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

Docket
T-5-C-3

May 28, 1999

Mr. Garry L. Randolph
Vice President and Chief Nuclear Officer
Union Electric Company
Post Office Box 620
Fulton, MO 65251

See Proposed Change 30 Tech Specs.

SUBJECT: CONVERSION TO IMPROVED TECHNICAL SPECIFICATIONS FOR CALLAWAY PLANT, UNIT 1 - AMENDMENT NO. 133 TO FACILITY OPERATING LICENSE NO. NPF-30 (TAC NO. M98803)

Dear Mr. Randolph:

The Commission has issued the enclosed Amendment No. 133 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment converts the current Technical Specifications (CTS) for the unit to the improved Technical Specifications (ITS). The ITS are based on the CTS, on NUREG-1431, "Standard Technical Specifications [STS], Westinghouse Plants," Revision 1, dated April 1995, and on guidance provided in the Commission's Final Policy Statement, "NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," published on July 22, 1993 (58 FR 39132), and in 10 CFR 50.36, "Technical Specifications," as amended July 19, 1995 (60 FR 36953). The overall objective of the proposed amendment was to rewrite, reformat, and streamline the CTS to improve safety and the understanding of the Bases underlying the Technical Specifications.

The enclosed amendment is based on the staff's review of your application dated May 15, 1997 (ULNRC-03578), as supplemented by letters in 1998 dated June 26 (ULNRC-03853), August 4 (ULNRC-03877), August 27 (ULNRC-03889), September 24 (ULNRC-03900), October 21 (ULNRC-03905 and ULNRC-03908), November 23 (ULNRC-03926), November 25 (ULNRC-03927), December 11 (ULNRC-03937), and December 22 (ULNRC-03946), and in 1999 dated February 5 (ULNRC-03957), March 9 (ULNRC-03979), April 7 (ULNRC-04007), April 21 (ULNRC-04018), April 30 (ULNRC-04024), May 4 (ULNRC-04027), May 27 (ULNRC-04044), and May 28 (ULNRC-04043). The supplemental letters were in response to the staff's requests for additional information (RAIs) in letters dated May 22, June 17, July 7, July 14, July 15, July 17, July 22, August 14, 1998, September 3, and October 7, 1998, and in the meeting summaries that were issued on August 28, October 16, and November 6, 1998.

The draft Safety Evaluation (SE) for the ITS conversion was sent to you by our letter dated April 2, 1999, for your review to verify the accuracy of the draft SE. You responded with comments on the draft SE in the letter dated May 4, 1999. You submitted the ITS and ITS Bases for the unit and certified to their correctness in that you provided the affirmation in your letters of May 27 and 28, 1999, that the statements made in those letters, and their attachments including the ITS, are true and correct. The comments you provided were reviewed and incorporated in the enclosed final SE for the amendment as appropriate. The final SE is also based on the staff's review of the draft SE after it was issued.

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Included with the amendment are the following two license conditions for Appendix C, "Additional Conditions," to the license for Callaway Plant, Unit 1 that were submitted in your letter of May 4, 1999: (1) relocation of CTS requirements into licensee-controlled documents during the implementation of the ITS, and (2) schedule for the first performance of new and revised surveillance requirements (SRs) for the ITS. These conditions are part of the ITS implementation and are enforceable commitments that the staff is relying upon in approving these amendments. Any changes to these license conditions, including the implementation date for the ITS conversion, must be submitted as a 10 CFR 50.90 amendment to the license.

The ITS will become the governing Technical Specifications for Callaway Plant, Unit 1 upon the date of implementation of the ITS in its entirety, but no later than April 30, 2000, as stated in the two license conditions. Until the implementation of the ITS is completed, the CTS shall remain in effect and the unit will be operated in accordance with the requirements of the CTS. If there is an amendment to the Technical Specifications before the implementation of the ITS is completed, the amendment will be to both the CTS and the ITS. You are requested to submit a letter stating that the ITS have been implemented within 14 days of the date of implementation.

For change 9-01-LG for CTS 3/4.4, you proposed to relocate the pressure/temperature (P/T) limits and cold overpressure mitigation system (COMS) limits from the CTS to the pressure temperature limit report (PTLR) and proposed to reference WCAP-14040-NP-A, Revision 1, as the PTLR methodology. You plan, however, to operate Callaway, Unit 1 with the existing heatup and cooldown P/T and COMS limits in the CTS. Therefore, the curves, setpoints, and parameters in the PTLR are what the staff approved in Amendment 124 dated April 2, 1998. The staff will review your future plant-specific application of the PTLR methodology to allow your future use of this methodology to calculate new curves, setpoints, and parameters without prior staff approval. You also proposed to add a reference to Amendment 124 to the PTLR; however, we are not ready to approve adding this reference to the ITS, as discussed in the attached Safety Evaluation. The resolution of this reference will be the subject of a future letter.

A copy of our related Safety Evaluation and Notice of Issuance are enclosed. Contact me at 301-415-1307 (or jnd@nrc.gov on the internet) if you have any questions about the amendment.

Sincerely,

Jack N. Donohew

Jack N. Donohew, Senior Project Manager, Section 1
Project Directorate IV & Decommissioning
Division of Licening Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures:
1. Amendment No. 133 to NPF-30
2. Safety Evaluation
3. Notice of Issuance

cc w/encls: See next page

DISTRIBUTION: (w/Tech Specs)
Docket
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RBarrett
SRichards
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JDonohew
WBeckner
WBateman
JWermiel

Document Name: Letter.cw.wpd * See Previous Concurrence

OFC	PD4-1/PM	PD4-1/LA	PD4-1/LA	PD4-2/SC	OGC	PD/PD4
NAME	JDonohew	EPeyton*	MGray*	SDembek	MZobler*	SRichards
DATE	5/28/99	5 / 19 /99	5 / 20 /99	5/28/99	05/ 24 /99	5/28/99
COPY	YES	YES	YES	~~YES~~	YES	~~YES~~

OFC	TSB	TSB	TSB	TSB	BC:TSB
NAME	ETomlinson*	TTjader*	CSchulten*	NGilles*	WBeckner*
DATE	05/ 21 /99	05/ 20 /99	05/ 24 /99	05/ 21 /99	05/ 28 /99
BSI:	CTS 3/4.8 2-25-LS-23	CTS 6.0 1-09-A 1-15-A 2-18-A 2-22-A 3-11-A 3-18-LS-5	CTS 3/4.3 1-22-M 1-46-M	CTS 3/4.7 10-20-LS-39	
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

OFC	BC:EICB	BC:EICB	BC:EMCB	BC:EMEB	BC:SPSB	BC:SRXB
NAME	JCalvo*	JCalvo*	WBateman*	EImbro*	RBarrett*	JWermiel*
DATE	05/ 25 /99	05/ 28 /99	05/ 24 /99	05/ 25 /99	05/ 26 /99	05/ 27 /99
BSI:	CTS 3/4.3 1-30-M 1-54-LS-37	CTS 3/4.4 1-15-M	CTS 6.0 2-17-LS-1	CTS 1.0 1-34-LS-2	CTS 3/4.9 11-03-M	CTS 3/4.2 2-06-M CTS 3/4.4 4-09-LS-36 9-14-M 9-17-LS-24 CTS 3/4.9 14-09-M
COPY	YES/NO	YES/NO	YES/NO		YES/NO	YES/NO

The QA plan relocations were concurred on in the April 2, 1999, draft SE.

OFFICIAL RECORD COPY

cc w/encls:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

UNION ELECTRIC COMPANY

CALLAWAY PLANT

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 133
License No. NPF-30

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

   A. The application for amendment to the Callaway Plant, Unit 1 (the facility) Facility Operating License No. NPF-30 filed by the Union Electric Company (UE), dated May 15, 1997 and the supplemental letters (1) in 1998 dated June 26, August 4, August 27, September 24, October 21 (2 letters), November 23, November 25, December 11, and December 22, and in 1999 dated February 5, March 9, April 7, April 21, April 30, May 4, May 27, and May 28, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, 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 license 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. 133, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. UE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

In addition, the license is amended to add Paragraph 2.C.(15) and Appendix C, "Additional Conditions," to Facility Operating License No. NPF-30 with Paragraph 2.C.(15) to read as follows:

15. Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 133, are hereby incorporated into this license. UE shall operate the facility in accordance with the Additional Conditions.

3. The license amendment is effective as of its date of issuance and shall be implemented by April 30, 2000. The implementation of this amendment includes the two license conditions in Appendix C which is being added as part of the amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments: 1. Pages 8 and 9 of the License
2. Appendix C
3. Changes to the Technical Specifications

Date of Issuance: May 28, 1999

(13) LOCA Reanalysis (Section 15, SSER #3)

Prior to restart following the first refueling outage, UE shall submit for NRC review and approval a reanalysis for the worst large break LOCA using an approved ECCS evaluation model. At this time that model is the 1981 Westinghouse model. A modified version of the 1981 model which includes the BART computer code may be used.

(14) Generic Letter 83-28

UE shall submit responses to and implement the requirements of Generic Letter 83-28 on a schedule which is consistent with that given in its May 21, 1984 letter.

(15) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 133, are hereby incorporated into this license. UE shall operate the facility in accordance with the Additional Conditions.

D. An Exemption from certain requirements of Appendix J to 10 CFR Part 50, are described in the October 9, 1984 staff letter. This exemption is authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, this exemption is hereby granted pursuant to 10 CFR 50.12. With the granting of this exemption the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

E. UE shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled "Callaway Security Plan," with revisions submitted through November 17, 1987; "Callaway Security Force Training and Qualification Plan," with revisions submitted through November 21, 1986; and "Callaway Safeguards Contingency Plan," with revisions submitted through November 21, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

F. With the exception of 2.C(2) UE shall report any violations of the requirements contained in Section 2.C, of this license within 24 hours. Initial notification shall be made in accordance with the provisions of 10 CFR 50.72 with written followup in accordance with the procedures described in 10 CFR 50.73(b), (c), (d), and (e).

G. UE shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

H. This license is effective as of the date of issuance and shall expire at Midnight on October 18, 2024.

FOR THE NUCLEAR REGULATORY COMMISSION

Signature of Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments/Appendices:
1. Attachment 1
2. Attachment 2
3. Appendix A - Technical Specifications (NUREG-1058, Revision 1)
4. Appendix B - Environmental Protection Plan
5. Appendix C - Additional Conditions

Date of Issuance: October 18, 1984

APPENDIX C

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-30

UE shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Conditions	Implementation Date
133	This amendment authorizes the relocation of certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these Technical Specification requirements to the appropriate documents, as described in Table LG of Details Relocated from Current Technical Specifications, Table R of Relocated Current Technical Specifications, and Table LS of Less Restrictive Changes to Current Technical Specifications that are attached to the NRC staff's Safety Evaluation enclosed with this amendment.	The amendment shall be implemented by April 30, 2000.
133	The schedule for the performance of new and revised Surveillance Requirements (SRs) shall be as follows: For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.	The amendment shall be implemented by April 30, 2000.

Amendment Number	Additional Conditions	Implementation Date
133	For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment. For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of this amendment.	The amendment shall be implemented by April 30, 2000.

ATTACHMENT TO LICENSE AMENDMENT NO. 133

FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the entirety of the Appendix A, "Technical Specifications," and the Bases to the Technical Specifications with the attached pages. The new Technical Specification pages are identified by Amendment No. 133.

REMOVE	INSERT
All pages	All pages

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 133 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT

DOCKET NO. 50-483

1.0 INTRODUCTION

Callaway Plant has been operating with Technical Specifications (TS) issued with the original operating license on October 18, 1984, as amended from time to time. By application dated May 15, 1997, as supplemented by (1) letters in 1998 dated June 26, August 4, August 27, September 24, October 21 (2 letters), November 23, November 25, December 11, and December 22, and (2) letters in 1999 dated February 5 and March 9, April 7, April 21, April 30, May 4, May 27, and May 28, Union Electric Company (the licensee) proposed to convert the current Technical Specifications (CTS) to the improved Technical Specifications (ITS). The conversion is based upon:

- NUREG-1431, "Standard Technical Specifications [STS], Westinghouse Plants," Revision 1, dated April 1995,
- Commission Final Policy Statement, "NRC Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," published on July 22, 1993 (58 FR 39132), and
- 10 CFR 50.36, "Technical Specifications," as amended July 19, 1995 (60 FR 36953).

The overall objective of the conversion, consistent with the Final Policy Statement, is to rewrite, reformat, and streamline the TS for Callaway to be in accordance with 10 CFR 50.36, as amended in 1995. The NRC staff acknowledges that, as indicated in the Final Policy Statement, the conversion to STS is a voluntary process. Therefore, it is acceptable that the ITS differs from the STS, reflecting the current licensing basis and CTS for Callaway.

In addition to basing the ITS on the STS, the Commission's Final Policy Statement, and the requirements in 10 CFR 50.36, the licensee retained portions of the CTS as a basis for the ITS. Plant-specific issues, including design features, requirements, and operating practices, were discussed with the licensee during a series of conference calls and meetings. Meetings were held with the licensee during the weeks of August 17, September 14, and October 12, 1998. The meeting summaries were issued on August 28, October 16, and November 6, 1998, respectively.

Based on these discussions, the licensee has also proposed specifications that were not in the STS or the CTS. For proposed specifications that were generic to the STS, the NRC staff requested that the licensee submit the generic revised technical specifications as a proposed change to the STS through the NRC/Nuclear Energy Institute's Technical Specifications Task Force (TSTF). Proposed changes to the STS, or NUREG-1431, are identified by the acronym TSTF and a number as, for example, TSTF-111. For proposed specifications that were plant-specific, the changes are beyond-scope issues (BSIs) for the conversion and are addressed separately in Section 4.G of this Safety Evaluation (SE). The licensee has identified several such generic and plant-specific BSIs in its application for the ITS conversion.

Consistent with the Final Policy Statement, the licensee also proposed transferring some CTS requirements to licensee-controlled documents (such as the Final Safety Analysis Report (FSAR) for Callaway, for which changes by licensees are controlled by 10 CFR 50.59 and may be made without prior staff approval). NRC-controlled documents, such as the TS, may not be changed by the licensee without prior staff approval. In addition, human factors principles were emphasized to add clarity to the CTS requirements being retained in the ITS and to define more clearly the appropriate scope of the ITS. Further, significant changes were proposed to the ITS Bases to make each ITS requirement clearer and easier to understand.

Since the May 15, 1997, application was submitted, Amendment Nos. 120 through 132 for Callaway were approved. The licensee has incorporated these amendments as appropriate into the ITS.

The NRC staff's evaluation of the application included the supplements listed above that resulted from staff requests for information (RAIs) and discussions with the licensee during the NRC review. The staff issued RAIs in the letters dated May 22, June 16, June 17, July 7, July 9, July 15, July 17, July 21, August 14, September 3, and October 7, 1998, and the meeting summary issued October 16, 1998.

During its review, the NRC staff relied on the Final Policy Statement, 10 CFR 50.36, and the STS as guidance for acceptance of CTS requirements into the ITS. This SE provides a summary basis for the NRC staff conclusion that the licensee can develop an ITS for Callaway based on the STS, as modified by plant-specific changes, and that the use of the ITS is acceptable for continued operation of Callaway. These plant-specific changes serve to clarify the ITS with respect to the guidance in the Final Policy Statement, 10 CFR 50.36, and STS. The SE also explains the NRC staff's conclusion that the ITS is consistent with the Callaway current licensing basis and the requirements of 10 CFR 50.36.

As stated hereafter, the proposed or improved TS for Callaway are the ITS, the existing or current TS are the CTS, and the improved standard TS, NUREG-1431 for Callaway, are the STS or NUREG-1431. The corresponding TS Bases are ITS Bases, CTS Bases, and STS Bases, respectively.

The Commission's proposed action on the Callaway application for amendment dated May 15, 1997, was published in a notice of consideration of issuance of amendment to the Callaway operating license in the *Federal Register* on October 5, 1998 (63 FR 53468). This notice was superceded in a later notice on April 27, 1999 (64 FR 22658). The later notice listed the BSIs that were being considered in the ITS conversion for Callaway at the time the notice was

published; however, the notice identified more beyond-scope issues than are evaluated in Section 4.G of this SE because two BSI was later approved as a TSTF change to the STS and one was withdrawn by the licensee.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act requires that applicants for nuclear power plant operating licenses will state:

> [S]uch technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization . . . of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued.

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TS. In doing so, the Commission placed emphasis on those matters related to the prevention of accidents and the mitigation of accident consequences; the Commission noted that applicants were expected to incorporate into their TS "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity." Statement of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," 33 FR 18610 (December 17, 1968). Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. However, the rule does not specify the particular requirements to be included in a plant's TS.

For several years, NRC and industry representatives have sought to develop guidelines for improving the content and quality of nuclear power plant TS. On February 6, 1987, the Commission issued an interim policy statement on TS improvements, "Interim Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" (52 FR 3788). During the period from 1989 to 1992, the utility Owners Groups and the NRC staff developed improved STS, such as NUREG-1431 for Westinghouse plants, that would establish models of the Commission's policy for each primary reactor type. In addition, the NRC staff, licensees, and Owners Groups developed generic administrative and editorial guidelines in the form of a "Writer's Guide" for preparing TS, which gives greater consideration to human factors principles and was used throughout the development of licensee-specific ITS.

In September 1992, the Commission issued NUREG-1431, which was developed using the guidance and criteria contained in the Commission's Interim Policy Statement. The STS in NUREG-1431 were established as a model for developing the STS for Westinghouse plants in general. The STS reflect the results of a detailed review of the application of the interim policy statement criteria to generic system functions, which were published in a "Split Report" issued to the nuclear steam system supplier (NSSS) owners groups in May 1988. The STS also

reflect the results of extensive discussions concerning various drafts of STS, so that the application of the TS criteria and the Writer's Guide would consistently reflect detailed system configurations and operating characteristics for all NSSS designs. As such, the generic Bases presented in NUREG-1431 provide an abundance of information regarding the extent to which the STS present requirements that are necessary to protect public health and safety. The STS in NUREG-1431 apply to Callaway.

On July 22, 1993, the Commission issued its Final Policy Statement, expressing the view that satisfying the guidance in the policy statement also satisfies Section 182a of the Act and 10 CFR 50.36 (58 FR 39132). The Final Policy Statement described the safety benefits of the STS, and encouraged licensees to use the STS as the basis for plant-specific TS amendments, and for complete conversions to ITS based on the STS. Further, the Final Policy Statement gave guidance for evaluating the required scope of the TS and defined the guidance criteria to be used in determining which of the LCOs and associated surveillances should remain in the TS. The Commission noted that, in allowing certain items to be relocated to licensee-controlled documents while requiring that other items be retained in the TS, it was adopting the qualitative standard enunciated by the Atomic Safety and Licensing Appeal Board in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). There, the Appeal Board observed:

> [T]here is neither a statutory nor a regulatory requirement that every operational detail set forth in an applicant's safety analysis report (or equivalent) be subject to a technical specification, to be included in the license as an absolute condition of operation which is legally binding upon the licensee unless and until changed with specific Commission approval. Rather, as best we can discern it, the contemplation of both the Act and the regulations is that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety.

By this approach, existing LCO requirements that fall within or satisfy any of the criteria in the Final Policy Statement should be retained in the TS; those LCO requirements that do not fall within or satisfy these criteria may be relocated to licensee-controlled documents. The Commission codified the four criteria in 10 CFR 50.36 (60 FR 36953, July 19, 1995). The four criteria are as follows:

Criterion 1

> Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2

> A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 3

A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 4

A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Section 4.0 of this SE explains the NRC staff's conclusion that the conversion of the CTS to the ITS based on STS, as modified by plant-specific changes, is consistent with the Callaway current licensing basis, and the requirements and guidance of the Commission's Final Policy Statement and 10 CFR 50.36.

3.0 UTILITIES JOINT EFFORT

This conversion is a joint effort in concert with three other utilities: Pacific Gas & Electric Company for Diablo Canyon Power Plant, Units 1 and 2 (Docket Nos. 50-275 and 50-323); TU Electric for Comanche Peak Steam Electric Station, Units 1 and 2 (Docket Nos. 50-445 and 50-446);and Wolf Creek Nuclear Operating Corporation for Wolf Creek Generating Station (Docket No. 50-482). It is a goal of the four utilities to make the ITS for their plants as similar as possible. This group of four utilities was designated the four loop owners group (FLOG).

This joint effort includes a common methodology for the licensees in marking-up the CTS, STS, and STS Bases, that has been accepted by the staff. This common methodology is discussed at the end of Enclosure 2, "Mark-Up of Current TS"; Enclosure 5A, "Mark-Up of NUREG-1431 Specifications"; and Enclosure 5B, "Mark-Up of NUREG-1431 Bases," for each of the 14 separate ITS sections that were submitted with the licensee's application. For each of the ITS sections, the following enclosures are included:

- Enclosure 1, "Cross-Reference Tables," the cross-reference table connecting each CTS specification (i.e., LCO, required action, or SR) to the associated ITS specification, sorted by both CTS and ITS specifications.

- Enclosures 3A and 3B, "Description of Changes to Current TS" and "Conversion Comparison Table," the description of the changes to the CTS section and the comparison table showing which plants (of the four licensees in the joint effort) that each change to the CTS applies to.

- Enclosure 4, "No Significant Hazards Considerations," the no significant hazards consideration (NSHC) of 10 CFR 50.91 for the changes to the CTS with generic NSHCs for administrative, more restrictive, to be relocated, and to be moved-out-of-CTS changes, and individual NSHCs for less restrictive changes.

- Enclosures 6A and 6B, "Differences From NUREG-1431" and "Conversion Comparison Table," the descriptions of the differences from NUREG-1431 Specifications and the comparison table showing which plants (of the four licensees in the joint effort) that each difference to the STS applies to.

The common methodology includes the convention that, if the words in a CTS specification are not the same as the words in the ITS specification, but the CTS words have the same meaning or have the same requirements as the words in the ITS specification, then the licensees do not have to indicate or describe a change to the CTS. In general, only technical changes have been identified; however, some non-technical changes have also been identified when the changes cannot easily be determined. The portion of any specification which is being deleted is struck through (i.e., the deletion is annotated using the strike-out feature of the word processing computer program or crossed out by hand). Any text being added to a specification is shown by shading the text, placing a circle around the new text, or by writing the text in by hand. The text being struck through or added is shown in the marked-up CTS and STS pages in Enclosures 2 (CTS pages) and 5 (STS and STS Bases pages) for each ITS section attached to the application. In the case for Callaway, the changes to the CTS pages were marked up by hand. Another convention of the common methodology is that the technical justifications for the less restrictive changes are included in the NSHCs.

If as part of the licensee's responses to RAIs from the staff there were corrections to the licensee's proposed changes to the CTS and STS, the licensee submitted the appropriate corrected pages for Enclosures 1 through 6 for the associated CTS/ITS section.

The changes to the CTS are identified by change numbers (CNs) that are listed in Enclosure 3 and are determined by the convention discussed at the end of Enclosure 2. The change number is of the form 4-13-A, where the first number is a prefix number (i.e., the 4 of 4-13-A) assigned to each specification (or group of similar specifications) within an CTS section, as for example CTS 3/4.6, Containment Systems, such that it refers to the same specification for each utility regardless of the actual specification number in their individual plant CTS. The second number (i.e., the 13 of 4-13-A) identifies the change within the given specification or group of specifications (these are changes having the same prefix number); however, the second number does not denote the sequence of the changes within the given specification or group of specifications. For example, the change 4-03-X may not follow change 4-02-X in the CTS specification, or group of specifications, denoted by the prefix 4. The changes through the CTS specifications may not be in the same sequence as given by the second number. The letter suffix (i.e., the A of 4-13-A) identifies one of the following types of change:

- "A" for administrative changes.
- "M" for more restrictive changes.
- "LS" or "TR" for CTS requirements that are relaxed or eliminated, or for which new operational flexibility is added to the ITS compared to the CTS. (LS changes are individual less restrictive changes and TR changes are licensee-identified groupings of less restrictive changes, as discussed in Section 3.C of the SE.)
- "R" for changes to relocate CTS requirements, which do not meet the 10 CFR 50.36, as amended, criteria, to appropriate licensee-controlled documents.

- "LG" for CTS descriptions and details, not requirements, that are relocated to appropriate licensee-controlled documents.

For the case where the same change to the CTS is being proposed by more than one of the licensees, then these licensees use the same change number to identify the change and the other licensees, not proposing the change, list the change number but state "not applicable" in the description of the change. For example, change 01-07-LG for ITS 3/4.2 is a change to relocate surveillance frequencies to licensee-controlled documents and is proposed by all the licensees (see Enclosure 3B of the licensee's application). For change 01-03-LG in the same ITS section, only the licensee is proposing the change and this change is "not applicable" to the other licensees. There may be cases, where most of the identified changes for an ITS section may not be applicable to a specific licensee because these changes do not need to be made to the CTS for that licensee. Not all the licensees have the same requirements in their CTS.

The licensee may have more than one less-restrictive change in the same ITS section with the same "LS" number or "TR" number. Because these "LS" and "TR" numbers refer to specific NSHCs provided in Enclosure 4 to the application for an ITS section, these less-restrictive changes are the not same change, but they are the same type of "LS" or "TR" change and have the same NSHC.

As a result of differences between the individual CTS for the FLOG, and because of changes to the CTS that may occur after the initial assignments of change identifiers, the change numbers may not appear sequentially in the CTS markup. Also, the second number is assigned sequentially independent of the type of change that is identified. Therefore, change 4-12-M may be listed before 4-13-A and after 4-11-LG.

The type of change also identifies the type of NSHC provided in Enclosure 4. The NSHCs for the A, M, R, and LG changes are generic and only one NSHC is provided for each of these types of changes in Enclosure 4. The NSHCs for LS and TR changes are individual and a suffix number is assigned for each such change, for example, 4-13-LS-1 or 4-13-TR-2, where the first LS change or second TR change is identified. The change number listed in Enclosure 3 that was assigned to these LS and TR would also include the suffix number, as change 4-13-LS-1 or change 4-13-TR-2. These change numbers are included in the tables attached to this SE to identify the changes described in the tables. There are tables for each type of change listed above.

4.0 EVALUATION

The NRC staff's ITS review evaluates changes to CTS that fall into five categories defined by the licensee and includes an evaluation where appropriate of whether existing regulatory requirements are adequate for controlling future changes to requirements removed from the CTS and placed in licensee-controlled documents. This is discussed in Sections 4.E and 4.F of this SE. The NRC will audit the licensee's implementation of these relocation of CTS requirements to licensee-controlled documents to ensure that the appropriate level of control of these requirements has been achieved at Callaway.

The NRC staff review also identified the need for clarifications and additions to the application in order to establish an appropriate regulatory basis for translation of CTS requirements into the

ITS. Each change proposed in the amendment request is identified as either (1) a description of change (DOC), identified by a change number (CN), to the CTS, or (2) a difference from NUREG-1431, which is a justification for deviation (JFD) from the STS. The NRC staff comments were documented as RAIs and issued in letters or meeting summaries to the licensee. These comments were intended to clarify the licensee's basis for translating the CTS requirements into ITS. The NRC staff finds that the licensee's submittals including responses to RAIs provide sufficient detail to allow the staff to reach a conclusion regarding the adequacy of the licensee's proposed changes to the CTS.

The license amendment application was organized such that changes were included in each of the following CTS change categories, as appropriate:

(1) Administrative Changes, (A), i.e., non-technical changes in the presentation of CTS requirements;

(2) Technical Changes - More Restrictive, (M), i.e., new or additional TS requirements;

(3) Technical Changes - Less Restrictive (specific), (LS and TR), i.e., changes, deletions, and relaxations of CTS requirements;

(4) Technical Changes - Less Restrictive (generic), (LG), i.e., deletion of CTS details by the relocation of information and requirements from existing specifications (that are otherwise being retained) to licensee-controlled documents, including the ITS Bases; and

(5) Relocated Technical Specifications, (R), i.e., relaxations in which whole CTS specifications (the LCO, and associated action and SR) are removed from the CTS (an NRC-controlled document) and placed in licensee-controlled documents.

The changes that are in the ITS conversion for Callaway for each of the above categories are listed in the following five tables attached to this SE:

- Table A of Administrative Changes to Current Technical Specifications
- Table M of More Restrictive Changes to Current Technical Specifications
- Table LS of Less Restrictive Changes to Current Technical Specifications (that also includes the TR changes)
- Table LG of Details Relocated from Current Technical Specifications
- Table R of Relocated Current Technical Specifications

These tables provide a summary description of the proposed changes to the CTS, the specific CTS that are being changed, and the specific ITS that incorporate the change. If the table only lists a CTS LCO, as for example LCO 3.4.1, then the CTS being changed is the specific LCO 3.4.1 that is the entirety of the specification for LCO 3.4.1 (i.e., LCO, actions, and SRs) is being changed. However, if an action or an SR is listed, then only the specific action or SR is being changed (e.g., LCO 3.4.1, Action a or SR 4.4.1.2). The same is true for an ITS LCO, action or SR, except the ITS is incorporating the change. The tables are only meant to summarize the

changes being made to the CTS. The details, as to what the actual changes are and how they are being made to the CTS or ITS, are only provided in the licensee's application and supplemental letters.

These general categories of changes to the licensee's CTS requirements are as follows:

A. Administrative Changes

Administrative (non-technical) changes are intended to incorporate human factors principles into the form and structure of the ITS so that plant operations personnel can use them more easily. These changes are editorial in nature or involve the reorganization or reformatting of CTS requirements without affecting technical content or operational restrictions. Every section of the ITS reflects this type of change. In order to ensure consistency, the NRC staff and the licensee have used the STS as guidance to reformat and make other administrative changes. Among the changes proposed by the licensee and found acceptable by the NRC staff are:

(1) providing the appropriate numbers, etc., for STS bracketed information (information that must be supplied on a plant-specific basis and that may change from plant to plant);

(2) identifying plant-specific wording for system names, etc.;

(3) changing the wording of specification titles in STS to conform to existing plant practices;

(4) splitting up requirements currently grouped under a single current specification to more appropriate locations in two or more specifications of ITS;

(5) combining related requirements currently presented in separate specifications of the CTS into a single specification of ITS;

(6) presentation changes that involve rewording or reformatting for clarity (including moving an existing requirement to another location within the TS) but which do not involve a change in requirements;

(7) wording changes and additions that are consistent with CTS interpretation and practice, and that more clearly or explicitly state existing requirements;

(8) deletion of TS whose applicability has expired; and

(9) deletion of redundant TS requirements that exist elsewhere in the TS or in the regulations (e.g., 10 CFR 50.73).

Table A lists the administrative changes to the CTS. Organized by CTS sections, the table provides a summary description of the administrative changes, the CN, and the CTS and ITS references. The NRC staff reviewed all of the administrative changes proposed by the licensee and finds them acceptable because they are compatible with the Writer's Guide and the STS,

do not result in any change in operating requirements, and are consistent with the Commission's regulations.

B. Technical Changes - More Restrictive

The licensee, in electing to implement the specifications of the STS, proposed a number of requirements more restrictive than those in the CTS. The ITS requirements in this category include requirements that are either new, more conservative than corresponding requirements in the CTS, or that have additional restrictions that are not in the CTS but are in the STS. Examples of more restrictive requirements are placing an LCO on plant equipment which is not required by the CTS to be operable, more restrictive requirements to restore inoperable equipment, and more restrictive SRs. Table M lists the more restrictive changes to the CTS. Organized by CTS section, the table provides a summary description of the more restrictive changes, the CN, and the CTS and ITS references. The NRC staff reviewed the more restrictive changes proposed by the licensee and finds them acceptable because these changes are additional restrictions on plant operation that enhance safety.

C. Technical Changes - Less Restrictive (Specific)

Less restrictive requirements include changes, deletions and relaxations to portions of the CTS requirements that are not being retained in ITS. When requirements have been shown to give little or no safety benefit, their removal from the TS may be appropriate. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of (1) generic NRC actions, (2) new NRC staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the Owners Groups comments on the STS. The NRC staff reviewed generic relaxations contained in the STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The Callaway design was also reviewed to determine if the specific design basis and licensing basis for Callaway are consistent with the technical basis for the model requirements in the STS, and thus provide a basis for the ITS.

A significant number of less restrictive changes to the CTS were categorized based upon the type of less restrictive change to the CTS requirements. These categories are as follows:

Category I	-	Relaxation of CTS LCO Applicability
Category II	-	Relaxation of CTS Surveillance Frequency
Category III	-	Relaxation of CTS Action Requirements
Category IV	-	Relaxation of CTS Required Action Completion Time
Category V	-	Relaxation of CTS Surveillance Requirement Acceptance Criteria
Category VI	-	Relaxation of CTS Action Entry to Perform SRs

Category VII - Deletion of Requirements Contained in Regulations and of Explicit Post Maintenance SRs

Category VIII - Relaxation of LCO Requirements

The following discussions address why various specifications within each of these eight categories of information or specific requirements are not required to be included in ITS.

- Relaxation of CTS LCO Applicability (Category I)

  Reactor operating conditions are used in the CTS to define when the LCO is required to be met. The LCO applicabilities can be specifically defined terms of reactor modes of operation (i.e., the reactor modes defined in the TS, and other operating conditions as when irradiated fuel is being moved). The applicabilities can also be more general. Depending on the circumstances, CTS may require that the LCO be maintained within limits in "all modes" or "any operating mode." However, generalized applicability conditions are not contained in the STS, therefore the ITS eliminate the CTS requirements such as "all modes" or "any operating mode," replacing them with ITS defined modes or applicable conditions that are consistent with the application of the plant safety analysis assumptions for operability of the required features.

  In another application of this type of change, CTS requirements may be eliminated during conditions for which the safety function of the specified safety system is met because the feature is performing its intended safety function. Deleting applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions is acceptable because when LCOs cannot be met, the TS can be satisfied by exiting the applicability thus taking the plant out of the conditions that require the safety system to be operable. These changes are consistent with the STS, and changes specified as Category I are acceptable.

- Relaxation of CTS Surveillance Frequency (Category II)

  CTS and ITS surveillance frequencies specify time interval requirements for performing surveillance testing. Increasing the time interval between surveillance tests in the ITS results in decreased equipment unavailability because of testing. In general, the STS contain surveillance frequencies that are consistent with industry practice or industry standards for achieving acceptable levels of equipment reliability. Adopting testing practices specified in the STS is acceptable based on similar design, like-component testing for the system application, and the availability of other TS requirements which provide regular checks to ensure limits are met.

  Reduced testing can enhance safety because it reduces system unavailability from testing; in turn, reliability of the affected structure, system or component should remain constant, or may increase because of fewer testing challenges to the system. Reduced testing is acceptable where operating experience, industry practice, or industry standards, such as manufacturers' recommendations, have shown that components usually pass the surveillance when performed at the specified interval. Therefore, the frequency is acceptable from a reliability standpoint. Surveillance frequency changes to

incorporate alternate train testing has been shown to be acceptable where other qualitative or quantitative test requirements are required which are established predictors of system performance (e.g., a 31-day air flow test is an indicator that positive pressure in a controlled space will be maintained because the test would use the same fans as the less frequent ITS 36-month pressurization test and industry experience shows that components usually pass the pressurization test). Additionally, surveillance frequency relaxation can be based on staff-approved topical reports. The NRC staff has accepted topical report analyses that bound the plant-specific design and component reliability assumptions. These changes are consistent with the STS, and changes specified as Category II are acceptable.

- Relaxation of CTS Action Requirements (Category III)

  Upon discovery of a failure to meet an LCO, the STS specify required actions to complete for the associated TS conditions. Required actions of the associated conditions are used to establish remedial measures that must be taken in response to the degraded conditions. Adopting required actions from the STS is acceptable because STS-required actions take into account the operability status of redundant systems of TS-required features, the capacity and capability of the remaining features, and the compensatory attributes of the required actions as compared to the LCO requirements. In conjunction with the relaxation of the applicability of several CTS specifications (Type I changes), the associated action requirements to exit the applicability are also relaxed. Such relaxations of action requirements are acceptable because they are commensurate with industry standards for reductions in thermal power in an orderly fashion without compromising safe operation of the plant. Therefore, changes falling within Category III are acceptable.

- Relaxation of CTS Required Action Completion Time (Category IV)

  Upon discovery of a failure to meet an LCO, the STS specify times for completing required actions of the associated TS conditions. Required actions of the associated conditions are used to establish remedial measures that must be taken within specified completion times. These times define limits during which operation in a degraded condition is permitted. Adopting completion times from the STS is acceptable because completion times take into account the operability status of the redundant systems of TS-required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a design basis accident (DBA) occurring during the repair period. Therefore, changes falling within Category IV are acceptable.

- Relaxation of CTS Surveillance Requirement Acceptance Criteria (Category V)

  The CTS require safety systems to be tested and verified operable prior to entering applicable conditions. The ITS provide the additional requirement to verify operability by actual or test conditions. Adopting the STS allowance for "actual" conditions is acceptable because TS-required features cannot distinguish between an "actual" signal or a "test" signal. Category V also includes changes to CTS requirements that are replaced in the ITS with separate and distinct testing requirements which, when

combined, include operability verification of all TS-required components for the features specified in the CTS. Adopting the format preference in the STS is acceptable because SRs that remain include testing of all previous features required to be verified operable. The identification of the specific signal for safety system testing may be listed in the CTS; however, this detail is not necessary for inclusion in the TS to ensure operability of the associated systems. This detail will be relocated to the ITS Bases where changes are controlled by the ITS Bases control program in ITS 5.5.14. The ITS require that changes to the Bases may be without prior staff approval only if the changes meet the criteria in 10 CFR 50.59, which is the same criteria used to control changes to the description of the plant in the Callaway FSAR. The ITS Bases is an acceptable licensee-controlled document for this detail.

These changes are either consistent with the STS or are acceptable to be relocated to the ITS Bases. Therefore, changes falling in Category V are acceptable.

- Relaxation of CTS Action Entry to Perform SRs (Category VI)

The STS allows an instrument channel to be placed in a bypassed status solely for the performance of required surveillance testing, without entering the associated conditions and required actions, provided the associated function maintains trip capability. This allowance is generally four hours, during which time the functional capability is maintained. This relaxation is in accordance with approved topical reports. Adopting this STS approach to action entry during surveillance testing is acceptable because it takes into account the capability of the specified function, time for required test completion, and the extremely low probability of a design basis event occurring during the test period. Therefore, changes falling within Category VI are acceptable.

- Deletion of Requirements Contained in Regulations and of Explicit Post Maintenance SRs (Category VII)

Some requirements contained in the regulations have also been included in plant TS. If these requirements are in the regulations, they will apply to the licensee's operation of the plant whether or not they are in the TS. Therefore, these requirements do not need to be included in the TS. Also, plant TS have included specific requirements on performing surveillances prior to returning equipment or systems to service following maintenance, repair or replacement. Explicit post-maintenance TS surveillance requirements do not have to be included in the TS because these requirements are adequately addressed by the definition of operability in the TS, and by the licensee's administrative post-maintenance programs governed by plant procedures. These deletions are acceptable because they are not important to ensure the ITS's effectiveness. In addition, omitting this information from the ITS is acceptable because it will continue to be contained in appropriate station procedures required by ITS 5.4.1. Therefore, changes falling within Category VII are acceptable.

- Relaxation of LCO Requirements (Category VIII)

The CTS provide lists of acceptable conditions that may be used to satisfy LCO requirements. The ITS reflect the STS approach to provide LCO requirements that

specify the protective limit that is required to meet safety analysis assumptions for required features. The protective limits replace the lists of specific devices previously found to be acceptable to the NRC staff for meeting the LCOs. The ITS changes provide the same degree of protection required by the safety analysis and provide flexibility for meeting limits without adversely affecting operations because equivalent features are required to be operable. These changes are consistent with the STS and changes specified as Category VIII are acceptable.

The licensee identified "LS" and "TR" less restrictive changes to the CTS. The three sets of TR changes (i.e., TR-1, TR-2, and TR-3) are three groups of similar less restrictive changes similar to the categories discussed above. TR-1 changes are Category V changes to the CTS that, consistent to the STS, allow the use of an actual signal to satisfy SRs and relocate the specific signals to the ITS Bases. TR-2 changes are Category VII changes to the CTS that, consistent with the STS, delete the requirements for special reports because the requirement is sufficiently addressed in the regulations (e.g., 10 CFR 50.73). TR-3 changes are also Category VII changes to the CTS that, consistent with the STS, delete the statement that testing must be performed on systems or equipment following maintenance because specific post maintenance test requirements are not necessary to be stated in the TS. The LS changes are individual less restrictive changes to the CTS.

Table LS lists the less restrictive changes to the CTS. Organized by CTS section, the table provides a summary description of the less restrictive changes (the LS-type and TR-type changes), the CN, and the CTS and ITS references. The table also provides the applicable change categories, as discussed above. The above less restrictive change categories are listed at the bottom of each page of Table LS.

If a change category does not apply to a less restrictive change, the word "unique" is specified in the table for that change and an evaluation of the change is provided below. Each evaluation below is preceded by the ITS section or specification and the CN identifier (e.g., LS-1 or TR-1) associated with the change. All of these changes to the CTS are consistent with the STS and, therefore, are not beyond-scope issues for the ITS conversion. The changes that are beyond the scope of the ITS conversion are addressed in Section 4.G of this SE.

ITS Section 1.0

LS-1 The STS definition of core alterations is proposed for the ITS and is less restrictive than the corresponding CTS definition because it will only apply to those activities that create the potential for a reactivity excursion and thus warrant special precautions or controls in the ITS. The ITS definition will apply to fewer activities. The ITS definition will restrict core alterations to the movement of fuel, sources, or reactivity control components which may cause significant reactivity changes in the core. Under the revised definition, in-vessel movement of instruments, cameras, lights, tools, etc., will not be considered to be core alterations. This change is acceptable because special controls on components other than fuel, sources, or reactivity control components to prevent reactivity excursions are not warranted. In addition, the proposed definition adds an allowance that suspension of core alterations shall not preclude completion of movement of a component to a safe position. This is acceptable because it is not desirable to

immediately stop moving a component (e.g., stop the movement with the component suspended from the refueling grapple over the core).

LS-2 CTS Table 1.2 is proposed to be revised in the following manner: (1) notation "NA" replaced "O" under % rated thermal power (RTP) for Modes 3, 4, 5, and 6, (2) notation "NA" replaced the reactor coolant temperature for Modes 1, 2, and 6, (3) notation "NA" replaced the reactivity condition for Mode 6, (4) a new note b has been added to Modes 4 and 5 stating that at least 53 of 54 reactor vessel head closure bolts are fully tensioned, and (5) a new note c replaced the note applied to Mode 6 and states that two or more reactor vessel head closure bolts are less than fully tensioned. These changes are administrative, resulting in no technical changes, except for the proposed new notes b and c which relax the definition of Mode 6. The two proposed notes b and c to reduce the number of reactor vessel head bolts required to be fully tensioned in Modes 4, 5, and 6 are a beyond-scope issue that is addressed in Section 4.G.1 of the SE.

CTS Section 3.0

LS-2 STS LCO 3.0.5 is proposed to be added to the ITS to provide an exception to ITS LCO 3.0.2. ITS LCO 3.0.2 states that, upon discovery of a failure to met an LCO (i.e., equipment is inoperable), the required actions of the LCO shall be met. The LCO 3.0.5 exception is for instances where restoration of the inoperable equipment to an operable status could not be performed while continuing to comply with the required actions for an LCO. Many LCO actions require an inoperable component to be removed from service and an exception to these actions is necessary to allow the performance of SRs to either demonstrate the operability of the equipment being returned to service or to demonstrate the operability of other equipment.

LCO 3.0.5 is necessary to establish an allowance that is not formally recognized in the CTS. Without this allowance, certain components could not be restored to operable status and a station shutdown would ensue. It is not the intent or desire that the TS preclude the return to service of a component to confirm its operability. This allowance is deemed to represent a more stable, safe operation than requiring a station shutdown to complete the restoration and confirmatory testing. The time during which the equipment is returned to service is very small, therefore, the probability of an accident during that time period is also very small and insignificant. Therefore, the proposed STS LCO 3.0.5 is acceptable.

CTS Specification 3.2

LS-11 The proposed changes would delete CTS LCO 3.2.4, Action a.2, requiring (1) the quadrant power tilt ratio (QPTR) to be restored within 24 hours, (2) the QPTR to be verified during return to power, and (3) the power range neutron flux-high trip setpoint to be reset. The ITS would replace the three CTS requirements by the STS requirements to (1) measure nuclear enthalpy rise hot channel and heat flux hot channel factors, and (2) perform safety analyses.

The CTS actions requiring QPTR to be restored within 24 hours or reduce power to <50 percent RTP and requiring verification of QPTR during return to full power operation

would be eliminated in accordance with the STS. Also, the requirement to reset power range neutron high-flux trip setpoint during the power reduction and after a required reduction to ≤50 percent RTP would be eliminated. The ITS would add requirements for measuring the heat flux hot channel factor ($F_Q(Z)$) and the nuclear enthalpy rise hot channel factor ($F^N_{\Delta H}$), instead of the QPTR, and performing safety analyses to verify peaking factors prior to return to power.

The focus in the ITS is on maintaining the peaking factors $F_Q(Z)$ and $F^N_{\Delta H}$ within limits rather than the QPTR. This is appropriate because QPTR is a monitored parameter that is indicative of peaking factor problems. The ITS require verification that $F_Q(Z)$ and $F^N_{\Delta H}$ are within limits within 24 hours by performing SRs that can directly measure flux shapes in the core. If $F_Q(Z)$ or $F^N_{\Delta H}$ are not within limits, the conditions for those TS will specify the required actions. Since the peaking factors are of prime importance, the ITS will ensure that the power distribution remains consistent with the initial conditions assumed in safety analyses. The proposed completion time takes into consideration the rate at which peaking factors are likely to change and the time required to stabilize the plant and perform a flux map.

The ITS would retain the 2-hour requirement to reduce power proportionally to the percent that QPTR exceeds its limit. This would result in a power reduction that would provide additional margin to fuel design limits during a flux tilt condition to assure that design limits are not challenged by local flux peaking. These design margins are set conservatively and provide further assurance that operation during the 24-hour period would not challenge fuel design limits.

The ITS would also require a reevaluation of the safety analyses prior to increasing reactor power above the reduced power required by the QPTR limit. Finally, the ITS would also require a confirmation that $F_Q(Z)$ and $F^N_{\Delta H}$ are within limits following the power increase. The proposed changes also would eliminate the requirements to reset the power range neutron flux -- high trip setpoints. First, the requirement to reduce the setpoints within 4 hours following power reductions proportional to the percent QPTR exceeds the limit would be eliminated. Second, the requirement to reduce the setpoints to ≤55 percent RTP within 4 hours of reaching 50 percent RTP would be eliminated. The former change is acceptable on the basis that the likelihood of an event occurring during the power reduction phase and during the 24 hour period prior to verifying peaking factors within limits is small. The latter change is acceptable on the basis that the ITS would require peaking factors to be determined in the same time frame as the CTS, and the peaking factor ITS have their own requirements, with appropriate completion times, for reducing reactor power and resetting the power range neutron flux -- high trip setpoints.

Based on this, the proposed changes are acceptable.

LS-12 The proposed change would allow the use of the movable incore detector system to determine an equivalent QPTR with one or more inoperable excore detector inputs to the QPTR calculation. In addition, the frequency is clarified by a note which states that CTS SR 4.2.4.2 is not required to be performed until 12 hours after input from one or more power range neutron flux channels are inoperable. This change increases

operational flexibility because the CTS has no provisions for determining QPTR with more than one inoperable input and, therefore, LCO 3.0.3 would be entered and the plant would be shut down. CTS LCO 3.0.3 provides actions for a plant condition where an LCO is not met and there is no action specified in the CTS to place the plant in a mode in which the LCO does not apply. The proposed change is to Footnote "#" to CTS SR 4.2.4.1, and Footnote "+" to CTS SR 4.2.4.2.

The QPTR is defined as the ratio of the maximum of the four excore detector calibrated output to the average of the four excore detector calibrated outputs for the upper half of the detectors and the lower half of the detectors. If one of the excore detector inputs to the QPTR calculation becomes inoperable, the CTS allows the use of the moveable incore detector system to determine an equivalent QPTR. If, at or below 75 percent RTP, one of the excore detector inputs to the QPTR calculation becomes inoperable, the CTS allows the use of the remaining three detectors to determine an equivalent QPTR. Further, if the moveable incore detector system is used to determine an equivalent QPTR, the CTS do not contain any provisions for determining QPTR with more than one inoperable unit; thus CTS LCO 3.0.3 would be entered and the plant would be shut down.

The proposed change would allow for the use of the movable incore detector system to determine an equivalent QPTR with one or more inoperable excore detector inputs to the QPTR calculation. If the movable incore detector system is used to determine an equivalent QPTR, the QPTR calculation is not based on information gained from any operable excore indications, and therefore is independent of the number of operable excore detectors. The frequency specified in the CTS for the determination of an equivalent QPTR with the movable incore detectors (every 12 hours) would be retained. The frequency is clarified by a note which states that the SR is not required until 12 hours after input from one or more power range channels become inoperable. Further justification for this frequency is based on the fact that under normal circumstances, QPTR would not be expected to change significantly within a 12 hour period. If a significant change in QPTR were to occur, it would likely be the result of control rod misalignment which would be detected immediately by means of the rod deviation monitor or rod bottom lights.

Based on this, the proposed change is acceptable.

LS-13 The proposed change will delete CTS LCO 3.2.4, Actions b and c, for the quadrant power tilt ratio (QPTR) being outside its limit, and the ratio being either below or above 1.09. The ITS conditions would be only for the QPTR being outside its limit, to be consistent with the STS. Actions involving QPTRs of 1.09 would be eliminated in conformance with the STS. While the requirements in CTS regarding QPTRs in excess of 1.09 due to misalignment of control rods would be addressed by the ITS requirements associated with rod group misalignment limits, the CTS Actions regarding QPTRs in excess of 1.09 due to other causes would be replaced by less restrictive requirements. The CTS require that the QPTR be calculated once per hour and that power be reduced to less than 50% RTP within 2 hours and the power range neutron flux high trip setpoint be reduced within the next 4 hours. In addition, the CTS require identification and correction of the cause of the tilt condition and periodic verification that

QPTR is within limits during any subsequent ascension to RTP. The ITS would require (1) that the QPTR be calculated only once per 12 hours, (2) only a 3% RTP reduction for each 1% of QPTR in excess of 1.0 and no reduction in flux trip setpoints, and (3) verification of peaking factors prior to and following power ascension and reevaluation of safety analyses prior to power ascension. The licensee stated that the proposed change is acceptable because:

(1) The QPTR would be expected to change slowly over time so a less frequent calculation of QPTR would be acceptable;

(2) Once the operating staff commences a power reduction, in accordance with ITS requirements, the effect of any flux tilt will tend to be mitigated by reducing the flux and establishing greater margin to fuel design limits, the reduction of power required by the ITS would result in a plant transient that generally would be less severe than the reduction to less than 50% as required by CTS, and eliminating the trip setpoint reduction is acceptable because a QPTR in excess of limits does not necessarily imply that accident analyses assumptions have been violated; and

(3) The ITS Required Actions prior to and subsequent to power ascension provide assurance that power operation at or near RTP will be in accordance with the safety analyses.

The staff agrees with the licensee and concludes that the proposed change is acceptable.

CTS Specification 3.3

LS-1 The proposed change would exchange the active verb in CTS SRs 4.3.1.2 and 4.3.2.2 from "demonstrated" to "verified" to allow reactor trip system (RTS) and engineered safety feature actuation system (ESFAS) sensor response time surveillances to be performed in accordance with approved WCAP-13632-P-A, Revision 2, and eliminate pressure sensor response time testing. The licensee stated that the applicability of the generic analysis of the WCAP report has been confirmed for Callaway and that the specific transmitters installed at Callaway that require RTT are included in Table 9-1 of WCAP-13632. In addition, the licensee provided the following discussion that addressed the four actions raised in the NRC SE dated September 5, 1995, that approved the WCAP report:

(a) A hydraulic response time test will be performed on any new or refurbished transmitter, prior to declaring the affected channel operable, to determine an initial sensor-specific response time value.

(b) A hydraulic response time test will be performed on units that use capillary tubes after initial installation of replacement transmitters or following any maintenance or modification activity that could damage the capillary tubing or degrade the response time characteristics of installed sensors.

(c) Callaway does not utilize pressure sensors that incorporate a variable damping feature in the RTS or ESFAS channels that are required to have their response times verified.

(d) Callaway does not use pressure sensors manufactured by Rosemount in applications that are required to be response time tested. The licensee's actions in response to NRC Bulletin 90-01 and its Supplement 1 have been completed and accepted by NRC in the SE dated June 15, 1994. Licensee engineering, operations, and instrumentation and control (I&C) personnel are aware of the loss of fill oil phenomena applicable to Rosemount transmitters manufactured prior to July 11, 1989.

The licensee further stated that the CTS are revised to indicate that the system response time shall be verified using a sensor response time justified by the methodology described in WCAP-13632-P-A, Revision 2. Based on the statements made by the licensee, the proposed change is acceptable.

LS-8 The proposed change will add the option, not in the CTS, to reduce power to less than P-7 within 12 hours, for the case where the number of operable channels is one less than those required. The new footnote b is added to the applicable modes for the functions so that the applicable modes are consistent with the added option. The change reflects a revision to CTS Action 6. If the requirements in the action are not met, LCO 3.0.3 would be entered. This action is proposed to be revised to state that, if the action requirements are not met, thermal power must be reduced to below the P-7 interlock setpoint within the next 6 hours. The following functional units that have Action 6: the pressurizer pressure - low; pressurizer water level - high; reactor coolant flow - low, two loops (above P-7 and below P-8); RCP undervoltage; and RCP underfrequency, are automatically blocked below P-7 and an applicability note has been added accordingly. The reactor coolant flow - low (single loop) reactor trip function does not have to be operable below the P-8 setpoint; however, the action must take the plant below the P-7 setpoint, if an inoperable channel is not tripped within 6 hours, due to the shared components between this function and the reactor coolant flow - low (two loops) trip function. The proposed change is acceptable because the proposed ITS actions and applicabilities are consistent with the safety analysis assumptions in the FSAR which require operability of these functions above the P-7 interlock.

LS-11 The proposed change will revise CTS applicability modes by adding new notes a and b in Table 3.3-3, for functions #4.a.2, #4.b, #4.c, #4.d, #4.e, #5.a, and #5.b. A new note a is proposed to be added for the steam line isolation functional units to state that the LCO requirements are not applicable in Modes 2 and 3 when the main steam isolation valves (MSIVs) are closed. Note b is proposed to be added for the feedwater isolation and turbine trip functional units to state that the LCO requirements are not applicable when all main feedwater isolation valves (MFIVs) are closed. When these valves are closed, they are performing their safety function. These safety isolation functions are accomplished when the associated valves are closed, whether that closure is as a result of automatic isolation instrumentation or operator action. Operability requirements on actuation instrumentation are not applicable if the valves are closed. The proposed change will not affect the ability of any safety-related equipment to perform its intended

function. There will be no degradation in the performance of nor an increase in the number of challenges imposed on safety-related equipment assumed to function during an accident situation. The proposed change is acceptable because the change will not affect any of the analysis assumptions for any of the accidents previously evaluated.

LS-31 The proposed change to CTS Action 19 requirements in Table 3.3-3 reflect applying STS LCO 3.3.5 (including the LCO conditions) for the loss of power functional unit. The relaxation would apply to situations of multiple inoperable channels on one bus and for failure to place an inoperable channel in trip within 6 hours in Modes 1 to 4. These situations currently require entry into LCO 3.0.3 because they are outside the scope of the CTS Action 19. Following the conditions proposed for the ITS, there would be instead an immediate entry from ITS LCO 3.3.5, Condition B, into ITS LCO 3.8.1, Condition F, and a 12-hour completion time to repair equipment in Modes 1 to 4. The 12-hour restoration time is a relaxation of the CTS action because CTS 3.0.3 would require the licensee within one hour to start shutting down the plant. ITS LCO 3.3.5, Condition B, provides an action for two or more inoperable channels on one or more buses. In this condition, the TS require declaring the supported feature, the load shedder and emergency load sequencer (LSELS) in LCO 3.8.1 or LCO 3.8.2, inoperable immediately. The loss of voltage and degraded voltage instrumentation provide input signals to the LSELS, which use the signals to initiate actions to shed loads and start emergency diesel generators affected by the loss of voltage condition. Condition B provides appropriate remedial measures for failures to place a channel in trip because the LSELS will be declared inoperable immediately and appropriate actions for this supported system will be met. Because the completion times for placing inoperable channels in trip are appropriate considering the remaining operable channels that are available to provide protection from bus undervoltage conditions and because Condition B provides appropriate remedial measures for failures to place a channel in trip, the proposed change is acceptable.

LS-40 The proposed change deletes the requirement in Table 4.3-1, by applying footnote 10 for functions #14 and #15, to verify the setpoint during the quarterly trip actuating device operational test (TADOT) for reactor coolant pump (RCP) underfrequency and undervoltage. The licensee stated that the setpoint is adequately confirmed during the 18-month channel calibration. Because the licensee confirmed that setpoint verification testing during the 18-month channel calibration is adequate to ensure instrument sensors remain operable between testing, the proposed change is acceptable.

LS-43 The proposed change to CTS SRs 4.3.3.5.1 and 4.3.3.6 will limit the channel check to each required instrument channel "that is normally energized." The revised SR will exempt instrumentation that is not normally energized. The CTS require that channel calibrations are performed for instrumentation used in the post-accident monitoring and remote shutdown systems on an 18-month basis. Some of these instruments are then de-energized and remain in this state until re-energized for use in the management of plant events or for the performance of the channel checks. Channel checks are performed more frequently than channel calibrations for the purpose of detecting gross channel failures or excessive drift of one channel relative to other channels monitoring the same process variable. During the period that the channel is de-energized, it is not subject to the failure mechanisms or conditions that typically lead to instrument failure or

excessive drift. Because de-energized channels are not subjected to the same failure mechanisms as energized channels, it is acceptable to exempt instrumentation not normally energized from the performance of the periodic channel checks and the proposed change is acceptable.

CTS Specification 3.4

LS-2 The proposed change adds an additional specific relaxation to allow the use of an operating RCS loop in lieu of an operating residual heat removal (RHR) loop in Mode 5 during planned heatup in preparation to enter Mode 4. The proposed change will relax CTS LCO 3.4.1.4.1, footnote **, by allowing the use of an operating RCS loop in lieu of an operating RHR loop in Mode 5 during planned heatup in preparation to enter Mode 4. The primary functions of the operating RHR loop in Mode 5 are to remove decay heat and to prevent boron stratification in the RCS. These functions can also be performed by an operating RCS loop which is a normal method of accomplishing these same functions when in Mode 4. In addition, at least one RHR loop must remain operable during the transition to Mode 4. The proposed change does not reduce the heat removal/boron mixing capability or system reliability when the RCS loop is performing these functions. Based on the ability of these functions to be performed by an operating RCS loop, the proposed change is acceptable.

LS-12 The proposed change will delete the requirement in CTS SRs 4.4.6.2.1.a and 4.4.6.2.1.b to monitor the RCS leakage detection system once per 12 hours. Because the ITS LCO 3.4.15 requires that a channel check be performed on the containment radioactivity monitor channels on the same frequency as the CTS and the containment sump level and flow monitoring system and the containment cooler condensate monitoring system are continuously monitored from the control room via available alarms and indications, such monitoring is unnecessary. Leak detection provides information that may indicate degradation of the RCS pressure boundary; however, the RCS leakage detection system is not credited in any safety analyses. Nevertheless, the continued operation of the leakage detection function is assured by the diverse means of leakage detection that have been provided within the system and by the requirement that a RCS water inventory balance be performed every 72 hours. Because leakage information is available from diverse sources, which are checked by an RCS water inventory balance, the deletion of the surveillance does not negatively impact RCS leak detection and the proposed change is acceptable.

LS-14 The proposed change will delete the requirement in CTS SR 4.4.6.2.1.e for monitoring the reactor head flange leakoff system at least once per 24 hours. Flange leakoff does not provide an indicator of pressure boundary integrity. Reactor head flange leakage, which is collected in the reactor coolant drain tank, is quantified as identified leakage which is determined by performance of a RCS water inventory balance and limited to a maximum value by the ITS. The initial RCS water inventory balance is required within 12 hours following RCS steady state operation and every 72 hours thereafter. The flange leakage by itself is not an initial assumption in the accident analyses. Because reactor head flange leakage is accounted for by RCS inventory balance and can be detected by the various leakage monitoring systems, the proposed change is acceptable.

LS-20 The proposed change will revise CTS SR 4.4.9.3.1.a to allow performance of the COT on the PORV actuation channels within 12 hours after decreasing any RCS cold leg temperature to $\leq$ 275°F. Previously, such testing was required to be performed prior to entry into the LCO's applicability (i.e., Mode 3 with RCS cold leg temperature $\leq$ 368°F). The proposed change will not affect the ability of the PORVs to perform their intended function as part of the cold overpressure mitigation system because the channel calibration is still required to be maintained current. In addition, entry into Mode 4 (from Mode 3) occurs at 350°F at which time the RHR system is normally in operation providing relief capability via the RHR relief valves. Because the proposed change will not affect PORV performance and the RHR relief valves would be available, the proposed change is acceptable.

LS-22 The proposed change will relax the CTS by requiring only two RCS loops to be operable in Mode 3, with two loops in operation when the rod control system is capable of rod withdrawal and with one loop in operation when the rod control system is not capable of rod withdrawal. The LCO, Action b, and SR 4.4.1.2.3 of Specification 3.4.1.2, "Reactor Coolant System, Hot Standby," would be revised to require that two reactor coolant loops be operable. Loop operation requirements would also be revised to be contingent on rod control system status. The requirement to have a third operable reactor coolant loop would be deleted. The decay heat removal requirement in Mode 3 is sufficiently low that a single RCS loop with one RCP running is adequate to remove core decay heat. A second RCS loop ensures redundant capability for decay heat removal. When the rod control system is capable of rod withdrawal, two loops must be in operation to ensure accident analysis assumptions are satisfied. When rod withdrawal is precluded, only one loop is required to be in operation to satisfy Mode 3 accident analyses. Because the proposed change meets the Mode 3 safety analyses, the proposed change is acceptable.

LS-24 The proposed change will add three notes to CTS LCO 3.4.9.3 to reflect CTS SR LCO 3.5.4 actions, LCO 3.5.4 applicability note, and the accumulator action added in CN 9-10-M for CTS 3/4.4. This is a beyond-scope issue that is addressed in Section 4.G.10 of the SE.

LS-30 The proposed change will relax CTS SR 4.4.6.2.1.d for performing an RCS water inventory balance by allowing deferral of the balance until 12 hours after establishment of steady state operation. An RCS water inventory balance cannot be meaningfully performed unless the plant is operating at steady state conditions. Therefore, CTS SR 4.4.6.2.1.d would be revised to allow deferring the RCS inventory balance in the event of a transient until 12 hours after establishment of steady state conditions. The proposed change will provide for a meaningful test and is, therefore, acceptable.

LS-36 The proposed change will limit CTS SR 4.4.4.2 to perform the 92 day surveillance of the pressurizer PORV block valves (i.e., perform one complete cycle of each block valve) so that it is not required to be performed if the block valve is closed to meet Action a. In addition, Action d does not apply if the block valve(s) is operable solely to satisfy Actions b or c. This is a beyond-scope issue that is addressed in Section 4.G.8 of the SE.

CTS Specification 3.5

LS-4 (CN 3-02 LS-4) The proposed change revises the CTS prescriptive wording related to pump inoperability, in footnote * to SR 4.5.3.2, to specifically address the emergency core cooling system (ECCS) pump capability to inject into the RCS. This change involves the configuration of the centrifugal charging and safety injection pumps. The RCS cold overpressure mitigation system (COMS) limitations on ECCS pumps, and related surveillances, are relocated to ITS 3.4.12. The requirement for having the charging pumps/safety injection pumps 'inoperable' has been revised to preclude injection into the RCS. This change is consistent with the cold overpressure analysis requirements. The intent of specifying that the required number of centrifugal charging pumps/safety injection pumps be inoperable is to preclude the possibility of injecting flow into the RCS in excess of that analyzed for the COMS. This change results in the operability statements being revised and allows deletion of the notes which were in place for testing or accumulator filling. Because the change does not result in a less conservative operational position as flow to the RCS is still precluded, the proposed change is acceptable.

LS-4 (CN 4-01 LS-4) The proposed change will (1) revise the CTS LCO 3.5.4 Actions a and b, and SRs 4.5.4.1 and 4.5.4.2 (the footnote) to satisfy COMS analysis assumptions on ECCS injection sources by rendering pumps inoperable to preclude those pumps from injecting into the RCS, and (2) delete the note dealing with testing and accumulator filling. The LCO requirement to satisfy cold overpressure analysis assumptions on ECCS injection sources by rendering pumps inoperable has been revised to preclude those pumps from injecting into the RCS. The change does not result in a less conservative operational position as flow to the RCS is still precluded. The intent of specifying that the required number of centrifugal charging pumps/safety injection pumps be inoperable is to preclude the possibility of injecting flow into the RCS in excess of that analyzed for the COMS. Because the intent of precluding the possibility of excess flow injection continues to be met by the proposed change, the proposed change is acceptable.

LS-6 The proposed change revises the CTS requirement in SR 4.5.3.1 to demonstrate ECCS train operability in Mode 4 to delete (1) the 31-day surveillance to verify the correct position of each valve in the ECCS flow path which is not already locked in place, and (2) the 18-month surveillance to verify automatic actuation of ECCS pumps and automatic valves. Due to the stable conditions associated with operation in Mode 4 and the reduced probability of occurrence of a DBA, the ECCS operational requirements are reduced. In this mode, there is sufficient time for manual actuation of the required ECCS to mitigate the consequences of a DBA. Based on there is sufficient time for manual actuation, the proposed change is acceptable.

CTS Specification 3.6

LS-25 The proposed change will (1) delete the CTS requirement in SR 4.6.1.7.1 to blank flange and close the containment shutdown purge supply and exhaust (CSDPSE) isolation valves, and (2) extend the frequency to once per 92 days for verification of these valves inside containment by adding the statement "if not completed in the

previous 92 days." CTS 3.6.1.7 for the containment ventilation system requires the CSDPSE valves to be closed and blank flanged. In the event one containment isolation valve in one or more penetration flow paths is inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic containment isolation valve, a closed and deactivated power-operated containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. The requirement to close and blank flange the CSDPSE isolation valves is more conservative than needed because either closing the valve or blank flanging the valve is sufficient to have these valves be isolation barriers. Therefore, deleting the reference to closing and blank flanging these valves is acceptable.

The CTS frequency of verifying the CSDPSE isolation valves inside containment once per 31 days is extended to 92 days in adding the statement "if not completed in 92 days" to the footnote to CTS SR 4.6.1.7.1. The footnote requires the CSDPSE isolation valves and flanges located inside containment to be verified closed (or flanges installed) prior to entering Mode 4 following each cold shutdown. The extension to 92 days is acceptable because of the inaccessibility of the isolation devices (e.g., valve or flange) inside containment and the licensee's administrative controls that will ensure that isolation device misalignment is an unlikely possibility. This is the same time period specified in the STS actions for the similar situation of verifying penetrations with inoperable isolation valves are closed for the containment isolation devices inside containment.

Based on the above, the proposed change is acceptable.

CTS Specification 3.7

LS-8 The proposed change will delete the CTS SR in item 1 of Table 4.7-1 to determine gross radioactivity. The consequences of secondary system releases are limited by radioiodines and their resultant thyroid exposures, not the whole-body exposures received for the noble gases. The primary-to-secondary leakage limits and dose equivalent I-131 limits ensure the dose analyses in the FSAR remain valid. The CTS require that the gross radioactivity of the secondary system coolant be determined every 72 hours, but this surveillance is only a significant indicator of the potential offsite whole body dose. Since the radioiodines and the resulting thyroid dose are limiting, the 72-hour gross radioactivity surveillance requirement is deleted as being unnecessary. Because the limits on primary-to-secondary leakage and dose equivalent I-131 assure that the dose analyses in the FSAR remain valid, the revised surveillance is more appropriate. The ITS will also require that the surveillance for verification of I-131 activity be performed every 31 days on an unconditional basis, which is more restrictive than the CTS. The proposed change will only delete gross radioactivity sampling where results are bounded by the primary-to-secondary leakage and dose equivalent I-131 limits, and is, therefore, acceptable.

LS-22 The proposed change will replace the specific CTS SR 4.7.1.3.2 to periodically verify the essential service water (ESW) system is in operation whenever the system is the supply

source for the AFW pumps by a general statement to verify operability of the backup water supply. The periodicity of the verification does not change; however, the verification is relaxed to allow administrative means. The CTS require that when the condensate storage tank (CST) contained water volume is not within limits that the ESW system be demonstrated operable by "verifying that the ESWS is in operation." The ITS will revise this action to "verify by administrative means" the operability of the ESW system as a backup supply to the auxiliary feedwater (AFW) pumps. The result of this change is that the ESW system would not have to be physically started should the contained water volume for the CST fall below the limit. Instead the ESWS would be required to be verified operable by administrative means. This change would include verification that the flow paths from the ESWS to the AFW pumps are operable, that the required volume of water is available, and that the pump meets its operability requirements. This is a normal case for other specifications in the CTS. Based on this, the proposed change is acceptable.

CTS Specification 3.8

LS-4 For CN 1-47 LS-4, the proposed change will revise CTS SRs required for the CTS SR 4.8.1.2 on AC sources operability in Modes 5 and 6 to include only those SRs which are applicable for operability.

For CN 2-15 LS-4, the proposed change will add a note to CTS SR 4.8.2.2 allowing certain parts of the battery SR to not have to be performed for the DC source operability in Modes 5 and 6. The licensee stated that the note does not delete the requirement that the battery be capable of performing these functions, just that the capacity need not be demonstrated while that battery is relied on to meet the LCO.

The revisions deleted certain CTS SRs that are not applicable because they depend on ESF actuation signals (which are not required to be operational during Modes 5 and 6) and automatic load sequencing (most of these loads are not required in Modes 5 and 6). The SRs required for AC sources operability in Modes 5 and 6 would be revised to include only those SRs which are applicable. SRs that are not applicable are those that depend on ESF actuation signals (which are not required to be operational during Modes 5 and 6) and automatic load sequencing (most of these loads are not required in Modes 5 and 6). The 10-year simultaneous auto-start of all DGs is also not applicable to Modes 5 and 6.

In addition, the note listing exceptions to SR required for Modes 5 and 6 in CTS 4.8.1.2 would be revised to include the following additional SRs: 4.8.1.1.2.a.5, 4.8.1.1.2.g.1, 4.8.1.1.2.g.2, 4.8.1.1.2.g.6, 4.8.1.1.2.g.7, and 4.8.1.1.2.g.10 (for the shutdown sequencer portion of the LSELS), and 4.8.1.1.2.g.11. SRs that are applicable but not required to be performed are those that place a DG in parallel with offsite power which increases the probability of a station blackout. The licensee stated that the change assures the performance of SRs that are necessary and safe to perform for the plant conditions. The SRs required for AC sources and DC sources operability in Modes 5 and 6 would be revised to include only those which are applicable. In addition, notes would be added stating the SRs that are not required to be performed for operability in the modes governed by shutdown for the AC and DC sources LCOs. SRs were not

listed as applicable for shutdown because (1) the SR is only required when DGs are required to be operable, (2) the SR is only required when the safety injection (SI) signal is operable, or (3) the SR is only required when the sequencers are required to be operable.

For AC sources at shutdown, many of the CTS SRs involve tests that would require the one required DG to be paralleled to offsite power; this condition presents a significant risk of a single fault resulting in a station blackout. Other tests, such as load rejection tests, put the availability of the operable DG at risk during the test. To address this concern and to avoid potential conflicting TS, a note is added to not require that these surveillances be performed in Modes 5 and 6.

For DC sources at shutdown, a note would be added stating which CTS SRs are not required to be performed for the DC source operability in Modes 5 and 6. Certain of the currently required SRs involve tests that would cause the battery to be rendered inoperable. If the only required operable battery were inoperable due to testing, the risk of an event occurring that would require battery operation, would present an additional risk. The exception provided by the note does not exempt the battery from the requirement to be capable of performing the particular function, only that the capability need not be demonstrated while that source of power is being relied upon to support meeting the LCO.

The proposed SRs would continue to provide adequate assurance of the operability of the required AC and DC source functions. The changes would delete the requirement to meet SRs that verify functions which are not required in the applicable modes of the ITS.

Based on this, the proposed changes are acceptable.

LS-12 The proposed change will add a footnote to CTS SRs 4.8.1.1.2.g.6 and 4.8.1.1.2.g.11 stating that momentary transients outside the load and/or power factor range do not invalidate the SR tests. This is not allowed in the CTS. The licensee states that a footnote will be added stating that momentary transients outside the load range do not invalidate the test, since DG loading could change during this test due to changing bus conditions. Some load fluctuation is expected and should not invalidate this test. The current practice of monitoring and recording load every 15 minutes during the overload part of the 24 hour load test and once every hour for the remaining 22 hours is sufficient to ensure the DG load is within the load range. DG load found out of the load range and immediately returned to within the band would not invalidate an DG load test. Based on this, the proposed change is acceptable.

LS-23 The proposed change will relax the CTS SR 4.8.2.1.e on battery capacity by allowing a modified performance discharge test for verifying battery capacity. This is a beyond-scope issue that is addressed in Section 4.G.12 of the SE.

LS-26 The proposed change will restrict the operability in CTS LCO 3.8.3.2 for onsite power distribution in shutdown, to "the necessary portion of" electrical buses that are needed "to support [equipment] required to be operable." Only the portions of these distribution

subsystems necessary to supply AC and DC power to equipment required to be operable in shutdown must be operable. The change revises the requirement for operable onsite shutdown power. The CTS requires that one train (subsystem) of the various power supplies and buses be operable. The change requires that only the necessary portions of these subsystems be operable. The necessary portions are those portions required to support the equipment in that train which is required to be operable in the existing shutdown conditions. There is no reason to have portions of the power systems operable that are not supporting components which are being credited in the safety analyses for shutdown events. Because the necessary portions of the power systems will remain operable to provide power to equipment required to be operable, the proposed change is acceptable.

CTS Specification 3.9

LS-2 The proposed change will delete CTS SR 4.9.1.1 to verify reactivity conditions in the LCO for Mode 6 prior to (1) removing or unbolting the reactor vessel head, and (2) withdrawal of any control rod greater than 3 feet from its fully inserted position. The first of these requirements is redundant to the requirement imposed by the applicability note in ITS LCO 3.9.1 to meet the LCO prior to entering Mode 6 from Mode 5. Compliance with the LCO is assured by verifying boron concentration in accordance with ITS SR 3.9.1.1. In this case, unbolting the vessel head in preparation for removal is part of the definition of Mode 6. Therefore, this requirement is redundant to the requirement to verify boron concentration prior to entry into Mode 6. The second requirement that involves withdrawal of control rods is redundant because the analysis used to determine the boron concentration limit specified in the COLR considers the most adverse conditions of fuel assembly and control rod position. The boron concentration is sufficient to maintain $k_{eff} \leq 0.95$ with the most reactive rod control cluster assembly completely removed from its fuel assembly. Because these requirements are redundant to the requirements in ITS SR 3.9.1.1 and the COLR, the proposed change is acceptable.

LS-3 The proposed change, for the source range flux monitor in CTS SRs 4.9.2.b and 4.9.2.c and a new SR, will replace the analog COT requirements by a channel calibration in Mode 6. The analog COT is within 8 hours prior to core alterations and once per 7 days; the channel calibration would be every 18 months. In Mode 6, the source range monitors are required for indication only and there are no precise setpoints associated with these instruments. In this capacity, the source range instrumentation is typically used to read a relative change in count rate and is monitored for significant changes in count rate which are important to evaluate the change in core status. In the STS, indicating instruments only require channel checks and channel calibrations. The more frequent ACOTs are applied only to those channels with operational interlocks or other setpoint actuations. Therefore, the Mode 6 channel checks and channel calibration requirements every 18 months for the source range monitors are adequate to assure their operability, considering the more frequent ACOTs performed on this instrumentation in other Modes, the effectiveness of these surveillance requirements in maintaining other indicating instruments operable, and the accuracy required of these instruments in Mode 6. Therefore, the proposed change is acceptable.

LS-4 The proposed change will delete the requirement in CTS SR 4.9.4.1 to perform verification of containment building penetration status within 100 hours prior to the start of core alteration or movement of irradiated fuel. The CTS 7-day frequency of verifying the penetration status days during core alternations or movement of irradiated fuel within containment is carried over into ITS SR 3.9.4.1. The purpose of the CTS SR is to ensure the operability of the containment penetrations that must be closed or capable of closing to prevent the release of radioactivity in the event of a fuel handling accident (FHA). The SR is intended to assure that mitigation features are available and has no impact on the probability of an accident occurring. Because the applicability of this LCO on the status of containment penetrations in the ITS is during core alterations or movement of irradiated fuel within the containment and the LCO must be met before the core alterations and irradiated fuel movement evolutions occur, there is no need to specify in addition to the applicability that the penetrations must be verified before starting the evolutions. Therefore the CTS requirement does not need to stated as a separate requirement in the ITS and the proposed change is acceptable.

LS-6 The proposed change will relax CTS requirements in LCO 3.9.8.1 by allowing the removal of the RHR loop from operation for additional purposes other than the performance of core alterations in the vicinity of the hot legs. The equivalent requirement in ITS LCO 3.9.5 contains a note allowing the removal of the RHR loop from operation provided no activities are permitted that would reduce the RCS boron concentration. This will allow increased flexibility for core mapping and isolation valve testing which are needed to be done. Therefore, the proposed change is acceptable.

LS-7 The proposed change will delete Action a of CTS LCO 3.9.9 and would delete the requirement to close each purge valve when the containment ventilation system is inoperable. The function of the purge valves is to close following a FHA to prevent the escape of radioactivity from containment. The containment ventilation TS requirements are being integrated into ITS LCO 3.9.4 on containment penetrations during refueling operations and the applicability of the ITS LCO is during core alterations or movement of irradiated fuel assemblies within containment. Because requiring the purge valves to be closed to prevent a radioactivity release is equivalent to suspending activities which could lead to a FHA (and to a radioactivity release) in that both actions would have the same effect of preventing the release of radioactivity from the FHA, the CTS action would be replaced by the ITS applicability. The ITS applicability would prevent the conditions that could result in a FHA. Based on this, the proposed change is acceptable.

LS-14 The proposed change will modify CTS LCO 3.9.4.c.1 to permit an approved functional equivalent of an isolation valve or blind flange to isolate containment penetrations. The change will allow the licensee to use devices other than an isolation valve or blind flange to provide containment isolation for penetrations that provide direct access from the containment atmosphere to the outside atmosphere. As long as the device used to isolate a containment penetration is equivalent to an isolation valve or blind flange, then the device will provide an equivalent level of containment isolation of the penetration and the Callaway safety analyses are not changed. Based on this, the change is acceptable.

LS-21 The proposed change will delete the CTS LCO 3.9.2 requirement related to indication provided by the source range detectors for refueling operations instrumentation. The change would eliminate requirements associated with indication channels that are not required to mitigate boron dilution events. The requirements for visual indication for plants that do not rely on a boron dilution analysis would be discussed in the ITS Bases and the requirements for audible indication would be eliminated. In Mode 6, the source range monitors are required for indication only and there are no precise setpoints associated with these instruments. The source range instrumentation is monitored for significant changes in count rate which is important to evaluate the change in core status. The accepted convention for defining criticality does not require precise or specific setpoints or indication, but only requires verification of a slowly increasing count rate. The ITS requirements consist of maintaining two source range neutron flux monitors operable to ensure that redundant monitoring capability is available to detect changes in core reactivity. There is no requirement for an audible signal or alarm to initiate operator response because in Mode 6 reactivity changes would be slow and a boron dilution accident is not postulated. The occurrence of a boron dilution event is precluded by maintaining the isolation valves from unborated water sources secured in the closed position in accordance with ITS 3.9.2. During refueling, the source range monitors are designed to provide visual and audible indication of neutron count rate to plant operators. The proposed deletion of requirements for audible indication for these channels would not affect the availability of visual indication. There are no alarms, interlocks, or trip setpoints associated with these channels that are required to be operable during Mode 6. In addition, in Mode 6 the source range instruments provide no automatic actuation function used for mitigation of accidents. Because the proposed change only eliminates requirements that are not needed to mitigate boron dilution events, the proposed change is acceptable.

LS-22 The proposed change will delete the CTS SR 4.9.10.1 requirement to verify water level within 2 hours prior to the start of movement of fuel assemblies. CTS LCO 3.9.9.1 requirements on the required water level are applicable at the time that movement of fuel assemblies is performed. The SR for level verification within 2 hours prior to irradiated fuel movement is not needed because the SR for verifying reactor vessel level every 24 hours is retained in ITS SR 3.9.7.1 and is sufficient for ensuring that the water level over the core is at an acceptable level. Because of ITS SR 3.9.7.1 requirement on verifying refueling water level every 24 hours, the proposed change is acceptable.

CTS Section 6.0

LS-1 The proposed change will relax the requirements in CTS 6.8.5.b on the reactor coolant pump flywheel by also allowing for ultrasonic volumetric or surface examination inspection methods. This is a beyond-scope issue that is addressed in Section 4.G.17 of the SE.

LS-2 The proposed change will extend the time to complete the analysis of the fuel oil from 30 days to 31 days in CTS 6.8.4.h.2. The licensee stated that the surveillance interval for verifying that other properties are within limits for ASTM 2D fuel oil will be changed from "within 30 days" to "within 31 days" after obtaining a sample. The fuel properties that can have an immediate detrimental impact on diesel combustion, (i.e., API gravity,

kinematic viscosity, flash point and appearance) are verified prior to addition to the storage tank. The other fuel properties would not have immediate impact on diesel combustion and may be analyzed after addition to the tank. The licensee stated that the 31-day verification interval for these fuel properties is acceptable because these fuel properties, even if they are not within their stated limits, would not have an immediate effect on diesel generator operation. The CTS 30-day verification interval was a convenient time interval for sending the sample and receiving the results from the laboratory selected for testing; however, the STS has selected a 31-day testing interval. The 1-day increase in the interval would not have a significant effect on the acceptability of the diesel fuel oil and, therefore, the proposed change is acceptable.

For the reasons presented above, these less restrictive requirements are acceptable because they will not affect the safe operation of the station. The TS requirements that remain are consistent with current licensing practices, operating experience, and station accident and transient analyses, and provide reasonable assurance that public health and safety will be protected.

D. Relocated CTS Details (Not Entire Specifications)

When requirements in the TS have been shown to give little or no safety benefit, their removal from the TS may be appropriate. This includes details that do not support the safety analyses for the plant and, therefore, are not necessary for inclusion in the TS. This section discusses the relocation of details within the CTS to licensee-controlled documents. The relocation of entire specifications from the CTS to licensee-controlled documents is discussed below in Section 4.E. In most cases, relaxations previously granted to licensees on a plant-specific basis were the result of (1) generic NRC actions, (2) new staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the Owners Groups comments on the STS (i.e., the TSTF process). The NRC staff reviewed generic relaxations contained in the STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The Callaway design was also reviewed to determine if the specific design basis and licensing basis of Callaway were consistent with the technical basis for the model requirements in the STS, and thus provide a basis for the proposed ITS. A significant number of changes to the CTS involved the removal of specific requirements and detailed information from individual specifications evaluated to be Types 1 through 5 that follow:

Type 1	Details of System Design
Type 2	Descriptions of System Operation
Type 3	Procedural Details for Meeting TS Requirements
Type 4	Requirements Redundant to Regulations
Type 5	Requirements Not Supporting the Safety Analyses

The following discussions address why each of the above types of information or specific requirements are not required to be included in ITS.

- Details of System Design (Type 1)

  The design of the facility is required to be described in the FSAR by 10 CFR 50.34. In addition, the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50 require that station design be documented in controlled procedures and drawings, and maintained in accordance with an NRC-approved QA plan (Chapter 17 of the FSAR). In 10 CFR 50.59 controls are specified for changing the facility as described in the FSAR, and in 10 CFR 50.54(a), a control is specified for changing the QA plan. The ITS Bases also contain descriptions of system design and ITS 5.5.10 specifies 10 CFR 50.59 controls for changing the Bases. Removing descriptive details of system design from the CTS is acceptable because this information will be adequately controlled in the FSAR, controlled design documents and drawings, or the TS Bases, as appropriate. Cycle-specific design limits are moved from the CTS to the Core Operating Limits Report (COLR) in accordance with NRC GL 88-16. ITS 5.6.5 has the programmatic requirements for the COLR.

- Descriptions of System Operation (Type 2)

  The plans for the normal and emergency operation of the facility are required to be described in the FSAR by 10 CFR 50.34. Controls specified in 10 CFR 50.59 apply to changes in procedures as described in the FSAR. Controls specified in 10 CFR 50.54(a) apply to changes to the QA Program. The ITS Bases also contain descriptions of system operation and ITS 5.5.10 specifies that 10 CFR 50.59 will be used for making changes to the Bases. It is acceptable to remove details of system operation from the TS because this type of information will be adequately controlled in the FSAR, QA program, station operating procedures described in the FSAR, and the ITS Bases, as appropriate.

- Procedural Details for Meeting TS Requirements (Type 3)

  Details for performing action and surveillance requirements are more appropriately specified in the FSAR, station procedures required by ITS 5.4.1, the ITS Bases, or in programmatic documents, such as the Offsite Dose Calculation Manual (ODCM), which are required by ITS 5.5. Typically, details for performing action and surveillance requirements are already contained in the station procedures required by ITS 5.4.1. ITS 5.4.1.a requires written procedures to be established, implemented, and maintained for station operating procedures including procedures recommended in NRC RG 1.33, Revision 2, Appendix A, February 1978. These procedures ensure proper implementation of action and surveillance requirements. For example, control of the station conditions appropriate to perform a surveillance test is an issue for procedures and scheduling and has previously been determined to be unnecessary as a TS restriction. As indicated in GL 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," allowing this procedural control is consistent with the vast majority of other SRs that do not dictate station conditions for surveillances. Prescriptive procedural information in an action requirement is unlikely to

contain all procedural considerations necessary for the station operators to complete the actions required, and referral to station procedures is, therefore, required in any event.

Removing procedural details for meeting TS requirements from the TS is acceptable because locating such details in the FSAR, the ITS Bases, or in programmatic documents required by ITS Section 5.5, as appropriate, will maintain an effective level of regulatory control while providing for a more appropriate change control process, such as 10 CFR 50.59 and ITS 5.5.14, "Technical Specifications Bases Control Program." Similarly, deleting reporting requirements in the CTS is appropriate because ITS Section 5.6, "Reporting Requirements," 10 CFR 50.36 and 10 CFR 50.73 adequately cover the reports deemed to be necessary.

- Requirements Redundant to Regulations (Type 4)

  Certain CTS administrative requirements are redundant to regulations and thus are relocated to the FSAR or other appropriate licensee-controlled documents. The Final Policy Statement and 10 CFR 50.36 allows licensees to relocate to licensee-controlled documents CTS requirements that do not meet any of the criteria for mandatory inclusion in the TS. Changes to the facility or to procedures as described in the FSAR are made in accordance with 10 CFR 50.59. Changes made in accordance with the provisions of other licensee-controlled documents are subject to the specific requirements of those documents. For example, 10 CFR 50.54(a) governs changes to the QA plan, ITS 5.5.1 governs changes to the ODCM, and ITS 5.5.14 governs changes to the ITS Bases. Therefore, relocation of the administrative details identified above is acceptable.

- Requirements Not Supporting the Safety Analyses (Type 5)

  The TS rule, 10 CFR 50.36, provides criteria for determining what requirements should be specified in the TS LCOs. These criteria are based on meeting the safety analyses for the plant. In some cases, while a TS LCO may support the safety analyses, certain other requirements within the specification, such as a SR, may not. Since the Commission's Final Policy Statement and 10 CFR 50.36 allows licensees to relocate CTS LCOs that do not meet any of the 10 CFR 50.36 criteria to licensee-controlled documents, it is also acceptable to allow licensees to also relocate certain requirements within LCOs, to licensee-controlled documents, when these requirements do not support the safety analyses for the plant.

Table LG lists the requirements and detailed information in the CTS that are being relocated to licensee-controlled documents and not retained in the ITS. Organized by CTS section, the table provides the following: (1) the CN, (2) the CTS reference where the detail was located; (3) a summary description of the relocated details; (4) the document to contain the relocated details or requirements (i.e., the new location); (5) the regulation or ITS section for controlling future changes to the relocated detail or requirement (i.e., the change control process); (6) a characterization of the change; and (7) a reference to the specific change type, as discussed above, for not including the information or specific requirements in the ITS (i.e., Type 1, 2, 3, 4, or 5).

The NRC staff has concluded that these types of detailed information and specific requirements do not need to be included in the ITS to ensure the effectiveness of ITS to adequately protect the health and safety of the public. Accordingly, these requirements may be moved to one of the following licensee-controlled documents for which changes are adequately governed by a regulatory or TS requirement:

- TS Bases controlled in accordance with ITS 5.5.14, "Technical Specifications Bases Control Program."
- Documents that have controls established by the Administrative Controls section of the ITS (e.g., ODCM in ITS 5.5.1, inservice inspection program in ITS 5.5.8, explosive gas and storage tank radioactivity monitoring program in ITS 5.5.12, diesel fuel oil testing program in ITS 5.5.13, and Core Operating Limits Report in ITS 5.6.5).
- FSAR controlled by 10 CFR 50.59.
- QA plan, as approved by the NRC and located in Chapter 17 of the FSAR, controlled by 10 CFR Part 50, Appendix B, and 10 CFR 50.54(a).

The above is not a complete list of the acceptable licensee-controlled documents that could be used to incorporate relocated CTS requirements. Table LG of details relocated from CTS, Table R of relocated CTS requirements, and Table LS of less restrictive change to CTS (where a few LS changes included relocations of CTS requirements) list the licensee-controlled documents for the relocated CTS requirements.

To the extent that requirements and information have been relocated to licensee-controlled documents, such information and requirements are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, where such information and requirements are contained in LCOs and associated requirements in the CTS, the NRC staff has concluded that they do not fall within any of the four criteria contained in 10 CFR 50.36 and discussed in the Final Policy Statement (see Section 2.0 of this SE). Accordingly, existing detailed information and specific requirements, such as generally described above, may be removed from the CTS and not included in the ITS.

For CN 9-01-LG in CTS 3/4.4 (and associated CN 3-13-M in CTS 6.0), the licensee has proposed to relocate the pressure/temperature (P/T) limits and cold overpressure mitigation system (COMS) limits from the CTS to the pressure temperature limits report (PTLR) and proposed to reference WCAP-14040-NP-A, Revision 1, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Curves," as the methodology for calculating the P/T and COMS limits. The staff approved the use of this WCAP report in its generic SE dated October 16, 1995. The licensee, however, has determined that it will operate Callaway, Unit 1 for the near future with the existing approved P/T and COMS limits in the CTS. Therefore, the limits addressed in the PTLR of ITS 5.6.6 are the limits that the staff has previously reviewed and approved in Amendment 124 dated April 2, 1998. The amendment approved P/T limit curves that are valid for 20 effective full power years. The licensee will use the methodology in WCAP-14040-NP-A to calculate the future P/T and COMS limits before the time when the current values given in the amendment become invalid. The staff will review the licensee's future plant-specific application of the PTLR methodology to allow the licensee's future use of the PTLR methodology to calculate new P/T and COMS limits without prior staff approval.

In the associated CN 3-13-M in CTS 6.0, the licensee proposed to add a reference to Amendment 124 to the PTLR in ITS 5.6.6. The amendment approved the limits that are listed in the PTLR and addressed the methodology used by licensee to calculate the limits. The staff believes that the staff's approval of the P/T and COMS limits in Amendment 124 was not an approval for the licensee to make future changes to these limits using the methodology described in the amendment. Listing Amendment 124 in ITS 5.6.6 may imply this is true and the staff is not ready at this time to approve Amendment 124 for that purpose. The review of Amendment 124, or any other licensee submittal, for the purpose of allowing the licensee to make future changes to the P/T and COMS limits in ITS 5.6.6 without prior staff approval will the subject of a future letter.

E. Relocated Entire CTS Specifications

The Commission's Final Policy Statement states that LCOs and associated requirements that do not satisfy or fall within any of the four specified criteria (now contained in 10 CFR 50.36, as amended) may be relocated from the CTS (an NRC-controlled document) to appropriate licensee-controlled documents based on this criteria. This section of the SE discusses the licensee's proposed relocation of entire specifications in the CTS to licensee-controlled documents. These specifications include the LCOs, action statements (i.e., LCO actions), and associated SRs. In its application and its supplements, the licensee proposed relocating such specifications from the CTS to the FSAR. The staff finds that relocation of these requirements to the FSAR is acceptable, in that changes to the FSAR will be adequately controlled by 10 CFR 50.59. These provisions will continue to be implemented by appropriate station procedures (i.e., operating procedures, maintenance procedures, surveillance and testing procedures, and work control procedures).

Table R lists all specifications that are being relocated from the CTS to licensee-controlled documents. Table R has the following: (1) the CN, (2) a reference to the relocated CTS requirements, (2) summary descriptions of the relocated CTS requirements, (3) name of the document that will contain the relocated requirements (i.e., the new location); and (4) the method for controlling future changes to the relocated requirements (i.e., the change control process). The NRC staff's evaluation of the one relocated specification listed in Table R is provided below:

1. CN 3-01-R CTS 3/4.9.3, Reactor Decay Time (CTS 3/4.9)

The requirements in CTS 3/4.9.3 on the decay time that the reactor core must be subcritical before there is movement of irradiated fuel in the reactor core are being relocated to the FSAR. This LCO requires the reactor to be subcritical for 100 hours to allow the radioactive decay of the short-lived fission products. The screening criteria for including the requirements in the ITS have been satisfied for Criterion 2 since decay time is consistent with the assumptions used in an accident analysis; however, the activities necessary to be performed at Callaway before commencing movement of irradiated fuel ensure that 100 hours of subcriticality will elapse before there is movement of irradiated fuel in the core. Therefore, because the CTS is not required to assure that 100 hours have elapsed prior to fuel movement, the decay time LCO and SRs in the CTS may be relocated to the FSAR, a licensee-controlled document outside TS.

The FSAR is an acceptable licensee-controlled document; therefore, the relocation is acceptable.

Conclusion

The relocated specification from the CTS discussed above is not required to be in the ITS because it does not fall within the criteria for mandatory inclusion in the TS in 10 CFR 50.36(c)(2)(ii). The relocated specification is not needed to obviate the possibility that an abnormal situation or event will give rise to an immediate threat to the public health and safety. In addition, the NRC staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to maintain the effect of the provision in this specification. The NRC staff has concluded that appropriate controls have been established for the current specification that is being relocated to the FSAR.

The relocation is the subject of a license condition discussed in Section 6.0 of this SE. Until incorporated in the licensee-controlled document, changes to this specification, information, and requirements will be controlled in accordance with the current applicable procedures that control these documents. Following implementation of the ITS and incorporation of this relocated requirement, the NRC will audit the removed provisions to ensure that an appropriate level of control has been achieved. The NRC staff has concluded that, in accordance with the Commission's Final Policy Statement and 10 CFR 50.36, sufficient regulatory controls exist under the regulations. Accordingly, this specification, information, and requirement, as described in detail in this SE, may be relocated from the CTS and placed in the identified licensee-controlled document as specified in the licensee's letters.

F. Control of Specifications, Requirements, and Information Relocated from the CTS

In the ITS conversion, the licensee will be relocating specifications, requirements, and detailed information from the CTS to licensee-controlled documents outside the CTS. This is discussed in Sections 4.D and 4.E above. The facility and procedures described in the FSAR, can only be revised, including deletions, in accordance with the provisions of 10 CFR 50.59, which ensures records are maintained and establishes appropriate control over requirements removed from the CTS and over future changes or deletions to the requirements. Other licensee-controlled documents contain provisions for making changes consistent with other applicable regulatory or TS requirements; for example, the ODCM can be changed in accordance with ITS 5.5.1; the emergency plan implementing procedures (EPIPs) can be changed in accordance with 10 CFR 50.54(q); and the administrative instructions that implement the QA plan can be changed in accordance with 10 CFR 50.54(a) and 10 CFR Part 50, Appendix B. Temporary procedure changes are also controlled by 10 CFR 50.54(a). The documentation of these changes will be maintained by the licensee in accordance with the record retention requirements specified in the licensee's QA plan for Callaway and such applicable regulations as 10 CFR 50.59.

The license condition for the relocation of requirements from the CTS, discussed in Section 6.0 of this SE, will address the implementation of the ITS conversion, and when the relocation of the CTS requirements into licensee-controlled documents will be completed. The submittal of any updated licensee-controlled document, such as the FSAR, to the Commission will be

required by, and in accordance with, the regulations, and not as part of the implementation of the ITS conversion.

G. Evaluation of Other TS Changes Included in the Application for Conversion to ITS

This section addresses the beyond-scope issues (BSIs) in which the licensee proposed changes to both the CTS and STS. The staff listed the BSIs in the notice of consideration that it published in the Federal Register on April 27, 1999 (64 FR 22658); however, the notice identified changes to the CTS that are now not beyond the scope of the conversion in that TSTFs have now been approved and the changes are now not changes to the STS.

The changes discussed below are listed in the order of the applicable CTS specification or section, as appropriate (from CTS Section 1.0 to CTS Section 6.0).

1. ITS Table 1.1-1 — CTS Table 1.2, New Notes b and c Concerning Required Reactor Vessel Head Closure Bolts. (CN 1-34-LS-2 for CTS 1.0)

The proposed change would add Notes b and c to CTS Table 1.2, "Operational Modes." Note b, applicable to Modes 4 and 5, would state that for these modes "at least 53 of 54 reactor vessel head closure bolts fully tensioned." Proposed Note c, applicable to Mode 6, would state "two or more reactor vessel head closure bolts less than fully tensioned." The proposed Note c would replace the current note applicable to Mode 6 that is identified by a double asterisk. The current note, for Mode 6, proposed to be replaced states "fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed." The reference to fuel in the reactor vessel would be covered under the definition of Mode.

The CTS table is revised such that the required reactor vessel head closure bolt requirements for Modes 4, 5 and 6 are clarified. Currently a footnote applicable only to Mode 6 defines that mode, in part, by reference to "vessel head closure bolts less than fully tensioned." That footnote does not specify the transition point between Modes 5 and 6 with regard to the number of vessel head closure bolts that must be fully tensioned, leaving the issue open to interpretation. The proposed change provides the necessary clarification by adding a footnote to Modes 4 and 5, consistent with the approach used in the STS, to define those modes as having at least 53 of 54 reactor vessel head closure bolts fully tensioned. Mode 6 would also be clarified as occurring when two or more reactor vessel head closure bolts are less than fully tensioned. The required number of closure bolts, which is one less than the total number, is established by analysis that demonstrates adequate O-ring compression to prevent leakage and ensures that ASME Section III stress limits for affected components are not exceeded.

The purpose of new Notes b and c would be to require one less than the total number of reactor vessel head bolts be fully tensioned in Modes 4 and 5. The Mode 6 definition would likewise be modified to denote a condition where less than the required number of bolts are fully tensioned. The licensee evaluated the configuration where one less than the total number of reactor vessel head bolts was fully tensioned in 1987 for a plant specific configuration. This evaluation was submitted to the NRC for review and the staff issued a SE dated May 26, 1988. The licensee stated that, based on the subject SE, this configuration is part of the Callaway current licensing

basis because the staff has previously approved the configuration, and the proposed changes would only make this prior approval by the staff explicit in the ITS.

The staff concludes that the proposed changes are part of the Callaway current licensing basis and the proposed change is acceptable.

2. ITS SR 3.2.1.1 CTS SR 4.2.2.2.d, Allows 24 Hours for Completing the Surveillance for ITS SR 3.2.1.2 Axial Heat Flux Hot Channel Factor. (CN 2-06-M for CTS 3/4.2)

The licensee proposed to increase the surveillance frequency of CTS SR 4.2.2.2.d to be within 24 hours for verifying the axial heat flux hot channel factor is within limit after achieving equilibrium conditions. This frequency is included in ITS SR 3.2.1.1. This is a change to the CTS and STS.

The required time for completion of a flux map for determination of the heat flux hot channel factor is changed to 24 hours after achieving equilibrium conditions. The proposed time (24 hours) is a reasonable time period for the completion of the surveillance and does not allow for plant operation in an uncertain condition for a protracted time period. This change is consistent with the requirements of CTS 3.0.4 (and associated Bases) that allow 24 hours for the completion of a surveillance after prerequisite plant conditions are attained and for which an exception to Specification 4.0.4 was provided. The proposed change imposes more stringent requirements than exist in the CTS and has been reviewed to ensure that no previously evaluated accident has been adversely affected; therefore, the proposed change is acceptable.

3. ITS SR 3.3.1.8 CTS Table 4.3-1, Functions #2.b and #5, and New Notes 19 and 20, Quarterly COTs Have Been Added to CTS Table 4.3-1 for the Power Range Neutron Flux-low and Intermediate Range Neutron Flux Trip Functions. (CN 1-22-M for CTS 3/4.3)

The licensee proposed to add quarterly channel operational tests (COTs) to CTS Table 4.3-1 for the power range neutron flux-low and intermediate range neutron flux trip functions. The CTS only require a COT prior to startup for these functions. A new Note 19 is proposed to be added to require that the new quarterly COT be performed within 12 hours after reducing power below P-10 for the power range and intermediate range instrumentation (P-10 is the dividing point marking the applicability for these trip functions), if not performed within the previous 92 days. The new Note 19 is not from the CTS or the STS. The licensee also proposed a new Note 20 such that the P-6 and P-10 interlocks are verified to be in their required state during all COTs on the power range neutron flux-low and intermediate range neutron flux trip functions; however, this new note is from the STS.

A review of plant history (including performance and verification) has revealed that COTs on the power range and intermediate range instrumentation require one to two hours per channel to perform. This is consistent with the COT time allowance in the STS for source range instrumentation, as 4 hours is provided for the 2-channel system. However, the power range and intermediate range instrumentation consist of 6 channels and 4 hours would not be sufficient time to perform these COTs in a quality manner. The licensee has proposed 12 hours to perform the power range (4-channels) and intermediate range (2-channels) COTs to have sufficient time to perform the COTs in a quality manner. The 12 hours is consistent with the

time allowed for the source range COT. Because the 12-hour time period allows sufficient time to conduct the COTs, the proposed change is acceptable.

4. ITS 3.3.9 — CTS Tables 3.3-1 and 4.3-1, Functional Unit #6, Source Range Neutron Flux Trip, Additional Requirements for the Boron Dilution Mitigation System. (CN 1-30-M for CTS 3/4.3)

The proposed changes would move the boron dilution mitigation system (BDMS) signal blocking and surveillance requirements in CTS Tables 3.3-1 and 4.3-1 for the source range neutron flux monitoring and indication function in Modes 3 through 5 to a new specification that is not in the CTS. The proposed change would add a new LCO with actions and SRs from the STS for the BDMS in ITS 3.3.9. Additional restrictions not in the CTS or the STS would be added to address the requirement that (1) the BMDS would be operable for Mode 2 (below the P-6 interlock) and (2) Valve BGV0178 is verified secured in the closed position (i.e., ITS SR 3.3.9.2).

The applicability for the BDMS in STS 3.3.9 is Modes 3, 4, and 5. The applicability for the ITS was extended to include Mode 2 below P-6 because, although an inadvertent boron dilution event would be terminated in Modes 1 and 2 (above P-6) by the overtemperature deltaT trip or operator action, the event would not be terminated in Mode 2 (below P-6) by the trip function or operator action. The applicability does not need to include Mode 6 because in that mode Valves BGV0178 and BGV0601 that isolate the RCS from the potential source of unborated water would be locked and the event could not occur. The overtemperature deltaT trip function is controlled by ITS LCO 3.3.1, "RTS Instrumentation," and the closed position of the unborated water isolation valves in Mode 6 is controlled by ITS 3.9.2. Therefore, the BMDS is also needed to mitigate the inadvertent boron dilution event in Mode 2 (below P-6). The proposed change to include Mode 2 (below P-6) in the LCO applicability is acceptable.

ITS SR 3.3.9.2 requires that Valve BGV0178 is closed in Mode 5. Having this valve closed satisfies the boron dilution accident analysis assumption that the dilution flow is no more than 150 gpm in Mode 5 and, therefore, the valve needs to be closed in this mode. The frequency for performing the surveillance is proposed to be prior to entry into Mode 5 and every 31 days while in Mode 3. This frequency is considered reasonable based on the administrative controls that will ensure that the valve opening is an unlikely possibility. Because there are administrative controls on the valves and the proposed frequency is the same as the frequency for similar verifications in the ITS, the proposed frequency for SR 3.3.9.2 is acceptable.

Based on the above, the proposed changes are acceptable.

5. ITS Table 3.3.1-1 and Table 3.3.2-1 — CTS Table 3.3-1, Action 13 and CTS Table 3.3-3, Action 36 Revised to Require Tripping the Steam Generator Water Level - Low Low Channel (Normal Containment Environment). (CN 1-46-M for CTS 3/4.3)

The licensee proposed to revise CTS Action 13 of Table 3.3-1 and Action 36 of Table 3.3-3 to reflect operating and testing options that have existed since the steam generator (SG) water level circuitry (low-low level, normal containment environment, instrument channel, functional unit #13.b) that includes an environmental allowance monitor (EAM) was implemented, but which have not been listed in the CTS. The proposed change is not in the CTS or the STS.

The EAM receives a containment pressure input and functions to decrease the steam generator water level reactor trip setpoint during normal containment environmental conditions and increase the setpoint during adverse containment environmental conditions. CTS Actions 13 and 36 allow the licensee to continue startup and/or power operation during the condition that the number of operable channels are less than the total number of required channels provided the licensee places the containment EAM channel, in the affected protection set, in the tripped condition within 6 hours. This will result in the higher SG water level trip rather than a partial trip. The licensee is also allowed to bypass any number of SG water level low-low (normal containment environment) channels provided the corresponding EAM channels are placed in the tripped condition. This results in performing the required safety function at a conservative setpoint and meets the design basis for the units.

However, for the ITS, the licensee has elected to put the inoperable SG low-low level (normal containment environment) instrument channel in trip condition within 6 hours. This optional action is similar to the one used for SG low-low level (adverse containment environment) channel and will result in partial trip condition. The licensee prefers this option to the option discussed above which results in enabling the higher SG water level trip setpoint in all affected protection set in all four SGs. The licensee has also requested to allow the bypass of the inoperable channel for 4 hours during the surveillance testing of other channel. This option will also result in the SG low-low level (normal containment environment) instrument channel performing its safety function by actuation of one other channel at the normal containment environment setpoint and meets the design basis for the units. Because the proposed change provides an alternative that still results in the required safety function being met and still meets the design basis for the unit, the proposed change is acceptable.

6. ITS 3.3.9 Condition B Condition C — CTS Table 3.3-1, Action 5.b Revised to Change the Frequency for Verifying Unborated Water Source Isolation Valves Closed and Secured. (CN 1-54-LS-37 for CTS 3/4.3)

CTS Table 3.3-1, Action 5.b provides requirements for inoperable source range neutron flux channels during shutdown. These requirements include verifying valves BG-V178 and BG-V601 are closed and secured in position within four hours and every 14 days thereafter. The proposed change is not in the CTS or the STS.

The licensee has proposed revising the frequency such that these valves would be verified closed and secured in position every 31 days. Because this increased interval is consistent with recurring manual valve position verification intervals in SRs required in other sections of the STS, the proposed change is acceptable.

7. ITS SR 3.4.5.2, ITS SR 3.4.6.2, ITS LCO 3.4.7, ITS SR 3.4.7.2 — CTS SRs 4.4.1.2.2 and 4.4.1.3.2, and LCO 3.4.1.4.1.b, Revise Required Steam Generator Secondary Side Water Level. (CN 1-15-M for CTS 3/4.4)

CTS SR's 4.4.1.2.2 and 4.4.1.3.2 require steam generator (SG) levels to be periodically verified to be greater than or equal to 10% wide range water level. The proposal is to change this level value to 4% narrow range water level. The proposed change is not in the CTS or the STS.

The CTS value of 10% wide range does not ensure all SG tubes are covered. The licensee stated that the proposed 4% level value is sufficient to ensure the tubes remain covered and that the SGs provide an adequate heat sink for removal for decay heat. Additionally, the proposed value of 4% narrow range level is used in the Callaway emergency operating procedures. Because the proposed SG level value of 4% narrow range will ensure SG tubes are maintained covered to provide an adequate heat sink for decay heat removal, the proposed change is acceptable.

A similar change is proposed for CTS LCO 3.4.1.4.1.b. This LCO currently requires that in Mode 5, with the reactor coolant loops filled and one RHR loop operable and in service, the secondary side water level of at least two SGs be maintained "greater than 10% of the wide range." The proposed change is also not in the CTS or the STS.

This CTS level value of 10% wide range does not ensure all SG tubes are maintained covered with water. The proposal is to increase this value to "greater than 66% of the wide range." The licensee stated that, for Mode 5 conditions, the 67% wide range level corresponds to the top of the highest SG tube, with margins added for instrument loop errors and readability. The wide range instrumentation is calibrated for cold conditions. Because this value will ensure SG tubes remain covered in Mode 5 when SGs are required to be operable, the proposed change is acceptable.

8. ITS SR 3.4.11.1 CTS SR 4.4.4.2, Limit When to Perform the 92-Day Surveillance of the Pressurizer PORV Block Valves and State Action d Does Not Apply if the Block Valve is Inoperable to Satisfy CTS LCO 3.4.4 Actions b or c. (CN 4-09-LS-36 for CTS 3/4.4)

The proposed change would limit CTS SR 4.4.4.2 to perform the 92-day surveillance of the pressurizer PORV block valves so that it is not required to be performed (i.e., perform one complete cycle of each block valve) if the block valve is closed to meet CTS LCO 3.4.4 Action a. A note will also be added to LCO Action d to state that the action does not apply if the block valve is inoperable solely to satisfy LCO Actions b or c. The proposed change is not in the CTS or the STS.

Credit is taken only for the manual operation of the PORVs during the SGTR accident; however, the capability to manually cycle the PORVs will be unaffected by the proposed change. This change will not affect the ability of the block valve to open, if closed to meet Action a, in the mitigation of an SGTR. Deferral of the block valve cycling surveillance will not diminish the design capability of the block valve to open against differential pressures that would be present after an SGTR because the block valves are capable of opening against 2485 psig, the safety valve lift pressure, and pressurizer pressure decreases after an SGTR. The lack of quarterly block valve cycling, which could extend to a complete cycle since Action a allows continued operation with the block valves closed, does not decrease the likelihood of successful pressurizer relief since power remains available to the block valve motor operator(s) and the surveillance frequency for the PORVs can be as long as 18 months. The exclusion proposed for Action d has no effect on the accident analysis because the PORVs are already assumed to be unavailable. Based on this, the proposed change is acceptable.

9. ITS SR 3.4.12.3 CTS LCO 3.4.9.3, New SR, Verify Each Accumulator is Isolated When Pressure is Greater Than or Equal to Maximum RCS Pressure Allowed by the P/T Limit Curves in PTLR. (CN 9-14-M for CTS 3/4.4)

The proposed change will add a new surveillance requirement to CTS LCO 3.4.9.3. The new SR would require verification that each accumulator is isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the pressure/temperature (P/T) limit curves provided in the pressure temperature limit report (PTLR). The STS has this surveillance, but the surveillance is proposed to be restricted by the P/T limit curves in the PTLR.

The P/T limit curves in the PTLR define the minimum RCS pressure that could lead to a low temperature overpressure event for the RCS temperature. The calculation of the P/T limit curves include conservatism to provide a margin of safety in the calculated minimum RCS pressure. Keeping the RCS pressure below the curves will prevent a low temperature overpressure event from occuring which could lead to a brittle failure of the RCS vessel. Therefore, if the accumulator pressure is below these curves, there is no need to have the accumulators isolated from the RCS system because a low temperature overpressure event cannot occur to the RCS vessel. Conversely, if the accumulator pressure is greater than or equal to the P/T limit curves in the PTLR, then the accumulators must be isolated to prevent the event. Because the proposed new SR will prevent the potential of the accumulators causing a low temperature overpressure event, the proposed new SR is acceptable.

10. ITS LCO 3.4.12 Notes CTS LCO 3.4.9.3, Notes, Add Three Notes to Reflect Other LCOs, Actions, and SRs. (CN 9-17-LS-24 for CTS 3/4.4)

The proposed change would add three notes to CTS LCO 3.4.9.3 to reflect CTS LCO 3.5.4 Actions a and b, LCO 3.5.4 applicability note, and the accumulator action added in the change CN 9-10-M for CTS 3/4.4. Note 1 on centrifugal charging pump (CCP) swap operations is a relaxation of the CTS in Modes 4 only because it allows both CCPs to be capable of injecting into the RCS for up to 1 hour throughout applicability to the low temperature overpressure protection provided by the COMS. This is different from the CTS and the STS. New Note 2 is consistent with the applicability note for CTS LCO 3.5.4, and new Note 3 is a note from the STS.

Overall protection system performance will remain within the bounds of the previously performed accident analyses since no hardware changes are proposed. The initial conditions and assumptions for the COMS mass addition and heat injection transients will be unchanged. Actions will be taken to insure that only one CCP is capable of injecting into the RCS during the COMS applicability. CTS 3.5.4 provides 4-hour AOTs if one SI pump and two CCPs are capable of injecting during the most critical portion of the COMS applicability (lowest RCS temperature and the plant may be water solid). The 4-hour AOT for one SI pump is deleted. The 1-hour AOT for two CCPs capable of injecting during Mode 4 minimizes the actual time that more than one CCP is capable of injection. One hour will provide sufficient time to complete the CCP swap and associated administrative requirements. The proposed change will not affect the probability of any event initiators nor will the proposed change affect the ability of any safety-related equipment to perform its intended function. Because there will be no degradation in the performance of nor an increase in the number of challenges imposed on

safety-related equipment assumed to function during an accident situation, the proposed change is acceptable.

11. ITS LCO 3.7.10 Condition D — CTS LCO 3.7.6, New Actions, and LCO 3.7.7, New Action, Allow 24 Hours to Restore CR Pressure Envelope. (CN 10-20-LS-39 for CTS 3/4.7)

The proposed change would add a CTS action for ventilation system pressure envelope degradation that allows 24 hours to restore the CR pressure envelope through repairs before requiring the unit to perform an orderly shutdown. The new action has a longer AOT than LCO 3.0.4 which the CTS would require to be entered immediately.

This change provides specific required actions for failed surveillances designed to detect ventilation system pressure envelope degradation. These surveillances require a positive or negative pressure limit be satisfied in the area with the associated required ventilation train operating. While other surveillances in the same specification test the operability of the ventilation train, these surveillances ensure the pressure envelope leak tightness is adequate to meet the design assumptions. However, there are no corresponding conditions, required actions, or completion times associated with these surveillances. Under the CTS, TS 3.0.3 must be entered and in the case of the fuel building with the pressure limits not met, TS 3.0.3 would not be an appropriate action. The new action was modeled after the STS on restoring a building ventilation pressure boundary. The new action would allow 24 hours to restore the capability to maintain the proper pressure by allowing for routine repairs before requiring the unit to perform an orderly shutdown. Because the proposed action time for restoring the building ventilation pressure boundary is the same as the time to restore a similar ventilation pressure boundary in the STS, the proposed change is acceptable.

12. ITS SR 3.8.4.7 ITS SR 3.8.4.8 — CTS SR 4.8.2.1.e, Allow Substitution of a Modified Performance Discharge Test for the Battery Service Test. (CN 2-25-LS-23 for CTS 3/4.8)

The proposed change would relax CTS SR 4.8.2.1.e on battery capacity by allowing a modified performance discharge test for verifying battery capacity. The proposed change would also allow that the performance discharge test may be performed in place of the battery service test of CTS SR 4.8.2.1.d to only allow the "modified" performance test to replace the service test. The change would retain the restriction that the discharge test could replace the service test only once per 60 months. The proposed change is not in the CTS or the STS.

The change would allow the performance of a modified performance discharge test in lieu of a service test at any time. CTS SR 4.8.2.1.e allows the performance of a modified performance discharge test in lieu of a service test only once per 60 months. IEEE-450-1995, Section 5.4 places no such limitation on use of a discharge test in lieu of a service test since the discharge rate is required to envelope the duty cycle of the service test. A modified performance discharge test is a test of the battery's ability to provide a high-rate, short-duration load. This will often confirm that the battery meets the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service test. IEEE-450-1995, Section

5.4 states that, "A modified performance discharge test can be used in lieu of a service test at any time."

Because this proposed change would provide additional flexibility in allowing the performance of a modified performance discharge test in lieu of a service test at any time and the proposed change is consistent with IEEE-450-1995, the proposed change is acceptable. The proposed Bases for ITS SR 3.8.4.7 adequately describes the modified performance discharge test.

13. ITS LCO 3.7.15 CTS LCO 3.9.11, Changing the Reference Point for the Water Level above the Fuel for a Fuel Handling Accident. (CN 11-03-M for CTS 3/4.9)

The proposed change addresses a current conflict between an assumption made in the fuel handling accident (FHA) analysis and the CTS. CTS LCO 3.9.11 is proposed to be revised to delete "irradiated fuel assemblies seated in the," so that the reference point for the required minimum spent fuel pool (SFP) water level is measured from the top of the spent fuel storage racks, not top of the stored fuel. This is a change to both the CTS and the STS.

The CTS require 23 feet of water be maintained above the top of irradiated fuel assemblies seated in the SFP storage racks. However, the calculations in the FHA analysis assume that the dropped fuel assembly is lying on top of the SFP storage racks. Because the top of the storage racks are approximately one foot above the top of a typical fuel assembly seated in a rack, changing the reference point from where the minimum 23 feet of water is measured from the seated fuel assembly to the top of the storage racks conservatively increases the minimum required water level of the SFP by approximately one foot. Because the proposed change increases the required water level above the spent fuel, the proposed change is acceptable. The licensee stated that there will be no change in the normal SFP operating water level because administrative controls currently ensure this requirement is met.

14. ITS 3.7.16 New CTS Specification, Spent Fuel Storage Pool Boron Concentration. (CN 14-09-M for CTS 3/4.9)

The proposed change would add a STS specification to the CTS on the boron concentration in the spent fuel storage pool. The new specification is based on STS 3.7.17; however, the proposed minimum acceptable boron concentration for the spent fuel storage pool would be different from the acceptable values given in the CTS. The STS do not provide a value for the minimum boron concentration. Therefore, the proposed minimum boron concentration of 2165 ppm is different from the CTS and the STS.

The licensee stated that a criticality analysis was performed for its reracking of the spent fuel storage pool to determine the minimum boron concentration limit for the new specification. The reracking of the pool is being done to increase the spent fuel assemby density in the pool. The reracking is addressed in the licensee's letters of February 24, May 27, June 25, August 25, September 3, November 3, and December 4, 1998 and has been evaluated and approved by the staff in Amendment 129 dated January 19, 1999.

To determine the boron concentration limit for the new specification, the criticality analysis performed for Amendment 129 was revised to include a supplemental analysis. The

supplemental analysis was performed assuming that all rack cells are fully loaded with fresh fuel assemblies, each with a minimum of 16 integral fuel burnable adsorber (IFBA) rods. The minimum boron concentration will maintain k_{eff} in the pool less than or equal to the regulatory limit of 0.95 for spent fuel pools. This is for the fully loaded Callaway pool and accounts for the possibility of misloaded fuel assemblies. The reference fuel assembly has the maximum enrichment 5.0 weight % U-235. Manufacturing uncertainities that were used in the original analyses for the pool were used in this supplemental analysis. Based on this supplemental analysis, the licensee stated that a minimum concentration of 2165 ppm boron would maintain k_{eff} in the pool less than or equal to 0.945, which is more conservative than the 0.95 value that is acceptable to the staff. The value of 2165 ppm boron was proposed for the minimum boron concentration for the pool.

Because the minimum boron concentration will maintain k_{eff} at an acceptable value below 0.95 with acceptable assumptions and conservatisms, the proposed change is acceptable.

15. ITS 5.2.2.d — CTS 6.2.2.f, Requirements Concerning Overtime Would Be Replaced by a Reference to Administrative Procedures for the Control of Working Hours. (CN 1-09-A for CTS 6.0)

The proposed change is to replace the CTS 6.2.2.f requirements concerning overtime being in accordance with the NRC Policy Statement on staff overtime by a reference to the licensee's administrative procedures that control working hours. This is a change to the CTS and the STS.

The licensee stated that the proposed change provides reasonable assurance that safe plant operations will not be jeopardized by impaired performance caused by plant staff working excessive hours. There are specific controls on plant staff working hours in procedures that require a deliberate decision-making process for determining the working hours to minimize the potential for impaired personnel performance, and that there are also procedures to control changes to these procedures.

The staff concludes that the proposed replacement of CTS 6.2.2.f by a reference to administrative controls does not change the requirements associated with working hours, and, therefore, is an administrative change. Because the requirements in CTS 6.2.2.f are not being changed and there are controls on any changes to the procedures governing allowed working hours, the proposed change is acceptable.

16. ITS 5.2.2.f — CTS 6.2.4, Eliminate the Title of Shift Technical Advisor. (CN 1-15-A for CTS 6.0)

The proposed change would eliminate the title of "shift technical advisor" (STA). The engineering expertise would be maintained on shift, but not as a separate individual, in accordance with the Commission Policy Statement on the STA function. This is a change to the CTS and the STS.

The licensee stated that the STA title will be eliminated at Callaway. The function will be fulfilled by one of the other on-shift plant staff. The CTS section is proposed to be revised so that it does not imply that the STA and the shift supervisor must be different individuals. Option

1 of the Commission's Policy Statement on engineering expertise on shift is satisfied by assigning an individual with specified education qualifications to each operating shift as one of the senior reactor operators required by 10 CFR 50.54(m)(2)(i) to provide the technical expertise on shift. Therefore, the STS function will be fulfilled by one of the other on-shift plant staff that has qualifications specified in the Commission's Policy Statement on engineering expertise.

The staff concludes that the proposed elimination of the STA will not eliminate the requirement for the technical expertise on shift represented by the STA. The proposed change does not alter the requirement for the technical expertise on shift, and, therefore, is an administrative change. The licensee will be maintaining the technical expertise represented by the STA on shift although not through an individual called an STA. Because this meets the Commission's Policy Statement on engineering expertise on shift, the proposed change is acceptable.

17. ITS 5.5.7 — CTS 6.8.5.b, Add an Exception to the Examination Requirements to the ITS Reactor Coolant Pump Flywheel Inspection Program. (CN 2-17-LS-1 for CTS 6.0)

The licensee proposed to add an allowance to the CTS for the reactor coolant pump flywheel inspection program (ITS 5.5.7) to provide an exception to the examination requirements specified in CTS 6.8.5.b. The proposed reduced requirement is not in the STS.

The change added an allowance to CTS 6.8.5.b for the reactor coolant pump flywheel inspection program (ITS 5.5.7) to provide an exception to the examination requirements specified in the CTS SR (i.e., regulatory position C.4.b of Regulatory Guide 1.14, Revision 1). The proposed exception to Regulatory Position C.4.b(1) and C.4.b(2) would allow either an ultrasonic volumetric or surface examination as an acceptable inspection method. These alternative examinations would be conducted at ten year intervals coinciding with the inservice inspection schedule required by American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI. The acceptability of the proposed change is established in WCAP-14535, "Topical Report on Reactor Coolant Pump Flywheel Inspection Elimination, with Limitations," dated November 1996. The NRC's Safety Evaluation for the topical report, issued September 12, 1996, concluded that the inspections should not be completely eliminated but should be conducted during scheduled inservice inspections or RCP maintenance at approximately 10-year intervals. The proposed change is consistent with these recommendations. The licensee has confirmed that the RCP flywheels at the plant are made of a material and design that is consistent with the WCAP, and that the staff's approval of the WCAP applies to the plant.

The safety function of the RCP flywheels is to provide a coastdown period during which the RCPs would continue to provide reactor coolant flow to the reactor after loss of power to the RCPs. The maximum loading on the RCP flywheel results from overspeed following a design basis loss-of-coolant accident (LOCA). The licensee stated that the maximum obtainable speed in the event of a LOCA was predicted to be less than 1500 rpm. Therefore, a peak LOCA speed of 1500 rpm is used in the evaluation of RCP flywheel integrity in WCAP-14535. This integrity evaluation shows a very high flaw tolerance for the flywheels. The proposed change does not affect that evaluation. Reduced coastdown times due to a single failed

flywheel is bounded by the locked rotor analysis; therefore, it would not place the plant in an unanalyzed condition.

The acceptability of the alternative ultrasonic or surface examinations of the flywheel is based on the staff's acceptance of WCAP-14535 and on this WCAP report applying to Callaway, as discussed above. Based on this, the proposed change is acceptable.

18. ITS 5.5.4.i CTS 6.8.4.e.7, Dose Rate Limits in Radioactive Effluent Controls Program for Releases to Areas Beyond the Site Boundary would be Revised to Reflect 10 CFR Part 20. (CN 2-18-A for CTS 6.0)

The proposed change would revise the dose rate limits in CTS 6.8.4.e.7 on the radiological effluent controls program (RECP) to reflect the current requirements in 10 CFR Part 20. This is a change to the CTS and the STS.

The RECP is addressed in and controlled by ITS 5.5.4. The licensee stated that the changes to the CTS section maintain the same overall level of effluent control while retaining the operational flexibility that exists in the CTS. The licensee stated that the addition of the regulatory requirements in the ITS is intended to eliminate confusion or improper implementation of the new 10 CFR Part 20 requirements. The licensee has added the specific dose limits (1) for noble gases, and (2) for Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half lives greater than 8 days.

The staff concludes that the proposed change is to incorporate in the CTS the current requirements in 10 CFR Part 20, and, as such, is an administrative change. Because the licensee is incorporating requirements that are in the regulations, the proposed change is acceptable.

19. ITS 5.5.4.k CTS 6.8.4.e.11, Clarification Statements Added to Radioactive Effluents Controls Program. (CN 2-22-A for CTS 6.0)

The proposed change will revise the RECP in CTS 6.8.4.e.11 to add clarifying statements denoting that the provisions of CTS 4.0.2 and 4.0.3, which allow extensions to surveillance frequencies, are applicable to these activities. This is a change to the CTS and the STS.

The added statements of applicability clarify the allowances for surveillance frequency extensions and for performing missed surveillances in CTS 4.0.2 and 4.0.3 with respect to the RECP activities. Generic Letter (GL) 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications [RETS] and the Relocation of Details of RETS to the Offsite Dose Calculational Manual or Process Control Program," allowed licensees to relocate RETS and establish RECP in the administrative section of their TS. Because the proposed change implements CTS requirements that are being relocated in accordance with GL 89-01, it is acceptable.

20. ITS 5.7.1
ITS 5.7.2

CTS 6.12.1 and 6.12.2, Revised to Meet Current Requirements in 10 CFR Part 20 and Guidance in NRC RG 8.38, High Radiation Areas Access Controls. (CN 3-11-A for CTS 6.0)

The proposed changes would revise CTS 6.12.1 and 6.12.2 to provide high radiation area access control alternatives pursuant to 10 CFR 20.203(c)(2) and to meet the current requirements in 10 CFR Part 20, on such access controls. This is a change to the CTS and the STS.

CTS 6.12.1 and 6.12.2 provide high radiation area access controls that are alternatives pursuant to the regulations in 10 CFR 20.203(c)(2). The CTS section would be revised to meet the current requirements in 10 CFR Part 20. The other plant requirements will remain the same. The licensee has proposed to make the following changes: (1) replace the reference to 20.203(c)(2) by 20.1601, (2) state 1000 mR/h is at 30 cm (12 in.), and (3) add that the high radiation area is greater than 100 mrem/hr. Because the proposed changes follow the regulations in 10 CFR Part 20, the proposed changes are acceptable.

21. ITS 5.6.4

CTS 6.9.1.8, Delete Requirement to Report Challenges to Pressurizer PORVs or Safety Valves. (CN 3-18-LS-5 for CTS 6.0)

The licensee proposed to delete the CTS 6.9.1.8 requirement to provide documentation of all challenges to the RCS PORVs or safety valves. The proposed reduced requirement is not in the STS.

The reporting of pressurizer safety and relief valve failures and challenges is based on the guidance in NUREG-0694, "TMI-Related Requirements for New Operating Licenses." The guidance of NUREG-0694 states the following: "Assure that any failure of a PORV or safety valve to close will be reported to the NRC promptly. All challenges to the PORVs or safety valves should be documented in the annual report." NRC Generic Letter 97-02, "Revised Contents of the Monthly Operating Report" requests submittal of less information in the monthly operating report. The generic letter identifies what needs to be reported to support the NRC Performance Indicator Program, and availability and capacity statistics. The generic letter does not identify the need to report challenges to the pressurizer safety and relief valves and, therefore, the NRC indicated that this information was not needed and would not need to be reported. Based on the generic letter, the proposed change is acceptable.

5.0 COMMITMENTS RELIED UPON

In reviewing the proposed ITS conversion for Callaway, the staff has relied upon the licensee commitment to relocate certain requirements from the CTS to licensee-controlled documents as described in Table LG of Details Relocated from Current Technical Specifications, Table R of Relocated Current Technical Specifications, and Table LS of Less Restrictive Changes to Current Technical Specifications attached to this SE. Table LS also contains relocations as, for example, the TR-1 changes that will relocate the specific signals used to actuate the pumps and valves to the ITS Bases. The licensee submitted a license condition to make this commitment enforceable. Such a commitment from the licensee is important to the ITS conversion because the acceptability of removing certain requirements from the TS is based on those requirements being relocated to licensee-controlled documents where further changes to

the requirements will be controlled by the regulations (e.g., changes to the FSAR will be in accordance with 10 CFR 50.59) or the ITS (e.g., changes to the ITS Bases are in accordance with ITS 5.5.14).

6.0 LICENSE CONDITIONS

There are scheduling problems with the first performance of the SRs in the ITS that will be new or revised compared to the SRs in the CTS. The licensee proposed the following license conditions to define the schedule to begin performing the new and revised SRs during or after the implementation of the ITS:

- For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment.

- For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.

- For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.

- For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to the implementation of this amendment.

The staff has reviewed the above schedule for the licensee to begin performing the new and revised SRs and concludes that it is acceptable. The allowance for the surveillance interval in ITS 3.0.2 also applies to the surveillance intervals specified in the above license conditions.

In its comments on the draft SE in its letter of May 4, 1999, the licensee provided the following examples on how a new or revised ITS SR would meet the above SR license conditions, to clarify the meaning of the above license conditions.

- If an SR is new (i.e., it did not exist in the CTS), the first license condition above applies. If this new SR has a frequency of 31 days, the license condition requires that the SR be performed within 38 days (31 days plus the allowed SR 3.0.2 extension) following the implementation date of the license amendment.

- If an SR had a frequency of 92 days in the CTS and has a frequency of 31 days in the ITS, the second license condition above applies. The license condition requires that the SR be performed within 115 days (92 days plus the SR 3.0.2 extension) after the date last performed prior to the implementation date of the license amendment. The next performance of the SR must be within the next 38 days (31 days plus the SR 3.0.2 extension).

- If an SR had a frequency of 7 days in the CTS and has a frequency of 31 days in the ITS, the fourth license condition above applies. The license condition requires that the

SR be performed within 38 days (31 days plus the SR 3.0.2 extension) after the date last performed prior to the implementation date of the license amendment.

- If an SR has acceptance criteria in the ITS that differ from the acceptance criteria in the CTS and the frequency for the SR is 31 days and has not changed, the third license condition above applies. The license condition requires that the SR be first performed using the new acceptance criteria within 38 days (31 days plus the SR 3.0.2 extension) following the date last performed prior to the implementation date of the license amendment.

- If an SR has acceptance criteria in the ITS that differs from the acceptance criteria in the CTS and the SR had a frequency of 92 days in the CTS and has a frequency of 31 days in the ITS, the second and third license conditions above apply. The license conditions require that the SR be first performed using the new acceptance criteria within 115 days (92 days plus the SR 3.0.2 extension) after the date last performed prior to the implementation date of the license amendment. The next performance of the SR must be within the next 38 days (31 days plus the SR 3.0.2 extension).

- If an SR has acceptance criteria in the ITS that differs from the acceptance criteria in the CTS and the SR had a frequency of 7 days in the CTS and has a frequency of 31 days in the ITS, the third and fourth license conditions above apply. The license conditions require that the SR be first performed using the new acceptance criteria within 38 days (31 days plus the SR 3.0.2 extension) after the date last performed prior to the implementation date of the license amendment.

The examples show that a revised or new ITS SR may come under more than one of the above SR license conditions. The staff has reviewed the above examples and concludes that the licensee's interpretation of the SR license conditions is acceptable.

7.0 STATE CONSULTATION

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

8.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the *Federal Register* on May 26, 1999 (64 FR 28535), for the proposed conversion from the CTS to the ITS for Callaway. Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

9.0 CONCLUSION

The NRC staff approves the licensee's changes to the Callaway CTS with modifications documented in the revised submittals. For the reasons stated in this SE, the NRC staff finds that the ITS issued with this license amendment comply with Section 182a of the Atomic Energy Act, 10 CFR 50.36, and the guidance in the Final Policy Statement, and that they are in accord with the common defense and security and provide adequate protection of the health and safety of the public.

The Callaway ITS provides clearer, more readily understandable requirements to ensure safer operation of the plant. The NRC staff concludes that the ITS satisfy the guidance in the Commission's Final Policy Statement, on technical specification improvements for nuclear power reactors, with regard to the content of TS, and conform to the STS provided in NUREG-1431 with appropriate modifications for plant-specific considerations. The NRC staff further concludes that the ITS satisfy Section 182a of the Atomic Energy Act, 10 CFR 50.36, and other applicable standards. On this basis, the NRC staff concludes that the proposed ITS for Callaway are acceptable.

The staff has also reviewed the beyond-scope changes to the CTS as described in this SE. On the basis of the evaluations described herein for each of the changes, the NRC staff also concludes that these changes are acceptable.

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:
1. Table A of Administrative Changes to Current Technical Specifications
2. Table M of More Restrictive Changes to Current Technical Specifications
3. Table LS of Less Restrictive Change to Current Technical Specifications
4. Table LG of Details Relocated from Current Technical Specifications
5. Table R of Relocated Current Technical Specifications

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