



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

June 30, 2009

Mr. Adam C. Heflin  
Senior Vice President and  
Chief Nuclear Officer  
Union Electric Company  
P.O. Box 620  
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 - ISSUANCE OF AMENDMENT RE: REVISION  
OF TECHNICAL SPECIFICATIONS 3.3, 3.7, AND 3.8 (TAC NO. MD8953)

Dear Mr. Heflin:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 192 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to Union Electric Company (the licensee) application dated June 3, 2008, as supplemented by letters dated January 9 and 23, 2009.

The amendment revises TSs 3.3.7, 3.3.8, 3.7.10, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10. This amendment (1) deletes MODES 5 and 6 from the Control Room Emergency Ventilation System and its actuation instrumentation in TS 3.7.10 and TS 3.3.7; (2) adopts NRC-approved Technical Specification Task Force (TSTF) change traveler TSTF-36-A for TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10; and (3) adds a restriction to the Limiting Condition for Operation (LCO) applicability for TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10 such that these LCOs apply not only during MODES 5 and 6, but also during the movement of irradiated fuel assemblies regardless of the MODE in which the plant is operating.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Mohan C. Thadani".

Mohan C. Thadani, Senior Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures:

1. Amendment No. 192 to NPF-30
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 192  
License No. NPF-30

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Union Electric Company (UE, the licensee), dated June 3, 2008, as supplemented by letters dated January 9 and 23, 2009, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

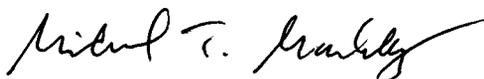
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-30 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan\*

The Technical Specifications contained in Appendix A, as revised through Amendment No. 192 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of its date of issuance, and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:  
Changes to the Facility Operating  
License No. NPF-30 and  
Technical Specifications

Date of Issuance: June 30, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 192

FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the following pages of the Facility Operating License No. NPF-30 and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

<u>REMOVE</u>	<u>Facility Operating License</u>	<u>INSERT</u>
-3-		-3-

<u>REMOVE</u>	<u>Technical Specifications</u>	<u>INSERT</u>
3 (Table of Contents)		3 (Table of Contents)
3.3-64		3.3-64
3.3-66		3.3-66
3.3-67		3.3-67
3.7-26		3.7-26
3.7-28		3.7-28
3.7-34		3.7-34
3.8-16		3.8-16
3.8-17		3.8-17
3.8-18		3.8-18
--		3.8-19
3.8-19		3.8-20
3.8-20		3.8-21
3.8-21		3.8-22
3.8-22		3.8-23
3.8-23		3.8-24
3.8-24		3.8-25
3.8-25		3.8-26
3.8-26		3.8-27
3.8-27		3.8-28
3.8-28		3.8-29
3.8-29		3.8-30
3.8-30		3.8-31
3.8-31		3.8-32
3.8-32		3.8-33
3.8-33		3.8-34
3.8-34		3.8-35
3.8-35		3.8-36
3.8-36		3.8-37
3.8-37		3.8-38
3.8-38		3.8-39

- (4) UE, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source of special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  - (5) UE, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level  
UE is authorized to operate the facility at reactor core power levels not in excess of 3565 megawatts thermal (100% power) in accordance with the conditions specified herein.
  - (2) Technical Specifications and Environmental Protection Plan\*  
The Technical Specifications contained in Appendix A, as revised through Amendment No. 192 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
  - (3) Environmental Qualification (Section 3.11, SSER #3)\*\*  
Deleted per Amendment No. 169.

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\* Amendments 133, 134, & 135 were effective as of April 30, 2000 however these amendments were implemented on April 1, 2000.

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

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Both radiation monitoring channels inoperable.</p>	<p>C.1.1 Enter applicable Conditions and Required Actions of LCO 3.7.10, "Control Room Emergency Ventilation System (CREVS)," for one CREVS train made inoperable by inoperable CREVS actuation instrumentation.</p>	<p>Immediately</p>
	<p><u>AND</u></p>	
	<p>C.1.2 Place one CREVS train in CRVIS mode.</p>	<p>1 hour</p>
	<p><u>OR</u></p>	
	<p>C.2 Place both trains in CRVIS mode.</p>	<p>1 hour</p>
<p>D. Required Action and associated Completion Time for Conditions A, B, or C not met in MODE 1, 2, 3, or 4.</p>	<p>D.1 Be in MODE 3.</p>	<p>6 hours</p>
	<p><u>AND</u></p>	
	<p>D.2 Be in MODE 5.</p>	<p>36 hours</p>
<p>E. Required Action and associated Completion Time for Conditions A, B, or C not met during CORE ALTERATIONS or during movement of irradiated fuel assemblies.</p>	<p>E.1 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p>
	<p><u>AND</u></p>	
	<p>E.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p>

Table 3.3.7-1 (page 1 of 1)  
CREVS Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	NOMINAL TRIP SETPOINT
1. Manual Initiation	1, 2, 3, 4, (a), and (c)	2	SR 3.3.7.4	NA
2. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	1, 2, 3, 4, (a), and (c)  (a)	2 trains  2 trains	SR 3.3.7.3  SR 3.3.7.6	NA  NA
3. Control Room Radiation - Control Room Air Intakes	1, 2, 3, 4, and (a)  (a)	2  2	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.5  SR 3.3.7.6	(b)   (b)
4. Containment Isolation - Phase A	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a, for all initiation functions and requirements.			
5. Fuel Building Exhaust Radiation-Gaseous	Refer to LCO 3.3.8, "EES Actuation Instrumentation," for all initiation functions and requirements.			

- (a) During CORE ALTERATIONS or during movement of irradiated fuel assemblies within containment.
- (b) Nominal Trip Setpoint concentration value ( $\mu\text{Ci}/\text{cm}^3$ ) shall be established such that the actual submersion dose rate would not exceed 2 mR/hr in the control room.
- (c) During movement of irradiated fuel assemblies in the fuel building.

3.3 INSTRUMENTATION

3.3.8 Emergency Exhaust System (EES) Actuation Instrumentation

LCO 3.3.8            The EES actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE.

APPLICABILITY:    According to Table 3.3.8-1.

ACTIONS

- NOTES -----
1.    LCO 3.0.3 is not applicable.
  2.    Separate Condition entry is allowed for each Function.
- 

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1      Place one EES train in the Fuel Building Ventilation Isolation Signal (FBVIS) mode.	7 days
	<u>AND</u>	
	A.2      Place one CREVS train in Control Room Ventilation Isolation Signal (CRVIS) mode.	7 days

(continued)

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Ventilation System (CREVS)

LCO 3.7.10 Two CREVS trains shall be OPERABLE.

----- NOTE -----  
 The control room envelope (CRE) and control building envelope (CBE) boundaries may be opened intermittently under administrative control.  
 -----

APPLICABILITY: MODES 1, 2, 3, and 4,  
 During movement of irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREVS train inoperable for reasons other than Condition B.	A.1 Restore CREVS train to OPERABLE status.	7 days

(continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies.</p>	<p>D.1 Place OPERABLE CREVS train in CRVIS mode.</p> <p><u>OR</u></p> <p>D.2.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>D.2.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>
<p>E. Two CREVS trains inoperable during movement of irradiated fuel assemblies.</p> <p><u>OR</u></p> <p>One or more CREVS trains inoperable due to an inoperable CRE boundary or an inoperable CBE boundary during movement of irradiated fuel assemblies.</p>	<p>E.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>E.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p> <p>Immediately</p>
<p>F. Two CREVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.</p>	<p>F.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

3.7 PLANT SYSTEMS

3.7.13 Emergency Exhaust System (EES)

LCO 3.7.13 Two EES trains shall be OPERABLE.

----- NOTE -----  
The auxiliary or fuel building boundary may be opened intermittently under administrative control.  
-----

APPLICABILITY: MODES 1, 2, 3, and 4,  
During movement of irradiated fuel assemblies in the fuel building.

----- NOTE -----  
The SIS mode of operation is required only in MODES 1, 2, 3 and 4. The FBVIS mode of operation is required only during movement of irradiated fuel assemblies in the fuel building.  
-----

ACTIONS

----- NOTE -----  
LCO 3.0.3 is not applicable to the FBVIS mode of operation.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One EES train inoperable.	A.1 Restore EES train to OPERABLE status.	7 days
B. Two EES trains inoperable due to inoperable auxiliary building boundary in MODE 1, 2, 3 or 4.	B.1 Restore auxiliary building boundary to OPERABLE status.	24 hours

(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - Shutdown

- LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:
- a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem required by LCO 3.8.10, "Distribution Systems - Shutdown"; and
  - b. One diesel generator (DG) capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystems required by LCO 3.8.10; and
  - c. The shutdown portion of one Load Shedder and Emergency Load Sequencer (LSELS) associated with the required DC and AC electrical power distribution train.

APPLICABILITY: MODES 5 and 6,  
During movement of irradiated fuel assemblies.

ACTIONS

----- NOTE -----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	<p>----- NOTE ----- Enter applicable Conditions and Required Actions of LCO 3.8.10, with the required train de-energized as a result of Condition A.</p> <hr/> <p>A.1 Declare affected required feature(s) with no offsite power available inoperable.</p> <p><u>OR</u></p>	<p>Immediately</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A One required offsite circuit inoperable. (continued)</p>	<p>A.2.1 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p>	<p>Immediately</p>
	<p>A.2.2 Suspend movement of irradiated fuel assemblies.</p> <p><u>AND</u></p>	<p>Immediately</p>
	<p>A.2.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.</p> <p><u>AND</u></p>	<p>Immediately</p>
	<p>A.2.4 Initiate action to restore required offsite power circuit to OPERABLE status.</p>	<p>Immediately</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One required DG inoperable.</p>	<p>B.1 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p>
	<p><u>AND</u></p>	
	<p>B.2 Suspend movement of irradiated fuel assemblies.</p>	<p>Immediately</p>
	<p><u>AND</u></p>	
	<p>B.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.</p>	<p>Immediately</p>
	<p><u>AND</u></p>	
	<p>B.4 Initiate action to restore required DG to OPERABLE status.</p>	<p>Immediately</p>
<p>C. One required LSELS (shutdown portion) inoperable.</p>	<p>C.1 Declare the affected DG and offsite circuit inoperable.</p>	<p>Immediately</p>

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.8.2.1</p> <p>----- NOTE -----</p> <p>The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.10, SR 3.8.1.11, SR 3.8.1.14 through SR 3.8.1.16, and SR 3.8.1.18, (Shutdown Load Sequencer only).</p> <p>-----</p> <p>For AC sources required to be OPERABLE, the following SRs are applicable:</p> <p>SR 3.8.1.1      SR 3.8.1.11  SR 3.8.1.2      SR 3.8.1.14  SR 3.8.1.3      SR 3.8.1.15  SR 3.8.1.4      SR 3.8.1.16  SR 3.8.1.5      SR 3.8.1.18 (shutdown load sequencer only)  SR 3.8.1.6  SR 3.8.1.7      SR 3.8.1.21 (shutdown load sequencer only)  SR 3.8.1.10</p>	<p>In accordance with applicable SRs</p>

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3            The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY:    When associated DG is required to be OPERABLE.

ACTIONS

----- NOTE -----  
Separate Condition entry is allowed for each DG.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with fuel level < 80,900 gal and > 69,800 gal in storage tank.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < 750 gal and > 686 gal.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One or more DGs with stored fuel oil total particulates not within limit.	C.1 Restore fuel oil total particulates within limit.	7 days
D. One or more DGs with new fuel oil properties not within limits.	D.1 Restore stored fuel oil properties to within limits.	30 days

(continued)



**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains $\geq 80,900$ gal of fuel.	31 days
SR 3.8.3.2	Verify lubricating oil inventory is $\geq 750$ gal.	31 days
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify pressure in two starting air receivers is $\geq 435$ psig or pressure in one starting air receiver is $\geq 610$ psig, for each DG starting air subsystem.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	31 days
SR 3.8.3.6	Not used.	

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4            The Train A and Train B DC electrical power subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DC electrical power subsystem inoperable.	A.1       Restore DC electrical power subsystem to OPERABLE status.	2 hours
B. Require Action and Associated Completion Time not met.	B.1       Be in MODE 3.	6 hours
	<u>AND</u> B.2       Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1       Verify battery terminal voltage is $\geq 130.2$ V on float charge.	7 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.2	<p>Verify no visible corrosion at battery terminals and connectors.</p> <p><u>OR</u></p> <p>Verify battery connection resistance is <math>\leq 150E-6</math> ohm for cell to cell connections and <math>\leq 150E-6</math> ohm for terminal connections.</p>	92 days
SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.	18 months
SR 3.8.4.4	Remove visible terminal corrosion, verify battery cell to cell and terminal connections are clean and tight, and are coated with anti-corrosion material.	18 months
SR 3.8.4.5	Verify battery connection resistance is $\leq 150E-6$ ohm for cell to cell connections, and $\leq 150E-6$ ohm for terminal connections.	18 months
SR 3.8.4.6	Verify each battery charger supplies $\geq 300$ amps at $\geq 130.2$ V for $\geq 1$ hour.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.7</p> <p>----- NOTES -----</p> <ol style="list-style-type: none"> <li>1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7.</li> <li>2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4.</li> </ol> <p>-----</p> <p>Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.</p>	<p>18 months</p>
<p>SR 3.8.4.8</p> <p>----- NOTE -----</p> <p>This Surveillance shall not be performed in MODE 1, 2, 3, or 4.</p> <p>-----</p> <p>Verify battery capacity is <math>\geq 80\%</math> of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>60 months</p> <p><u>AND</u></p> <p>18 months when battery shows degradation or has reached 85% of expected life</p>

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources - Shutdown

LCO 3.8.5 The Train A or Train B DC electrical power subsystem shall be OPERABLE to support one train of the DC electrical power distribution subsystems required by LCO 3.8.10, "Distribution Systems - Shutdown."

APPLICABILITY: MODES 5 and 6,  
During movement of irradiated fuel assemblies.

ACTIONS

----- NOTE -----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DC electrical power subsystem inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DC electrical power subsystem inoperable. (continued)	A.2.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2.4 Initiate action to restore required DC electrical power subsystem to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.5.1 ----- NOTE ----- The following SRs are not required to be performed: SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8. ----- For DC sources required to be OPERABLE, the following SRs are applicable:  SR 3.8.4.1      SR 3.8.4.4      SR 3.8.4.7 SR 3.8.4.2      SR 3.8.4.5      SR 3.8.4.8 SR 3.8.4.3      SR 3.8.4.6	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Cell Parameters

LCO 3.8.6 Battery cell parameters for Train A and Train B batteries shall be within the limits of Table 3.8.6-1.

APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE.

ACTIONS

----- NOTE -----  
Separate Condition entry is allowed for each battery.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more batteries with one or more battery cell parameters not within Category A or B limits.	A.1  Verify pilot cells electrolyte level and float voltage meet Table 3.8.6-1 Category C limits.	1 hour
	<u>AND</u>  A.2  Verify battery cell parameters meet Table 3.8.6-1 Category C limits.	24 hours  <u>AND</u> Once per 7 days thereafter
	<u>AND</u>  A.3  Restore battery cell parameters to Category A and B limits of Table 3.8.6-1.	31 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. Required Action and associated Completion Time of Condition A not met.</p> <p><u>OR</u></p> <p>One or more batteries with average electrolyte temperature of the representative cells &lt; 60 °F.</p> <p><u>OR</u></p> <p>One or more batteries with one or more battery cell parameters not within Category C values.</p>	<p>B.1 Declare associated battery inoperable.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.6.1 Verify battery cell parameters meet Table 3.8.6-1 Category A limits.</p>	<p>7 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.2	Verify battery cell parameters meet Table 3.8.6-1 Category B limits.	92 days  <u>AND</u>  Once within 7 days after a battery discharge < 110 V  <u>AND</u>  Once within 7 days after a battery overcharge > 150 V
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is $\geq 60^{\circ}\text{F}$ .	92 days

TABLE 3.8.6-1 (PAGE 1 OF 1)  
BATTERY CELL PARAMETERS REQUIREMENTS

PARAMETER	CATEGORY A: LIMITS FOR EACH DESIGNATED PILOT CELL	CATEGORY B: LIMITS FOR EACH CONNECTED CELL	CATEGORY C: ALLOWABLE LIMITS FOR EACH CONNECTED CELL
Electrolyte Level	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark(a)	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark(a)	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 V	≥ 2.13 V	> 2.07 V
Specific Gravity(b)(c)	≥ 1.200	≥ 1.195 <u>AND</u> Average of all connected cells > 1.205	Not more than 0.020 below average of all connected cells <u>AND</u> Average of all connected cells ≥ 1.195

- (a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum during equalizing charges provided it is not overflowing.
- (b) Corrected for electrolyte temperature and level. Level correction is not required, however, when battery charging is < 2 amps when on float charge.
- (c) A battery charging current of < 2 amps when on float charge is acceptable for meeting specific gravity limits following a battery recharge, for a maximum of 7 days. When charging current is used to satisfy specific gravity requirements, specific gravity of each connected cell shall be measured prior to expiration of the 7 day allowance.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters - Operating

LCO 3.8.7            The required Train A and Train B inverters shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	A.1            ----- NOTE ----- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any vital bus de-energized. ----- Restore inverter to OPERABLE status.	24 hours
B. Required Action and associated Completion Time not met.	B.1            Be in MODE 3. <u>AND</u> B.2            Be in MODE 5.	6 hours  36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, and alignment to required AC vital buses.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Inverters - Shutdown

LCO 3.8.8 The Train A or Train B inverters shall be OPERABLE to support one train of the onsite Class 1E AC vital bus electrical power distribution subsystems required by LCO 3.8.10, "Distribution Systems - Shutdown."

APPLICABILITY: MODES 5 and 6,  
During movement of irradiated fuel assemblies.

ACTIONS

----- NOTE -----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required inverters inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required inverters inoperable. (continued)	A.2.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2.4 Initiate action to restore required inverters to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.8.1 Verify correct inverter voltage, and alignments to required AC vital buses.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - Operating

LCO 3.8.9 Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One AC electrical power distribution subsystem inoperable.	A.1 Restore AC electrical power distribution subsystem to OPERABLE status.	8 hours  <u>AND</u>  16 hours from discovery of failure to meet LCO
B. One AC vital bus subsystem inoperable.	B.1 Restore AC vital bus subsystem to OPERABLE status.	2 hours  <u>AND</u>  16 hours from discovery of failure to meet LCO

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One DC electrical power distribution subsystem inoperable.	C.1 Restore DC electrical power distribution subsystem to OPERABLE status.	2 hours  <u>AND</u> 16 hours from discovery of failure to meet LCO
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.  <u>AND</u> D.2 Be in MODE 5.	6 hours  36 hours
E. Two trains with inoperable distribution subsystems that result in a loss of safety function.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.9.1 Verify correct breaker alignments and voltage to required AC, DC, and AC vital bus electrical power distribution subsystems.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.10 Distribution Systems - Shutdown

LCO 3.8.10 The necessary portion of the Train A or Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE to support one train of equipment required to be OPERABLE.

APPLICABILITY: MODES 5 and 6,  
During movement of irradiated fuel assemblies.

ACTIONS

----- NOTE -----  
LCO 3.0.3 is not applicable.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC, DC, or AC vital bus electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	(continued)

**ACTIONS**

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC, DC, or AC vital bus electrical power distribution subsystems inoperable. (continued)	A.2.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2.4 Initiate actions to restore required AC, DC, and AC vital bus electrical power distribution subsystems to OPERABLE status.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2.5 Declare associated required residual heat removal subsystem(s) inoperable and not in operation.	Immediately

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.8.10.1 Verify correct breaker alignments and voltage to required AC, DC, and AC vital bus electrical power distribution subsystems.	7 days



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 192 TO

FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By application dated June 3, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML081630016), as supplemented by letters dated January 9 and 23, 2009 (ADAMS Accession Nos. ML090280299 and ML090430396, respectively), Union Electric Company (the licensee) requested changes to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1 (Callaway). The proposed amendment would revise Technical Specifications (TSs) associated with the Control Room Emergency Ventilation System (CREVS), the Emergency Exhaust System (EES), and Electrical Power Systems. Specifically, the proposed changes would modify the TSs by:

- Deletion of MODES 5 and 6 from the Limiting Condition for Operability (LCO) applicability for the Control Room Emergency Ventilation System and its actuation instrumentation (TS 3.7.10 and TS 3.3.7, respectively).
- Adoption of NRC-approved Technical Specification Task Force (TSTF) change traveler TSTF-36, "Addition of LCO 3.0.3 N/A to shutdown electrical power specifications," Revision 4, for TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10. This change will add an exclusion from LCO 3.0.3 to LCO Actions for which the movement of irradiated fuel is independent of reactor operation in MODES 1 through 4.
- Addition of a more restrictive change to the LCO applicability for TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10 such that these LCOs will also apply during the movement of irradiated fuel assemblies.

The supplemental letters dated January 9 and 23, 2009, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on October 7, 2008 (73 FR 58678).

## 2.0 REGULATORY EVALUATION

In Section 50.36, "Technical specifications," of Title 10 of the *Code of Federal Regulations* (10 CFR), the U.S. Nuclear Regulatory Commission (NRC) established its regulatory requirements related to the content of TS. 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) LCOs; (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TS.

Paragraph 50.36(c)(2)(i) of 10 CFR states "Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

Additional regulatory requirements and the guidance upon which the NRC based its review of the amendment request include 10 CFR Section 100.11, "Determination of exclusion area, low population zone, and population center distance," as supplemented by accident-specific criteria in Section 15, "Accident Analysis," of NUREG-0800, "Standard Review Plan (SRP) for the Review of Safety Analysis Reports for Nuclear Power Plants," Revision 5, dated March 2007; 10 CFR Part 50, Appendix A, General Design Criterion 19 (GDC-19), "Control Room," as supplemented by SRP Section 6.4, "Control Room Habitability System", and 10 CFR Part 50, Appendix A, GDC-64, "Monitoring Radioactivity Releases."

TSTF-36, Revision 4, was submitted to the NRC on September 17, 1999 (ADAMS Accession No. ML040400155), and approved for use on November 1, 1999 (ADAMS Accession No. ML993190284). TSTF-36, Revision 4, adds an exclusion from LCO 3.0.3 to LCO Actions for which the movement of irradiated fuel is independent of reactor operation in MODES 1 thru 4. This would result in not having to enter Cold Shutdown (MODE 5) per LCO 3.0.3, when an LCO that is Applicable during the movement of irradiated fuel is not met, and the compensatory Required Actions are not able to be carried out within the associated Completion Times. In accordance with TS 1.3, "Completion Times," Callaway is still required to continue efforts to carry out the Required Actions while still in the mode of applicability. TS 1.3 states "An Actions Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability."

The adoption of TSTF-36, Revision 4, modifies the remedial actions that Callaway must take when an LCO is not met, as permitted under 10 CFR 50.36(c)(2)(i). The technical justification for why these modifications are permitted is discussed in Section 3.2 of this safety evaluation.

## 3.0 TECHNICAL EVALUATION

### 3.1 Deletion of MODES 5 and 6 from TS 3.7.10 and TS 3.3.7

The purpose of the CREVS in MODES 5 and 6 is to protect the control room against a waste gas decay tank rupture. This is stated in the TS Bases for the Improved Standard Technical Specifications (ISTS) 3.3.7 and 3.7.10 in NUREG-1431 for Westinghouse plants, such as

Callaway. The ISTS in NUREG-1431, "Standard Technical Specifications: Westinghouse Plants," Revision 3, dated March 2004, have brackets around the MODE 5 and MODE 6 applicability in TS 3.3.7 and TS 3.7.10. Those brackets indicate that individual licensees would adopt MODES 5 and 6 if the waste gas decay tank rupture requires control room staff protection. If that event requires no mitigation or control room habitability protection, then MODES 5 and 6 are not required in the LCO applicability for TS 3.3.7 and TS 3.7.10. The Callaway TSs are based on NUREG-1431.

The licensee proposed to change TS 3.3.7 and TS 3.3.10 as follows:

- The current Callaway TS, LCO 3.3.7 states,

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

The licensee proposed to revise Condition E by deleting the reference to MODE 5 or 6 to read,

Required Action and associated Completion Time for Conditions A, B, or C not met during CORE ALTERATIONS or during movements of irradiated fuel assemblies.

In addition, TS Table 3.3.7-1 is revised to delete "5, 6," under the APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS column for Functions 1, 2, and 3 (manual initiation, automatic actuation logic and actuation relays, and control room air intake radiation monitors, respectively). For Functions 1 and 2, the change makes condition E applicable only to MODES 1 through 4, during core alterations or during movement of irradiated fuel assemblies within containment (condition a), and during movement of irradiated fuel assemblies in the fuel building (condition c). For Function 3, the change makes condition E applicable only to MODES 1 through 4, and during core alterations or during movement of irradiated fuel assemblies within containment (condition a).

- The licensee proposes to delete MODES 5 and 6 from the LCO applicability for the TS 3.7.10, "Control Room Emergency Ventilation System (CREVS)". In Technical Specification, LCO 3.7.10, "Two trains shall be OPERABLE", the applicability is being changed from MODES 1 through 6 to being applicable for MODES 1 through 4. Condition D is being revised to read,

Required Action and associated Completion Time for Condition A not met during movement of irradiated fuel assemblies.

The amendment revises Condition E to read,

Two CREVS trains inoperable during movement of irradiated fuel assemblies.

In its June 3, 2008, submittal, Attachment 1, Section 4.1, the licensee states that the waste gas decay tanks are designed to permit the decay of radioactive gases as a means to reduce the release of radioactive gaseous material to the atmosphere. The waste gas decay tank rupture (WGDTR) accident is postulated as the accidental release of the gaseous radioactive material of one tank since the tanks are isolated from each other. Rupture of the tank is assumed to occur immediately upon completion of the waste gas transfer releasing the entire contents of one tank into the radwaste building. For conservatism, all the activity is released to the environment in 2 hours with no credit for decay, holdup in the radwaste building, mixing in the building, or the operation of the radwaste building non-safety-related ventilation charcoal filter absorbers. This would be the release of the maximum amount of radioactivity to the environment. The licensee addressed six issues (a through f) in NRC Regulatory Issue Summary (RIS) 2001-19, "Deficiencies in the Documentation of Design Basis Radiological Analyses Submitted in Conjunction with License Amendment Requests," dated October 18, 2001 (ADAMS Accession No. ML011860407).

In its letter dated January 9, 2009, in response to NRC staff's request for additional information (RAI #2), the licensee stated that the original licensing basis analysis of the waste gas decay tank rupture is discussed in final safety analysis report (FSAR) Section 15.7.1.5 for doses at the exclusion area boundary and at the low population zone. FSAR Appendix 15A describes the methodology used for calculating radiological consequences. The calculation performed in support of this amendment request is consistent with these FSAR references except that the thyroid dose conversion factors from International Commission on Radiological Protection (ICRP) Publication 30 and whole body dose conversion factors from Federal Guidance Report 12 have been used (as listed in FSAR Table 15A-4) and a hybrid offsite/control room methodology was used.

The licensee has determined that the only applicable design basis event for CREVS in MODE 5 and MODE 6 is a WGDTR and a fuel handling accident (FHA). Furthermore, the licensee concluded that since the calculated values for the waste gas tank rupture analysis are less than the regulatory limits for control room occupants, the CREVS and its actuation instrumentation is not needed to protect the control room occupants and, therefore, the CREVS is not required to be operable in MODES 5 and 6. Therefore, the licensee proposed to delete MODES 5 and 6 from the modes of applicability for TS 3.7.10 and TS 3.3.7.

The staff requested additional information (RAI #5) dated October 3, 2008, (ADAMS Accession No. ML083370532) asking for confirmation that the CREVS actuation is not required for protection of the control room envelope (CRE) occupants from smoke or chemical hazards. In its letter dated January 9, 2009, the licensee responded that "the only licensing basis events that currently require mitigation from TS 3.3.7 equipment in MODES 5 and 6 are the WGDTR and FHA." The licensee determined that no CRE protection is required for a WGDTR.

As further discussed in ULNRC-05463 dated January 14, 2008 (license amendment request regarding control room habitability and Callaway plant-specific implementation of TSTF-448), specifically pages 4 and 5 of Attachment 1, CREVS actuation does not occur, nor would it provide any protection if actuated, for chemical or smoke hazards. Therefore, it would not be appropriate to retain MODE 5 and MODE 6 MOSCA [modes or other specified conditions in the applicability] requirements on the manual actuation function

solely for chemical or smoke hazards since Criterion 3 of 10CFR50.36 does not apply.

In ULNRC-05463, Item 4 in Section 2.2, the licensee states,

In the Applicable Safety Analyses section of TS Bases 3.7.10, the discussion of hazardous chemical releases and smoke challenges is clarified by indicating that hazardous chemicals are not stored or used onsite in quantities sufficient to necessitate CRE protection, as required by Regulatory Guide 1.78 [ADAMS Accession No. ML013100014]. It is further explained that the analysis for smoke and hazardous chemical releases assume no CREVS actuation for such events, consistent with the current plant design. In the future, if the Callaway design or environment changes, new Required Action B.2 of TS 3.7.10 addresses hazardous chemicals and smoke to assure that appropriate mitigating actions and/or design feature(s) are considered.

The staff requested additional information (RAI #8) dated October 3, 2008, asking if any of the proposed changes to the technical specifications would affect any of the performance parameters used in the accident analyses (FSAR 15A-1).

In its response dated January 9, 2009, the licensee stated that the proposed amendment will not result in any design changes, none of the parameters listed in FSAR Table 15A-1 are affected and, therefore, there will be no changes to the CREVS design capabilities to maintain control room habitability.

Based on the above evaluation, the NRC staff concludes that the proposed changes to TS 3.3.7 and 3.7.10 are acceptable. The staff has reasonable assurance that the radiological consequence of the postulated waste gas tank rupture is well within the dose guideline values specified in 10 CFR Part 100 for offsite doses and within the dose acceptance criteria specified in SRP Section 6.4, and GDC-19 for the control room. The staff finds the proposed change does not result in a challenge to CRE habitability. Reasonable assurance is maintained such that CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge.

### 3.2 Adoption of TSTF-36, Revision 4, for TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10

The licensee requested to adopt TSTF-36-A, Revision 4, "Addition of LCO 3.0.3 N/A to shutdown electrical power specifications." This change adds an exclusion from LCO 3.0.3 to LCO Actions for which the movement of irradiated fuel is independent of reactor operation in MODES 1 thru 4. This would result in not having to enter Cold Shutdown (MODE 5) per LCO 3.0.3, when an LCO that is Applicable during the movement of irradiated fuel is not met, and the compensatory Required Actions are not able to be carried out within the associated Completion Times. This is acceptable since the movement of irradiated fuel assemblies while in MODES 1, 2, 3, or 4 is independent of reactor operations.

LCO 3.0.3 is applicable in MODES 1, 2, 3, and 4. If an LCO is not met during these MODES, and the compensatory Required Actions are not able to be carried out within the associated Completion Times, LCO 3.0.3 is entered. LCO 3.0.3 can require a Cold Shutdown. Movement

of irradiated fuel can occur in all MODES. If an LCO that is Applicable during the movement of irradiated fuel is not met, and the compensatory Required Actions are not able to be carried out within the associated Completion Times, a Cold Shutdown per LCO 3.0.3 does not provide an adequate compensatory action, since movement of irradiated fuel assemblies is independent of reactor operations. Therefore, excluding LCO 3.0.3 entry in this situation is permissible.

An appropriate course of action, for when an LCO that is Applicable during the movement of irradiated fuel is not met, is to continue efforts to carry out the Required Actions while still in the mode of applicability. This is ensured by TS 1.3, "Completion Times."

The proposed change affects TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10. All of these TSs either currently have the mode of applicability during movement of irradiated fuel assemblies (TSs 3.3.8 and 3.7.13) or the licensee has proposed to add this mode of applicability to the TSs (TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10). Section 3.3 of this safety evaluation addresses adding "during movement of irradiated fuel assemblies" to the modes of applicability of TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10.

For TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10, the licensee stated that with the mode of applicability of during movement of irradiated fuel assemblies for these LCOs, there could be the remedial action of stopping the movement of irradiated fuel assemblies instead of shutting down the plant to place the plant in a mode where the LCO is not applicable. LCO 3.0.3 applies when (1) the only remedial action available to place the plant in a mode where the LCO is not applicable is to shutdown the plant, and (2) the TSs do not specify that the plant is to shutdown. In the case of these LCOs where the mode of applicability includes during movement of irradiated fuel assemblies, the licensee could place the plant in a condition where these LCOs are not applicable by terminating the movement of irradiated fuel assemblies. This would be allowed by adding the note stating that "LCO 3.0.3 is not applicable." Based on this and the above evaluation, the NRC staff concludes that the proposed change for EES and shutdown electrical power specifications is acceptable.

Currently, Callaway TS LCO 3.3.8 states, "The EES [emergency exhaust system] actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE." The licensee proposed to add a new Action Note 1 and renumber the existing note as Note 2. The new Note 1 would read, "LCO 3.0.3 is not applicable". The licensee stated that the LCO only applies during the movement of irradiated fuel assemblies. Irradiated fuel assemblies stored in the fuel building's spent fuel pool may be moved during MODES 1-4 for a variety of reasons that do not affect the operation of the reactor.

The licensee proposed to revise TS 3.7.13, "Emergency Exhaust System (EES)," by adding a note to the Actions. The new note will read, "LCO 3.0.3 is not applicable." The licensee indicated that TS 3.7.13 is currently applicable during movement of irradiated fuel assemblies in the fuel building. The technical justification for the revision is the EES is only needed for a fuel handling accident during the movement of irradiated fuel assemblies and that entering LCO 3.0.3 to shut down the reactor is not applicable. The licensee cites TSTF-36-A as precedence.

The NRC staff reviewed the application along with the Callaway FSAR. The proposed amendment is similar to existing language already in NUREG-1431. The Callaway FSAR Section 9.4.2 "Fuel Building HVAC" states:

In the event of a fuel handling accident, the emergency exhaust system collects and processes the airborne particulates in the fuel building. In the event of a LOCA [loss-of-coolant accident], the emergency exhaust system processes the atmosphere of the auxiliary building.

In a letter dated October 3, 2008, the NRC staff requested (RAI #6), clarification regarding credit taken for the EES in any analysis developed for coping with any design basis event other than a fuel handling accident while in MODES 1 through 4.

In its response dated January 9, 2009, the licensee stated that the Callaway EES provides dual building isolation functions. The EES provides different emergency functions in response to a LOCA than for an FHA. Therefore, the licensee revised the amendment to TS 3.7.13 to state "LCO 3.0.3 is not applicable to the FBVIS [fuel building ventilation isolation signal] mode of operation." TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," and TS 3.7.13 surveillances test the safety injection signal (SIS) mode for the EES. Specific surveillance requirements are 3.3.2.2, 3.3.2.4, 3.3.2.6, and 3.7.13.3. Removing the requirement for entering LCO 3.0.3 from the fuel handling accident response requirement for ESS will not reduce the requirements for the SIS functions of EES. All of the other TS markups in ULNRC-05494 based on TSTF-36 are unaffected.

The NRC staff concludes that the proposed changes to TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10 are acceptable. The staff has determined that the current licensing basis radiological consequence analysis are not affected by the proposed TS changes and remain bounding for this license amendment request. The NRC staff has reasonable assurance that the radiological consequences are well within the dose guideline values specified in 10 CFR Part 100 for offsite doses and within the dose acceptance criteria specified in SRP Section 6.4, and GDC-19 for the control room.

### 3.3 Modification of LCO Applicability for TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10

The licensee proposed to revise TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10 by modifying the applicability to apply to "MODES 5 and 6, during movement of irradiated fuel assemblies." A note will also be added to the Actions and will read, "LCO 3.0.3 is not applicable".

The licensee stated that during full core offloads there should be requirements for electric power to be operable to remove decay heat from the spent fuel pool and to mitigate the potential consequences of a fuel handling accident in the fuel building. The required electric power includes alternating current (AC) power, direct current (DC) power, inverters, and power distribution systems. Because full core offloads would occur when there is no mode of applicability, since no mode covers the situation when the reactor vessel head is off and fuel is being moved to the spent fuel pool, the licensee has proposed to add the mode of "during movement of irradiated fuel assemblies" to the modes of applicability of LCOs 3.8.2, 3.8.5, 3.8.8, and 3.8.10. The licensee has proposed to add this new mode of applicability to these LCOs for MODES 5 and 6 because there are other TSs that cover this situation for AC power,

DC power, inverters, and power distribution systems if there is movement of irradiated fuel assemblies when the plant is in MODES 1 through 4. Because questions could arise with respect to whether normal or emergency power is required during full core offloads, the licensee has concluded that the proposed TS changes are needed for clarification. This adds a restriction to the TSs by requiring these systems to be operable in an additional mode of applicability.

Based on the above, the NRC staff concludes that the proposed changes to extend the modes of applicability to include "during movement of irradiated fuel assemblies" are acceptable to Callaway Plant for TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10. The NRC staff has determined that the current licensing basis radiological consequence analyses are not affected by the proposed TS changes and remain bounding for this license amendment request. The NRC staff has reasonable assurance that the radiological consequences are well within the dose guideline values specified in 10 CFR Part 100 for offsite doses and within the dose acceptance criteria specified in SRP Section 6.4, and GDC-19 for the control room.

#### 4.0 STATE CONSULTATION

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

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding published in the *Federal Register* on October 7, 2008 (73 FR 58678). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 6.0 CONCLUSION

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

Principal Contributors: D. Duvigneaud  
B. Heida  
A. Lewin

Date: June 30, 2009

June 30, 2009

Mr. Adam C. Heflin  
Senior Vice President and  
Chief Nuclear Officer  
Union Electric Company  
P.O. Box 620  
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 - ISSUANCE OF AMENDMENT RE: REVISION  
OF TECHNICAL SPECIFICATIONS 3.3, 3.7, AND 3.8 (TAC NO. MD8953)

Dear Mr. Heflin:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 192 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to Union Electric Company (the licensee) application dated June 3, 2008, as supplemented by letters dated January 9 and 23, 2009.

The amendment revises TSs 3.3.7, 3.3.8, 3.7.10, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10. This amendment (1) deletes MODES 5 and 6 from the Control Room Emergency Ventilation System and its actuation instrumentation in TS 3.7.10 and TS 3.3.7; (2) adopts NRC-approved Technical Specification Task Force (TSTF) change traveler TSTF-36-A for TSs 3.3.8, 3.7.13, 3.8.2, 3.8.5, 3.8.8, and 3.8.10; and (3) adds a restriction to the Limiting Condition for Operation (LCO) applicability for TSs 3.8.2, 3.8.5, 3.8.8, and 3.8.10 such that these LCOs apply not only during MODES 5 and 6, but also during the movement of irradiated fuel assemblies regardless of the MODE in which the plant is operating.

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

Sincerely,  
/RA/

Mohan C. Thadani, Senior Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures:

- 1. Amendment No. 192 to NPF-30
- 2. Safety Evaluation

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NAME	NDiFrancesco	MThadani	JBurkhardt	RElliott	RTaylor	RDennig	GWilson	MSmith	MMarkley	MThadani
DATE	6/5/09	6/16/09	6/5/09	2/18/09	5/4/09	4/14/09	6/9/09	6/17/09	6/30/09	6/30/09

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