channel in trip within 6 hours, no longer needed to be performed because the 6 hours is less than the 12 hours. That is to say, it is not necessary to place the channel in trip within 6 hours if the channel can be bypassed for up to 12 hours. Based on this, the licensee proposed to delete Required Action K.1 and to renumber the remaining Required Actions K.2, K.3.1, and K.3.2. The required actions and the CTs for the remaining Required Actions K.2, K.3.1, and K.3.2 are not being changed. Because of this and because the NRC staff concludes that the test bypass time can be extended to 12 hours based on the discussion above for the fifth item (and Section 4.5.1), the NRC staff further concludes that the proposed deletion of Required Action K.1 and the renumbering the remaining required actions for TS 3.3.2 Condition K is acceptable.

For the seventh item, the licensee has proposed extended test bypass times and CTs for TS 3.3.2 Conditions M and N for certain ESFAS functions (listed in Table 1 attached to this SE) which were not included in either WCAP-14333 or WCAP-15376. These functions are addressed in Section 4.4 of this SE where the NRC staff concluded that these additional ESFAS functions, based on a previous amendment, were accepted by the NRC to be covered by WCAP-10271, and thus now come under WCAP-14333 and WCAP-15376. Based on this

conclusion in Section 4.4, the NRC staff further concludes that the extended test bypass times and CTs for TS 3.3.2 Conditions M and N for these ESFAS functions can be addressed as part of Section 4.5.1 because the proposed test bypass times and CTs do not deviate from the values in TSTF-418R2.

For the eighth item, the licensee has proposed a new TS 3.3.2 Condition S for the TSs and a change to the condition specified in TS Table 3.3.2-1 for ESFAS Functions 4.c and 5.b. The licensee explained that, in proposing changes to TS 3.3.2 Condition G, the proposed change would affect the two ESFAS functions in TS Table 3.3.2-1 because the condition specified in the table for these functions is Condition G. However, the changes in WCAP-15376 do not apply to these two functions and, therefore, the proposed changes to TS 3.3.2 Condition G do not apply to these two functions. Because of this, the licensee stated that a new TS 3.3.2 condition with the same requirements that are in the existing TS 3.3.2 Condition G must be added to the TSs so that these existing Condition G requirements will continue to be applied to these two functions. This addition of a new TS 3.3.2 condition is (1) the proposed addition of TS 3.3.2 Condition S for LCO 3.3.2, and (2) the change to TS Table 3.3.2-1 to have the applicable condition for ESFAS Function 4.c and 5.b be Condition S. Because the reference to Condition G for these two ESFAS functions in TS Table 3.3.2 is no longer correct with the approval of the change to Condition G and because the proposed TS 3.3.2 Condition S duplicates the existing Condition G, the NRC staff concludes that the proposed change numbers 25 and 30 are not changing any TS requirements for these two ESFAS functions and are, therefore, acceptable.

For the ninth and tenth items, change numbers 27 and 30, the licensee has proposed to (1) revise the note in SR 3.3.2.3 to state "The continuity check may be excluded **from the BOP [balance of plant] ESFAS test,**" where the words being added are in **bold**, and (2) change the surveillance requirement in TS Table 3.3.2-1 for ESFAS Functions 4.c and 5.b to SR 3.3.2.3, respectively. Neither TSTF-411R1 or TSTF-418R2 has such changes. Again, because the changes in WCAP-15376 do not apply to ESFAS Functions 4.c and 5.b, the proposed change to SR 3.3.2.2 does not apply to these functions. Because of this, the licensee stated that changing the reference from SR 3.3.2.2 to SR 3.3.2.3, which has the same STI requirement as the existing SR 3.3.2.2, will maintain the same surveillance requirements in TS Table 3.3.2 for these two functions. However, in including the ESFAS Functions 4.c and 5.b in SR 3.3.2.3, the note to exclude the continuity check does not apply to these two functions. Therefore, the proposed revision to the note will, as is explained in the TS Bases for SR 3.3.2.3, maintain the exclusion only for the BOP ESFAS test. Based on this, the NRC staff concludes that the proposed changes, to list SR 3.3.2.3 for these two ESFAS functions in TS Table 3.3.2-1 and revise the note in SR 3.3.2.3, do not change the current requirements for these two ESFAS functions in the TSs and are, therefore, acceptable.

For the eleventh and twelfth items, the licensee stated that the STIs were relaxed in WCAP-15376 for the actuation logic and master relays associated with TSs 3.3.6, "Containment Purge and Exhaust Isolation Instrumentation," and 3.3.7, "Control Room Emergency Ventilation System Actuation Instrumentation." The licensee explained that these actuation logic and master relays are processed through the SSPS and the only SSPS-related entries contained in TS Tables 3.3.6-1 and 3.3.7-1 are for Containment Isolation - Phase A, which is ESFAS Function 3.a in TS Table 3.3.2-1. Therefore, the licensee concluded that the TSTF-411R1

changes for TSs 3.3.6 and 3.3.7 are not required for the Callaway TSs. Based on this evaluation, the NRC staff concludes that not including the TSTF-411R1 changes for STSs 3.3.6 and 3.3.7 in the proposed amendment is acceptable.

Of changes numbers 2, 8, 9, 20 through 23, 25, 27, and 30 listed in Table 3 attached to this SE, change numbers 8, 9, 20, 22, and 23 are shown above, in the discussion of the fourth, fifth, and seventh items, to have the same TS wording in TSTF-411R1 or TSTF-418R2. Therefore, they are included in the previous Section 4.5.1.

For change numbers 2, 21, 25, 27, and 30, the proposed changes are addressed in the first, sixth, eighth, ninth, and tenth items above. Based on these evaluations of the deviations to TSTF-411R1 and TSTF-418R2, the NRC staff concludes that either (1) the strict adoption of these TSTFs would either not be supported by the design of the RTS/ESFAS instrumentation at Callaway or be an unnecessary burden on the licensee without a compensating increase in quality or safety, or (2) the proposed change accounts for existing TS requirements for RTS/ESFAS functions which are not included in the WCAPs or plant-specific evaluations. Based on this, the NRC staff concludes that the proposed deviations to the TSTFs provide reasonable protection of the public health and safety in that there is reasonable assurance that the RTS/ESFAS functions affected by these proposed TS changes will perform their required safety functions in accordance with the design basis accidents in Chapter 15 of the FSAR. Based on this conclusion, the NRC staff further concludes that the proposed deviations to the TSTFs in Table 3 attached to this SE meet 10 CFR 50.36.

4.5.3 Changes Not Related to WCAP-14333 and WCAP-15376

The remaining proposed changes are not related to either WCAP. These changes are the following: (1) the administrative change to make an editorial correction to TS 3.3.2 Condition O to correct the format of the required actions for the condition (change number 24 in Table 1 attached to this SE), and (2) the revision of the note in SR 3.3.2.6 to reflect that slave relay K750 is not tested on a 92-day frequency, but is tested on an 18-month frequency under SR 3.3.2.14 (change number 29 in Table 1 attached to this SE).

For change number 24, the administrative change to TS 3.3.2 Condition O, the licensee has proposed to move the logic connector "AND" to the left on TS page 3.3-31. The licensee stated that the "AND" logic connector should be left justified. This would be consistent with the format of the STSs. Since this proposed change is to make the required actions for TS 3.3.2 Condition O consistent with the format of the TSs and because it will not alter any requirements in the TSs, the NRC staff concludes that the proposed change is acceptable.

For Change No. 29, the note to SR 3.3.2.6 is being revised to exclude slave relay K750 from the slave relay test in SR 3.3.2.6. The licensee stated that the proposed change is based on the slave relay being tested under existing SR 3.3.2.14 which was approved by the NRC in Amendment No. 137 that was issued September 25, 2000. The NRC staff reviewed the amendment and determined that the amendment did approve adding slave relay K750 to SR 3.3.2.14 to perform a slave relay test every 18 months and prior to entering Mode 3 (for a certain condition) in that the SR note was revised to state that SR 3.3.2.14 was "Only applicable to slave relays K620 and K750." In proposing to add slave relay K750 to SR 3.3.2.14 in its

application dated September 25, 2000, the licensee did not propose to exclude the relay from SR 3.3.2.6 which is also the slave relay test. Since the relay is in existing SR 3.3.2.14, the NRC staff concludes that the relay can be excluded from SR 3.3.2.6. Because Change No. 29 excludes the slave relay from SR 3.3.2.6 since the slave relay is covered by existing SR 3.3.2.14, the NRC staff concludes that the proposed change is acceptable in that there is no change to the surveillance requirements for slave relay K750.

Based on its conclusion above that change numbers 24 and 29 do not change any requirements in the TSs, the NRC staff further concludes that these changes meet 10 CFR 50.36.

4.5.4 Conclusions as to the Proposed Amendment

In Sections 4.5.1 through 4.5.3 of this SE, the NRC staff has concluded that the proposed amendment, which is change numbers 1 through 31 in Table 1 attached to this SE, meet 10 CFR 50.36. Based on these conclusions, the NRC staff further concludes that the proposed amendment is acceptable.

In Attachment 4 to the application, the licensee showed the changes to the TS Bases that reflected the proposed amendment. Changes to the TS bases are controlled by TS 5.5.14, "Technical Specifications (TS) Bases Control Program." The NRC staff reviewed these changes to the TS Bases, and does not disagree with the changes.

In Attachment 5 to the application, the licensee identified regulatory commitments that address those administrative controls that will be put in place to meet the conditions in the SEs approving WCAP-14333 and WCAP-15376. The licensee stated in its application that these commitments will be put in place during the implementation of the amendment after it is approved. These regulatory commitments were discussed in Section 4.3 of this SE.

The NRC staff finds that reasonable controls for the licensee's implementation and subsequent evaluation of any changes to the above regulatory commitments are provided by the licensee's administrative processes, including its commitment management program. Should the licensee choose to incorporate a regulatory commitment into the emergency plan, FSAR, or other document with established regulatory controls, the associated regulations would define the appropriate change-control and reporting requirements. The NRC staff has determined that the commitments do not warrant the creation of regulatory requirements which would require prior NRC approval of subsequent changes. The NRC staff has agreed that Nuclear Energy Institute (NEI) 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes," provides reasonable guidance for the control of regulatory commitments made to the NRC staff. (See Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000.) The commitments should be controlled in accordance with the industry guidance or comparable criteria employed by a specific licensee. The NRC staff may choose to verify the implementation and maintenance of these commitments in a future inspection or audit.

4.5.5 Implementation of Amendment

In its application, the licensee requested to implement the amendment within 90 days from the date of issuance of the amendment. Because of the number of procedures to be revised, the licensee has requested to implement the amendment within 120 days from the date of issuance. The NRC staff concludes that this is acceptable.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (69 FR 5211). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

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

Attachments: Table 1 – Specific Proposed Changes to the Technical Specifications
Table 2 – Proposed Changes in Callaway License Amendment Request
Table 3 – Licensee Identified Deviations from TSTFs for Callaway TSs

Principal Contributor: Jack Donohew

Date: January 31, 2005

TABLE 1

SPECIFIC PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS
AND RELATED RTS/ESFAS FUNCTIONS IN TS TABLES 3.3.1-1 AND 3.3.2-1

Specific Change to Callaway TSs	Callaway RTS/ESFAS Functions
1. Extend bypass testing time in note and extend CTs for TS 3.3.1 Condition D	RTS Function 2.a
2. Rewrite required actions in TS 3.3.1 Condition D	RTS Function 2.a
3. Extend bypass testing time in note and CTs for TS 3.3.1 Required Actions E.1 and E.2	RTS Functions 2.b, 3, 6, 7, 8.b, 14.a and 14.b
4. Extend bypass testing time in note and CTs for TS 3.3.1 Required Actions M.1 and M.2	RTS Functions 8.a, 9, 10, 12, and 13.
5. Extend bypass testing time in note and CTs for TS 3.3.1 Required Actions O.1 and O.2	RTS Function 16.a
6. Extend CTs for TS 3.3.1 Required Actions P.1 and P.2	RTS Function 16.b
7. Extend CTs for TS 3.3.1 Required Actions Q.1 and Q.2	RTS Functions 17 and 21
8. Extend bypass testing time in note and CTs for TS 3.3.1 Required Actions R.1 and R.2.	RTS Function 19
9. Delete Notes 2 and 3 for TS 3.3.1 Required Actions R.1 and R.2, state Note instead of Notes, and delete number 1.	RTS Function 19
10. Extend CTs for TS 3.3.1 Required Actions W.1 and W.2	RTS Functions 14.c.(1) and (2)
11. Extend CTs for TS 3.3.1 Required Actions X.1 and X.2	RTS Function 14.d
12. Extend STI for SR 3.3.1.4 to 62 days	RTS Functions 19 and 20
13. Extend STI for SR 3.3.1.5 to 92 days	RTS Functions 18.b and 21
14. Extend STI for SRs 3.3.1.7 and 3.3.1.8 to 184 days	RTS Functions 2.a, 2.b, 3, 4, 5, 6, 7, 8.a, 8.b, 9, 10, 14.a, 14.b, 14.c, and 14.d
15. Extend CTs for TS 3.3.2 Required Actions C.2, C.3.1, and C.3.2	ESFAS Functions 1.b, 2.b, 3.a.(2), 3.b.(2), and 7.a

Specific Change to Callaway TSs	Callaway RTS/ESFAS Functions
16. Extend bypass testing time in note and CTs for TS 3.3.2 Required Actions D.1, D.2.1, and D.2.2	ESFAS Functions 1.c, 1.d, 1.e, 4.d, 4.e.(1), 4.e.(2), 5.e.(1), 5.e.(2), 6.d.1, 6.d.2, and 9.b
17. Extend bypass testing time in note and CTs for TS 3.3.2 Required Actions E.1, E.2.1, and E.2.2	ESFAS Functions 2.c and 3.b.(3)
18. Extend CTs for TS 3.3.2 Required Actions G.1, G.2.1, and G.2.2	ESFAS Functions 4.b, 5.b, and 6.b
19. Extend bypass testing time in note and CTs for TS 3.3.2 Required Actions I.1 and I.2	ESFAS Function 5.c
20. Extend bypass testing time in note for TS 3.3.2 Condition K	ESFAS Function 7.b
21. Delete TS Required Action K.1 and re-number remaining Required Actions for Condition K	ESFAS Function 7.b
22. Extend CTs for TS 3.3.2 Required Actions M.1 and M.2	ESFAS Functions 5.e.(3).(a) and (b), and 6.d.(3).(a) and (b)
23. Extend CTs for TS 3.3.2 required Actions N.1, N.2.1, and N.2.2	ESFAS Functions 5.e.(4) and 6.d.(4)
24. Editorial correction to TS 3.3.2 Condition O	NA
25. Add new Condition S to LCO 3.3.2 and Table 3.3.2-1 to retain the existing TS 3.3.2 Condition G requirements for ESFAS Functions 4.c and 5.b	ESFAS Functions 4.c and 5.b
26. Extend STI for SRs 3.3.2.2 (actuation logic test) and 3.3.2.4 (master relay test) to 92 days	ESFAS Functions 1.b, 2.b, 3.a.(2), 3.b.(2), 4.b, 4.c, 5.a, 5.b, 6.b, 7.a, and 9.a
27. Revise SR 3.3.2.3 note to state "The continuity check may be excluded from the BOP [balance of plant] ESFAS test. " The words being added are in bold .	ESFAS Function 6.c
28. Extend STI for SR 3.3.2.5 COT to 184 days.	ESFAS Functions 1.c, 1.d, 1.e, 2.c, 3.b.(3), 4.d, 4.e.(1), 4.e.(2), 5.c, 5.e.(1), 5.e.(2), 5.e.(3).(a) and (b), 5.e.(4), 6.d.(1), 6.d.(2), 6.d.(3).(a) and (b), 6.d.(4), 7.b, 8.b, and 9.b

Specific Change to Callaway TSs	Callaway RTS/ESFAS Functions
29. Revise note for SR 3.3.2.6 (slave relay test) to state the SR does not apply to slave relay K750 to allow testing of the slave relay on a 18-month frequency.	ESFAS Functions 1.b, 2.b, 3.a.(2), 3.b.(2), 4.b, 5.a, and 6.b
30. Change surveillance requirement required in Table 3.3.2-1 from SR 3.3.2.2 to SR 3.3.2.3	ESFAS Functions 4.c and 5.b
31. Extend STI for BDMS SR 3.3.9.3 (COT) to 184 days	NA

TABLE 2

PROPOSED CHANGES IN CALLAWAY LICENSE AMENDMENT REQUEST

The proposed changes in the licensee's application dated December 17, 2003, are grouped as follows:

1. Changes based on WCAP-14333 (i.e., TSTF-418, Revision 2).
2. Changes based on WCAP-15376 (i.e., TSTF-411, Revision 1).
3. Changes based on RTS/ESFAS functions addressed in Callaway Amendment No. 137.
4. Deviations from the TSTF-411, Revision 1, and/or TSTF-418, Revision 2.
5. Other changes not included in the TSTFs

TS	Part of TS	Table 1 Change Number and Description of Change	Group
3.3.1	Condition D	1 - Extend CTs and bypass time.	1
	Condition D	2 - Rewrite required actions	4
	Condition E	3 - Extend CTs and bypass time.	1
	Condition M	4 - Extend CTs and bypass time.	1
	Condition O	5 - Extend CTs and bypass time.	2
	Condition P	6 - Extend CTs.	1
	Condition Q	7 - Extend CTs	1
	Condition R	8 - Extend CTs and bypass time.	1, 2
	Condition R	9 - Delete required action Notes 2 and 3, and the number 1 for Note 1.	1, 2
	Condition W	10 - Extend CTs.	1
	Condition X	11 - Extend CTs	1
	SR 3.3.1.4	12 - Extend STI.	2
	SR 3.3.1.5	13 - Extend STI.	2
	SR 3.3.1.7	14 - Extend STI.	2
	SR 3.3.1.8	14 - Extend STIs.	2
3.3.2	Condition C	15 - Extend CTs.	1
	Condition D	16 - Extend CTs and bypass time.	1
	Condition E	17 - Extend CTs and bypass time.	1

TS	Part of TS	Table 1 Change Number and Description of Change	Group
3.3.2	Condition G ^a	18 - Extend CTs.	1
	Condition I	19 - Extend CTs and bypass time.	1
	Condition K	20 - Extend bypass time.	1, 3
	Condition K	21 - Revise required actions.	4
	Condition M	22 - Extend CTs.	1, 3
	Condition N	23 - Extend CTs.	1, 3
	Condition O	24 - Left justify the logic word "AND."	5
	Condition S ^a	25 - Add new condition and required actions.	4
	SR 3.3.2.2	26 - Extend STI.	2
	SR 3.3.2.3	27 - Revise note.	4
	SR 3.3.2.4	26 - Extend STI.	2
	SR 3.3.2.5	28 - Extend STI.	2
	SR 3.3.2.6 ^b	29 - Add slave relay number to note.	3, 5
	Table 3.3.2-1 ^{a,c}	25 - Revise condition for Functions 4.c and 5.b.	4
	Table 3.3.2-1 ^c	30 - Change SR for Functions 4.c and 5.b.	4
3.3.9	SR 3.3.9.3	31 - Extend STI.	2

Note a: The automatic actuation logic and actuation relays (MSFIS) for steam line isolation (Function 4.c) and turbine trip feedwater isolation (Function 5.b) of Table 3.3.2-1 are not part of the amendment to extend the CTs of Condition G. Condition S is the existing Condition G with the existing CTs.

Note b: Add slave relay number to note because SR 3.3.2.14 is the requirement to perform the slave relay test of that relay, not SR 3.3.2.6 per Amendment No. 137.

Note c: Functions 4.c and 5.b are not included in the proposed changes based on WCAP-14333 or WCAP-15376.

TABLE 3

LICENSEE IDENTIFIED DEVIATIONS FROM TSTFs FOR CALLAWAY TSs

In its application dated December 17, 2003, the licensee identified that (1) the following proposed technical specification changes in the application (and listed in attached Table 1) are deviations from the technical specification changes in TSTF-411, Revision 1, and TSTF-418, Revision 2:

Proposed TS Change:	Table 1 Change No.	Description of Deviation from TSTFs
1. Required actions and CTs in TS 3.3.1 Condition D	2	The required actions are different from those in TSTF-418R2; however, the extended test bypass time and CTs are the same as in TSTF-418R2
2. Bypass test notes for installed bypass test capability for analog channels.	NA (not applicable)	The alternate note for test bypass times in TSTF-418R2 (i.e., Insert 2) for plants with installed bypass test capability is not used for Callaway.
3. RCP breaker position RTS trip function.	NA	No change was proposed because the licensee stated that this function is not used at Callaway.
4. TS 3.3.1 Condition R for RTBs	8, 9	The changes follow TSTF-411R1 instead of TSTF-418R2.
5. Test bypass time in TS 3.3.2 Condition K	20	The proposed change extends the test bypass time to the value in TSTF-418R2. The changes are for ESFAS Function 7.b approved by NRC in Callaway Amendment No. 64.
6. Revise required actions in TS 3.3.2 Condition K	21	The proposed change deletes Required Action K.1 and renumbers K.2, K.3.1, and K.3.2.
7. Test bypass time and CTs in TS 3.3.2 Conditions M and N	22, 23	The proposed changes extend the test bypass time and CTs to the values in TSTF-418R2. The changes are for the ESFAS functions approved by NRC in Callaway Amendment No. 64.
8. New TS 3.3.2 Condition S and revising Table 3.3.2-1	25	Condition S was added to retain the currently required actions and CTs for ESFAS Functions 4.c and 5.b. There is no change in requirements for the TSs.

Proposed TS Change:	Table 1 Change No.	Description of Deviation from TSTFs
9. Note in SR 3.3.2.3 and revising Table 3.3.2-1	27	Neither TSTF identified a change to the note in SR 3.3.2.3.
10. Surveillance Requirement for ESFAS Functions 4.c and 5.d in Table 3.3.2-1 changed to SR 3.3.2.3	30	Neither TSTF identified a change in surveillance requirements for any ESFAS function in Table 3.3.2-1.
11. STS 3.3.6, "Containment Purge and Exhaust Isolation Instrumentation"	NA	No change proposed by licensee. The licensee stated that the TSTF-411R1 changes to STS 3.3.6 are not required for Callaway.
12. STS 3.3.7, "Control Room Emergency Filtration System Actuation Instrumentation"	NA	No change proposed by licensee. The licensee stated that the TSTF-411R1 changes to STS 3.3.7 are not required for Callaway.