



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

May 5, 2010

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 TO TECHNICAL SPECIFICATION 3.3.2, "ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION," FUNCTION 6.G, CONDITION J (**EXIGENT CIRCUMSTANCES**) (TAC NO. ME3595)

Dear Mr. Heflin:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 196 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 29, 2010 (ULNRC-05687), as supplemented by letters dated March 29 and April 26, 2010 (ULNRC-05690 and ULNRC-05697, respectively).

The amendment revises TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Condition J under function 6.g in TS Table 3.3.2-1. Function 6.g provides an auxiliary feedwater (AFW) start signal that is provided to the motor-driven AFW pumps in the event of a trip of both turbine-driven main feedwater (MFW) pumps. Union Electric Company (the licensee) has determined that the design and normal operation of the MFW pumps could result in a condition that does not conform to TS Table 3.3.2-1, function 6.g. Entry into Limiting Condition for Operation (LCO) 3.0.3 would be required; therefore, the proposed TS change is needed to address this condition. The proposed change to Condition J would allow placing the two channels in a tripped condition on one MFW pump when placing that pump into service or removing that pump from service prior to resetting the MFW pump. With this revision to Condition J, the licensee will not require an entry into LCO 3.0.3. Specifically, the changes would revise Condition J for ESFAS instrumentation function 6.g to read, "One or more Main Feedwater Pumps trip channel(s) inoperable," make corresponding changes to Required Action J.1, and place a Note above Required Actions J.1 and J.2 for consistency with the revised Condition.

A. Heflin

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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,



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. 196 to NPF-30
2. Safety Evaluation

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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. 196
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 March 29, 2010, as supplemented by letters dated March 29 and April 26, 2010, 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. 196 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 30 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: May 5, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 196

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.

Facility Operating License

REMOVE

INSERT

-3-

-3-

Technical Specifications

REMOVE

INSERT

3.3-29

3.3-29

- (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. 196 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.

* 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.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>I. One channel inoperable.</p>	<p>----- NOTE ----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels.</p>	
	<p>I.1 Place channel in trip.</p>	72 hours
	<p><u>OR</u> I.2 Be in MODE 3.</p>	78 hours
<p>J. One or more Main Feedwater Pumps trip channel(s) inoperable.</p>	<p>----- NOTE ----- One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels.</p>	
	<p>J.1 Place channel(s) in trip.</p>	1 hour
	<p><u>OR</u> J.2 Be in MODE 3.</p>	7 hours

(continued)



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 196 TO

FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated March 29, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100880430), as supplemented by letters dated March 29 and April 26, 2010 (ADAMS Accession Nos. ML100890460 and ML101170010, respectively), Union Electric Company (the licensee) requested a change to the Technical Specifications (TSs) to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The supplemental letters dated March 29 and April 26, 2010, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 14, 2010 (75 FR 19431).

The proposed amendment would revise TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Condition J under function 6.g in TS Table 3.3.2-1. Function 6.g provides an auxiliary feedwater (AFW) start signal that is provided to the motor-driven AFW pumps in the event of a trip of both turbine-driven main feedwater (MFW) pumps. The licensee has determined that the design and normal operation of the MFW pumps could result in a condition that does not conform to TS Table 3.3.2-1, function 6.g. Entry into Limiting Condition for Operation (LCO) 3.0.3 would be required; therefore, the proposed TS change is needed to address this condition. The proposed change to Condition J would allow placing the two channels in a tripped condition on one MFW pump when placing the pump into service or removing the pump from service prior to resetting the MFW pump. With this revision to Condition J, the licensee will not require an entry into LCO 3.0.3. Specifically, the changes would revise Condition J for ESFAS instrumentation function 6.g to read, "One or more Main Feedwater Pumps trip channel(s) inoperable," make corresponding changes to Required Action J.1, and place a Note above Required Actions J.1 and J.2 for consistency with the revised Condition.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The Commission's regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.36, "Technical Specifications." The TS requirements in 10 CFR 50.36 include the following categories: (1) safety limits, limiting safety system settings, and limiting control settings, (2) LCOs, (3) surveillance requirements, (4) design features, and (5) administrative controls. The requirements for the auto-start of the AFW resulting from an MFW pump trip are included in the TSs in accordance with 10 CFR 50.36(c)(2), "Limiting conditions for operation."

As stated in 10 CFR 50.59(c)(1)(i), a licensee is required to submit a license amendment pursuant to 10 CFR 50.90 if a change to the TSs is required. Furthermore, the requirements of 10 CFR 50.59 necessitate that the NRC approve the TS changes before the changes are implemented. The licensee's submittals meet the requirements of 10 CFR 50.59(c)(1)(i) and 10 CFR 50.90.

General Design Criterion (GDC) 13, "Instrumentation and control," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 requires, among other things, that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated normal occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated safety systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges. No changes are proposed to the safety-related instrumentation.

GDCs 20 through 29 in 10 CFR Part 50, Appendix A, Section III, "Protection and Reactivity Control Systems," provide the requirements for:

- Protection system functions;
- Protection system reliability and testability;
- Protection system independence;
- Protection system failure modes;
- Separation of protection and control systems;
- Protection system requirements for reactivity control malfunctions;
- Reactivity control system redundancy and capability;
- Combined reactivity control systems capability;
- Reactivity limits; and
- Protection against anticipated operational occurrences.

The proposed change does not alter the ability for the reactor trip functions to actuate and is consistent with Callaway Plant, Unit 1 design and analysis, and ensures proper actuation to satisfy the anticipatory trip function. Therefore, the recommendations of these GDCs will continue to be met with the proposed change.

3.0 TECHNICAL EVALUATION

3.1 Background

3.1.1 Description of the Condensate and Feedwater System

As described in Callaway's Final Safety Analysis Report (FSAR), Section 10.4.7, the condensate and feedwater system (CFS) is designed to supply a sufficient quantity of feedwater to the secondary side of the four steam generators (SGs) during plant startup, shutdown, and normal operating conditions. The CFS also provides a safety function to limit high energy fluid to a faulted SG, and to provide for the addition of AFW.

The CFS includes three condensate pumps, two 67 percent steam turbine-driven MFW pumps, and one 480 gallons per minute (gpm) motor-driven feedwater pump (MDFP). The MFW pumps operate in parallel and discharge through high-pressure feedwater heaters to four SGs. Each MFW pump is steam-driven with independent speed-control units. Steam for the turbines is supplied from the main steam header at low loads and from the moisture separator reheater outlet during normal operation. Because there is insufficient steam pressure during startup, one MDFP is provided to supply feedwater to the SGs during startup and shutdown conditions.

3.1.2 Description of the AFW System

As described by the FSAR, the AFW system is a safety-related system designed to automatically supply sufficient feedwater to the SGs to remove thermal energy from the reactor coolant system (RCS) in the event of a loss of the MFW supply. The AFW system can be used following a reactor shutdown in conjunction with the condenser dump valves or atmospheric relief valves, to cool the RCS. The AFW system is not required during normal power generation and the pumps are in standby. However, if the normal startup MDFP is not available, then the AFW system may be used when the reactor is below 10 percent power to maintain SG water levels during plant heatups or cooldowns.

The AFW system includes two 100 percent capacity (575 gpm) motor-driven auxiliary feedwater (MDAFW) pumps and one 200 percent capacity (1,145 gpm) steam turbine-driven auxiliary feedwater (TDAFW) pump. Each of the two MDAFW pumps supply two SGs, and the TDAFW pump can supply all four SGs.

An automatic actuation signal for the MDAFW pumps start is generated from trip of both MFW pumps, two out of four low-low level signals in any one SG, ATWS [anticipated transient without scram] Mitigation System Activation Circuitry (AMSAC), safeguards sequence signal, loss of offsite power (LOOP), or a manual initiation. The TDAFW pump is started on a LOOP, low-low level in any two SGs, AMSAC, or a manual initiation.

3.1.3 Anticipatory Start of the MDAFW Pumps upon both MFW Pumps' Trip

A trip of both MFW pumps will result in an anticipatory start of both MDAFW pumps. Each turbine-driven MFW pump is equipped with two pressure switches on the high-pressure oil control header for the turbine control system. One pressure switch on each pump is powered by separation group 1 and a second pressure switch on each pump is powered by separation

group 4. If the two pressure switches in the same separation group, one on each pump, sense a low pressure, then a signal will be generated that a trip has occurred of both MFW pumps. This condition indicates that feedwater is no longer being supplied to the SGs. Upon sensing a loss of both MFW pumps, ESFAS instrumentation will signal an automatic start of both MDAFW pumps. This actuation is an anticipatory start of the AFW pumps, included in the original plant design features to lessen the effects of a loss-of-feedwater transient.

A manual block of the MFW pump trip signal to start AFW is provided at the main control board. The footnote (n) of TS Table 3.3.2-1 permits blocking the trip function just before shutdown of the last operating MFW pump until just after the first MFW pump is placed into service, in order to prevent an inadvertent start of the AFW pumps. With the block enabled, the AFW pumps still remain available to respond to a start from any other valid start signal.

3.1.4 Technical Specifications

The licensee's TSs require that the AFW auto-start function on MFW pump trip be operable in Modes 1 and 2. This anticipatory trip results in the intact SGs being provided with water to provide a heat sink to remove reactor decay heat and sensible heat in the event of a loss-of-feedwater accident. The TSs require the restoration of the AFW auto-start function after the first MFW pump is put into service. The AFW auto-start actuation is not required in Modes 3, 4, and 5, because the MFW pumps are normally shut down, and an MFW pump trip would not be indicative of a condition requiring automatic AFW initiation.

When the MFW pump turbine is placed in reset, but is not providing flow to the SGs, both pressure channels for that pump are considered inoperable. The licensee's current TSs do not have a provision for two channels inoperable on the same MFW pump. Therefore, with both channels inoperable, the licensee would be required to enter LCO 3.0.3.

3.1.5 Operations of MFW Pumps

Starting and stopping MFW pumps during plant startup and shutdown is a normal evolution accomplished within a short period of time. During low-power plant startup operations, while the first MFW pump is being placed in service, TSs allow the AFW auto-start function to be blocked. To place the second MFW pump in service, the second MFW pump's control switch must be placed in reset. Reset allows high-pressure oil to pressurize the pump's control header in order to open the turbine stop valves and enable the turbine control valves to respond to a demand signal. However, reset also pressurizes the low-pressure trip switches on the header, giving an incorrect input to the ESFAS logic that the MFW pump is supposedly operating and pumping feedwater to the SGs. Therefore, when the MFW pump turbine is in reset, the MFW pump turbine control header oil pressure provides a false indication of an MFW pump's status (i.e., the MFW pump is not actively supplying flow to the SGs). If the operating MFW pump turbine trips, then all MFW flow would physically cease to the SGs. In addition, because the non-operating MFW pump's oil control header remains pressurized, the EFSAS actuation logic would not be satisfied, and the required auto-start signal to the MDAFW pumps would not be initiated.

In order to resolve this condition, the licensee is proposing a change to the TSs to require placing the channel in trip, when one or more channels are inoperable. During the starting of the second MFW pump, the licensee will place both channels for the MFW pump to be started in

trip, enabling one-out-of-two logic on both trains. If during this period the operating MFW pump should experience a trip, then the safety function to auto-start the MDAFW pumps would occur. Upon successful start of the second MFW pump, the licensee will remove the two channels from trip, making the pump trip logic fully operable in a normal operation configuration. This is consistent with the NRC staff's approval of a similar change to Wolf Creek Generating Station TS (ADAMS Accession No. ML100630013).

3.1.6 Safety Analysis

The auto-start of AFW on loss of MFW is an anticipatory safety function, designed to mitigate the operational impact of a loss-of-feedwater events. The AFW start from the loss of MFW pump is not a requirement in the licensee's design basis event analyses. The design basis events that impose AFW safety function requirements are loss of normal feedwater; main feed line or main steam line break, LOOP, and small break loss-of-coolant accident. These design basis events assume auto-start of the AFW system in the event of a LOOP, a safety injection (SI) signal, or low-low SG water level. Therefore, even though the auto-start of MDAFW pumps upon an MFW pump trip is an ESFAS function in TS Table 3.3.2-1, function 6.g, the function is only an anticipatory start signal and no credit is taken in any of the licensee's safety analysis described in its FSAR.

3.2 Proposed Technical Specification Changes

3.2.1 Modify Condition J and Required Action J.1 for LCO 3.3.2

The current Condition J for LCO 3.3.2 states,

One Main Feedwater Pumps trip channel inoperable.

The revised Condition J would state,

One or more Main Feedwater Pump trip channel(s) inoperable.

The current Required Action J.1 states,

Place channel in trip.

The revised Required Action J.1 would state,

Place channel(s) in trip.

This change will accurately reflect the plant design of the two pressure switches on each of the MFW pump's high-pressure hydraulic oil control headers (that provide one actuation signal in separation group 1 and one in separation group 4). The TS change will allow the licensee to put more than one channel in trip on a single MFW pump. Placing one or two channels in trip results in the channels being in their safe configuration and enables only half of the actuation logic for both trains. Placing one or two channels in trip will still result in MDAFW pump auto-start upon a trip of both MFW pumps. Therefore, changing the TS Required Action to place the inoperable channels in a trip condition puts the channels in a safe condition. This change allows the

licensee to put both channels on one MFW pump in trip condition, which would prevent the licensee from having to enter LCO 3.0.3 with more than one channel inoperable. The licensee retains the safety function.

Based on the above discussion, the NRC staff concludes that the TS change discussed above is acceptable.

3.2.2 Modify Note Associated with Required Actions J.1 and J.2 for LCO 3.3.2

The current Note associated with Required Actions J.1 and J.2 states,

The inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels.

The revised Note would state,

One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels.

The change is needed to reflect the change to LCO 3.3.2, Condition J, discussed in Section 3.2.1 of this safety evaluation and is acceptable.

3.3 Conclusions of Technical Evaluation

The NRC staff concludes that the proposed change to the TS will not alter the ability of the reactor trip function to actuate. The change is consistent with Callaway Plant, Unit 1 design and analysis, and it will ensure proper actuation to satisfy the anticipatory trip function. Overall, the protection systems' performance will remain within the bounds of the design basis and analysis. The requirements of GDCs discussed in Section 2.0 of this safety evaluation will continue to be met by the proposed change. Therefore, the NRC staff concludes that the proposed change is acceptable.

4.0 EXIGENT CIRCUMSTANCES

In its submittals, the licensee requested that the amendment be treated as an exigent amendment. In accordance with 10 CFR 50.91(a)(6), the licensee provided the following information regarding the time-critical nature for the amendment and why it could not be foreseen or avoided:

Industry operating experience (OE) document, OE30225, "Main Feedwater Pump 'Reset' Design Feature Provides Incorrect Main Feedwater Pump Status to Emergency Feedwater Pump Initiation Circuitry Resulting in Missed Technical Specification Requirements," Oconee Nuclear Station, December 16, 2009, identified a concern in which the turbine-driven MFW pump oil pressure channels could provide an incorrect status indication that an idle (not yet fully in service) MFW pump is in service when that MFW pump's turbine is reset and the pump is not yet supplying water to the steam generators. If the running MFW pump were to trip, the motor-driven auxiliary feedwater pumps would not receive an auto-

start signal as required by the Callaway TSs. On February 22, 2010, [Union Electric Company] determined that the TS issue described in the above referenced amendment request was applicable to Callaway Plant [Unit 1]. Attachment 1 of the referenced letter (page 5 of 14) discussed the fact that, without this amendment, LCO 3.0.3 would be applicable during the process of placing the second turbine-driven MFW pump into service in MODE 1 at Callaway Plant.

Specifically, Callaway Plant will not be able to resume operation up to the plant's licensed power level following Refuel 17 without timely NRC approval of this amendment. [Union Electric Company] has been developing this amendment request with Wolf Creek Generation Station, and processing it through our review procedures, since the OE document was determined to be applicable to [Callaway Plant, Unit 1].

As stated in the above reference, [Union Electric Company] requests approval of this proposed license amendment prior to MODE 2 entry during the restart from the upcoming Refuel 17 outage. Entry into MODE 2 is currently scheduled to occur on May 14, 2010. [Union Electric Company] further requests that the license amendment be made effective upon NRC issuance to be implemented within 30 days.

The NRC staff has reviewed the licensee's evaluation of exigent circumstances and concludes that the license amendment be issued under exigency circumstances per the provisions of 10 CFR 50.91(a)(6). In particular, the plant will not be able to resume operation up to the plant's licensed power level and will be derated without NRC's exigent approval of this amendment. The NRC staff also evaluated whether the licensee took reasonable action to avoid the exigent situation. The NRC staff concludes that the licensee's actions were reasonable and that the exigent situation could not have been avoided under the circumstances described by the licensee.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission may issue license amendments before the expiration of the 60-day period provided that its final determination is that the amendments involve no significant hazards consideration. This amendment is being issued prior to the expiration of the 60-day period. Therefore, a final finding of no significant hazards consideration was made as follows.

The Commission has made a final determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

As required by 10 CFR 50.91(a), in its letter dated March 29, 2010, the licensee has provided its analysis of the issue of no significant hazards consideration which is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

Overall protection system performance will remain within the bounds of the previously performed accident analyses since no design changes are proposed to the protection systems. The same reactor trip system (RTS) and engineered safety feature actuation system (ESFAS) instrumentation will continue to be used. The protection systems will continue to function in a manner consistent with the credited functions in the plant design and analysis basis. There will be no changes to the protection system surveillance and operating limits.

The proposed changes will not adversely affect accident initiators or precursors nor alter the design assumptions, conditions, and configuration of the facility or the manner in which the plant is operated and maintained. The proposed changes will not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended functions to mitigate the consequences of an initiating event within the assumed acceptance limits.

Therefore, the proposed changes will have no impact on the probability of occurrence of an accident previously evaluated in the FSAR.

The transients and design basis events for which the initiation of the AFW system is credited are the main steam line break, loss of non-emergency AC [alternating current] power, loss of normal feedwater, main feed line break, and small break loss of coolant accident. The analyses of these events in FSAR Chapter 15 assume actuation of the AFW system due to a loss of offsite power signal (starts the turbine-driven AFW pump only), steam generator water level low-low signal (starts the motor-driven AFW pumps for low level in one steam generator, and starts the turbine-driven AFW pump for low level in two steam generators), or a safety injection signal (starts the motor-driven AFW pumps). The anticipatory motor-driven AFW pump auto-start signals from the turbine-driven MFW pumps are not credited in any design basis accidents and are, therefore, not part of the primary success path for postulated accident mitigation as defined by 10 CFR 50.36(c)(2)(ii), Criterion 3. Modifying TS 3.3.2 Condition J and its Required Actions for ESFAS instrumentation function 6.g will not impact any previously evaluated design basis accidents.

All accident analysis acceptance criteria will continue to be met with the proposed changes. The proposed changes will not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. The proposed changes will not alter any assumptions or change any mitigation actions in the radiological consequence

evaluations in the FSAR. The applicable radiological dose acceptance criteria will continue to be met.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes would provide a TS Condition for more than one inoperable channel within ESFAS instrumentation function 6.g. These changes involve an anticipatory motor-driven AFW pump auto-start function that is not credited in any accident analysis. The proposed changes do not affect the credited ESFAS functions that actuate AFW due to a loss of offsite power, steam generator water level low-low, or a safety injection signal.

The proposed changes will not affect the normal method of plant operation or change any operating parameters. No equipment performance requirements will be affected. The proposed changes will not alter any assumptions made in the safety analyses.

No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures will be introduced as a result of this amendment. There will be no adverse effect or challenges imposed on any safety-related system as a result of this amendment.

The proposed amendment will not alter the design or performance of the 7300 Process Protection System, Nuclear Instrumentation System, Solid State Protection System, BOP [Balance of Plant] ESFAS, MSFIS [Main Steam and Feed Isolation System], or LSELS [Load Shedding and Emergency Load Sequencing] used in the plant protection systems.

Therefore, the proposed changes do not create the possibility of a new or different [kind of] accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed changes involve the automatic start of the motor-driven AFW pumps after a trip of both turbine-driven MFW pumps which is not a credited start signal for any design basis event. This change does not modify any values or limits involved in a safety-related function or accident analysis.

There will be no effect on those plant systems necessary to assure the accomplishment of protection functions. There will be no impact on the overpower limit, departure from nucleate boiling ratio (DNBR) limits, heat flux hot channel factor (FQ), nuclear enthalpy rise hot channel factor (FΔH), loss of coolant accident peak cladding temperature (LOCA PCT), peak local power density, or any other margin of safety. The applicable radiological dose consequence acceptance criteria will continue to be met.

The proposed changes do not eliminate any surveillances or alter the frequency of surveillances required by the Technical Specifications. No instrument setpoints or system response times are affected. None of the acceptance criteria for any accident analysis will be changed.

The proposed changes will have no impact on the radiological consequences of a design basis accident.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

6.0 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.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) the amendment does not (a) involve a significant increase in the probability or consequences of an accident previously evaluated; or (b) create the possibility of a new or different kind of accident from any accident previously evaluated; or (c) involve a significant reduction in a margin of safety; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (3) such activities will be conducted in compliance with the Commission's regulations; and (4) 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: S. Gardocki
B. Marcus
K. Buckholtz

Date: May 5, 2010

A. Heflin

- 2 -

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

Sincerely,

/RA/

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

Docket No. 50-483

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NAME	MThadani	JBurkhardt	RElliott	GCasto*
DATE	5/4/10	4/23/10	5/5/10	4/8/10
OFFICE	DE/EICB/BC	OGC – NLO	NRR/LPL4/BC	NRR/LPL4/PM
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DATE	4/29/10	4/27/10	5/5/10	5/5/10

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