February 6, 2004

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

SUBJECT: CALLAWAY PLANT, UNIT 1 - ISSUANCE OF AMENDMENT – REQUIRED ACTION COMPLETION TIME FOR INOPERABLE TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP (TAC NO. MC1936)

Dear Mr. Randolph:

The Commission has issued the enclosed Amendment No. **158** 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 February 5, 2004 (ULNRC-04949).

The amendment revises the completion time for an inoperable turbine-driven auxiliary feedwater (TDAFW) pump in Technical Specification 3.7.5, "Auxiliary Feedwater (AFW) System" to incorporate a one-time provision that extends the allowed outage time for up to an additional 72 hours, thereby permitting Callaway to remain in Mode 3 to continue the determination of the cause of inoperability of the TDAFW pump. Your letter requested that this amendment be treated as an emergency because insufficient time exists for the Commission's usual 30-day notice.

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

Sincerely,

/RA/

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

Docket No. 50-483

Enclosures: 1. Amendment No. **158** to NPF-30
2. Safety Evaluation

cc w/encls: See next page

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UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 158
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 February 5, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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

(A) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 158 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.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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

Attachment: Changes to the Technical Specifications

Date of Issuance: February 6, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 158

FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
3.7-12	3.7-12

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 158 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By application dated February 5, 2004, Union Electric Company (licensee) requested changes to the Technical Specifications (TSs, Appendix A to Facility Operating License No. NPF-30) for the Callaway Plant, Unit 1 (Callaway). The proposed amendment would revise the completion time (CT), or allowed outage time (AOT), in Required Action 3.7.5.c.1, for an inoperable turbine-driven auxiliary feedwater (TDAFW) pump, in Technical Specification (TS) Section 3.7.5, "Auxiliary Feedwater (AFW) System" to incorporate a one-time provision that extends the AOT for an inoperable TDAFW pump for up to an additional 72 hours; thereby permitting Callaway to remain in Mode 3 to continue the determination of the cause of inoperability of the TDAFW pump. The letter requested that this amendment be treated as an emergency because insufficient time exists for the Commission's usual 30-day notice.

In Attachment 5 of the application, the licensee provided the following regulatory commitments:

1. The proposed changes to the Callaway TSs and TS Bases will be implemented immediately upon NRC approval of the amendment.

2. Administrative controls shall be put in place so that the Tier 2 restrictions (discussed in Section 3.5 of this safety evaluation [SE]) are ensured during the extended TS 3.7.5 Required Action C.1 Completion Time. These are (1) no work will be performed in the Callaway switchyard and access to the switchyard will be restricted, and (2) no risk-significant plant equipment modeled in the Callaway probabilistic risk assessment (PRA) will be out-of-service, except for the TDAFW pump and the "C" loop component cooling water (CCW) pump.

Since the licensee has requested an emergency TS change as allowed by 10 CFR 50.91(a)(5), the staff has addressed the timeliness of the licensee's request and provided its final determination of no significant hazards consideration in the SE.

2.0 REGULATORY REQUIREMENTS

The regulatory guidance and requirements which the staff considered in reviewing the application included:

1. Title 10, Code of Federal Regulations (10 CFR), Part 50, Section 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants" requires that preventive maintenance activities must not reduce the overall availability of structures, systems, and components (SSCs).

2. Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," describes a risk-informed approach that is acceptable to the NRC for assessing the nature and impact of proposed licensing basis changes by considering engineering issues and applying risk insights.

3. RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," describes a risk-informed approach that is acceptable to the NRC for assessing the nature and impact of proposed TS changes.

4. 10 CFR 50.36, "Technical Specifications," in that 50.36(c)(2) requires, when a limiting condition for operation (LCO) is not met, the licensee is to follow any remedial action permitted by the technical specifications (i.e., the required actions and CT or AOT specified for the LCO).

3.0 TECHNICAL EVALUATION

3.1 Traditional Engineering Considerations

3.1.1 Need for a One-Time Emergency Change to TS 3.7.5

As discussed in the licensee's submittal, the TDAFW pump was declared inoperable at 7:56 a.m. (all times in Central Standard Time), on Tuesday, February 3, 2004. With the plant in Mode 3 following a reactor trip, the TDAFW pump had been running for several hours when it tripped on mechanical overspeed. The licensee believes that the mechanical overspeed condition was valid, but has not been able to determine the root cause of the problem. The licensee has completed three long runs of the TDAFW pump (greater than 3 hours) to simulate the conditions that existed prior to the pump trip, and activities are ongoing to eliminate potential failures of components and auxiliary systems (e.g., steam trap operation, governor stem binding, coupling integrity). Though not conclusive, one of the pump runs did show a sudden increase in speed and discharge pressure of the pump. The ongoing root cause analysis investigation and troubleshooting activities require maintaining the steam system temperature and pressure conditions the same as at the time of the pump trip (to the extent that this is possible) in order to properly account for thermal effects. This is necessary because the pump turbine and associated control circuits perform differently under different thermal conditions, and the pump trip may not reoccur under different thermal conditions.

TS 3.7.5, Condition C, requires an inoperable auxiliary feedwater (AFW) pump to be restored to operable status within 72 hours, and Condition D requires that the plant be placed in Mode 4 within the following 12 hours if the pump is not restored to operable status within this 72-hour period AOT. Because the thermal conditions in Mode 4 (135 psia, 350°F) are significantly different from those in Mode 3 (1050 psia, 550°F), the licensee has requested a one-time 72-hour extension of the existing 72-hour AOT that is specified by TS 3.7.5. Without this one-time

extension, the licensee would be required by TS 3.7.5 to be in Mode 4 within 12 hours of the expiration of the 72-hour AOT for TS 3.7.5.C.1. Based on the staff's review of the circumstances involved and the actions that have been taken (as described in the licensee's submittal), the staff agrees that the root cause determination should be completed in Mode 3 to the extent that this is reasonably possible without compromising plant safety. Furthermore, because the licensee has established a comprehensive troubleshooting plan and has attempted to determine the root cause of the TDAFW pump trip within the existing 72 hour AOT, the staff agrees that there is sufficient basis for requesting an emergency, one-time, 72 hour extension of TS 3.7.5 in order to facilitate completion of this effort.

3.1.2 Defense-In-Depth

The elements of the defense-in-depth approach are discussed in Section 2.2.1 of RG 1.177, and the licensee's assessment of these elements is provided in Attachment 1, Section 4, of its submittal. Based on our review of the licensee's submittal and our understanding of the specific circumstances involved, we consider the following defense-in-depth considerations to be especially noteworthy:

- While reduced heat removal capability exists to some extent because the TDAFW pump is inoperable, both motor-driven AFW pumps remain operable. In general, the reduced heat removal capability is somewhat offset by the diminished decay heat load that currently exists as a result of the reactor trip and shutdown condition of the plant; and the licensee has determined that sufficient AFW flow capability remains to mitigate postulated accident conditions.

- An AOT extension of 72 hours beyond the 72 hours that is currently allowed by existing TS AOT does not appreciably degrade defenses against common-cause failures that are available when the two different AFW pump types (motor-driven and turbine-driven) are operable.

- While the TDAFW pump is relied upon for mitigation of station blackout events, this capability is not available during periods when the TDAFW pump is inoperable as allowed by TS 3.7.5. Extending the TS AOT by an additional 72 hours will not increase the vulnerability to station blackout by any appreciable amount beyond what is currently allowed by the existing TS requirements because the licensee has included station blackout in its estimate of risk that is discussed in Section 3.2 through Section 3.7 of this SE. Additionally, restrictions that the license has committed to implement will reduce the likelihood that a loss of offsite power situation will occur during the extended 72-hour AOT (discussed below).

- While the licensee has identified compensatory measures to assure that the defense-in-depth capability is maintained during the period when the extended 72-hour AOT is in effect, these measures are consistent with normal plant practice and do not constitute an over-reliance on programmatic activities.

In order to ensure that the defense-in-depth capabilities referred to above are maintained during the period when the extended AOT is in effect, the licensee indicated that restrictions will be established to preclude simultaneous equipment outages and configurations that are

considered to be of high risk (e.g., Tier 2 and Tier 3 restrictions discussed in Attachment 1, Section 4 of the submittal) so that the principles of redundancy and diversity will not be eroded. Of particular importance with respect to station blackout considerations, the licensee will prohibit the performance of any work in the Callaway switchyard and access to the switchyard will be restricted during the extended 72- hour AOT period.

Based on the staff's review of the information that was provided, and considering that the proposed change will only apply on a one-time basis which will not result in a permanent change to the TS requirements, the staff finds that the defense-in-depth considerations and restrictions committed to by the licensee and discussed above to be appropriate and acceptable; and that adequate defense-in-depth capability will be maintained during the one-time, 72-hour AOT extension.

3.1.3 Safety Margins

Section 2.2.2 of RG 1.177 provides a set of guidelines that can be used for determining if sufficient safety margins will be maintained by risk-informed changes that are proposed to TS requirements. The guidelines state that sufficient safety-margins are maintained when:

- Codes and standards approved for use by the NRC are met, e.g., the proposed TS AOT does not conflict with approved Codes and standards relevant to the subject system.

- Safety analysis acceptance criteria in the Final Safety Analysis Report (FSAR) are met.

The licensee is requesting a one-time AOT extension of 72 hours for TS 3.7.5, Condition C, and as such, existing Codes and standards applicable to the AFW system are not affected. As discussed in Section 4 of the submittal, under "Impact on Defense-in-Depth," the licensee has assessed the impact of the proposed TS change on the affected safety analyses acceptance criteria and has qualitatively determined that the existing analyses remain valid. Given that the proposed change will only be applied on a one-time basis and that the proposed AOT extension is limited to 72 hours, the staff finds that the licensee's qualitative treatment of the Callaway safety analyses is appropriate and acceptable; and that sufficient safety margins will be maintained by the proposed change to TS 3.7.5.

3.2 Risk Assessment Evaluation

In evaluating the risk information submitted by the licensee, the staff followed the three-tiered approach documented in RG 1.177.

The first tier addresses the assessment of the risk impact of the proposed change for comparison to acceptance guidelines consistent with the NRC's Safety Goal Policy Statement, as documented in RG 1.174. Specifically, the first tier objective is to ensure that the plant risk does not increase unacceptably during the period the equipment is taken out-of-service.

The second tier addresses the need to preclude potentially high-risk configurations that could result if equipment, in addition to that associated with the change, are taken out-of-service simultaneously.

The third tier addresses the establishment of a configuration risk management program for identifying risk-significant configurations resulting from maintenance or other operational activities, and taking appropriate compensatory measures to avoid such configurations.

3.3 Basis and Quality of Risk Assessment

The licensee used its PRA model and appropriate conservative assumptions to assess the risk increase associated with operation at Mode 3 for a period of 3 additional days without an operable TDAFW pump. The risk consideration included maintaining defense-in-depth and quantifying the PRA to determine the change in core damage frequency (CDF) and large early release frequency (LERF) as a result of the proposed 72-hour AOT extension for the TDAFW pump. Also, the licensee is maintaining the continuous online risk management program to control the performance of other risk-significant tasks during the TDAFW pump testing and maintenance with consideration of specific compensatory measures to minimize risk.

The dominant accident sequences contributing to the assessed risk increase include the occurrence of conditions due to the unavailability of and demand for the use of the TDAFW pump. The accident analysis and design basis assume maintaining the capability of the AFW system to mitigate potential accidents including bleed-feed.

TS 3.7.5 requires three trains of the AFW system to be operable during Mode 1, 2, or 3 operation. The required actions for TS 3.7.5 require restoration of the out-of-service train within 72 hours.

3.3.1 Callaway PRA

The Callaway containment is a typical Westinghouse PWR containment of the large, dry design, and consequently, early release due to the accident sequences are mostly due to loss-of-coolant accident (LOCA) sequences and steam generator tube rupture (SGTR). The LERF contribution due to the loss of the TDAFW pump in the licensee's application is consistent with the design feature.

The original individual plant evaluation (IPE) was revised to upgrade and reflect the plant changes, and the risk model is based on the small event tree large fault tree model. The risk quantification tool is Scientech's NUPRA workstation, similar to NRC's SAPHIRE/SPAR and the Electric Power Research Institute's reliability and risk workstation. The Callaway PRA identified potential common mode failures and factored these into the plant PRA using the multiple Greek letter approach. The licensee clarified that the TDAFW pump failure was not originated from any cross-cutting failures and did not have the potential to introduce unknown common cause failures to the motor-driven AFW pumps, not included in the current PRA model. CDF and LERF sequences are quantified using truncation levels of 1.0E-10 and 1.0E-11, respectively. The independent assessment by the staff employed SAPHIRE/SPAR with a truncation level of 1.0E-15 for condition evaluation.

The licensee's individual plant examination of externally initiated events (IPEEE) included seismic and fire evaluation only. The scope of the seismic evaluation focused on the seismic margins assessment (SMA) in accordance with the EPRI NP-6041-SL, and the fire assessment employed the EPRI's fire induced vulnerability evaluation (FIVE) methodology.

3.3.2 Independent Assessment

The staff evaluated the quality of the PRA models, major assumptions, and data used in the risk assessment. This evaluation compared the applicable findings from the staff‘s review of the PRA (developed as part of the licensee’s IPE) with the NRC’s Standardized Plant Analysis Risk Model (SPAR), Version 3.02, for Callaway, as well as findings from similar evaluations of similar plants. The back-end evaluation was compared with the independent assessment results using NRC Manual Chapter 0609, Appendix H for LERF.

The parametric evaluation of uncertainty was reviewed based on the licensee’s data for median and 95% confidence CDF values. The error factor (EF) was approximately 2.1, better than the nominal acceptable value of 3.

Based on the above assessment in Sections 3.3.1 and 3.3.2, the staff found the quality of the PRA models, major assumptions, and data used in the risk assessment to be acceptable.

3.4 Risk Impact of the Proposed Change (Tier 1)

An acceptable approach to risk-informed decisionmaking is to demonstrate that the proposed change to the licensing basis meets several key principles. One of these principles is to show that the proposed change results in a small increase in risk in terms of CDF and LERF, and is consistent with the NRC’s Safety Goal Policy Statement. Acceptance guidelines for meeting this principle are presented in RG 1.174. Therefore, in accordance with RG 1.174 guidelines, the licensee’s proposed change to allow for a one-time extension of an additional 72 hours for the TDAFW pump under the TS 3.7.5 requirements results in an acceptable increase in risk which is small and consistent with the NRC’s Safety Goal Policy Statement.

The licensee used its plant-specific PRA model to calculate risk increases due to the proposed AOT extension of 72 hours. Both the incremental conditional core damage probability (ICCDP) and the incremental conditional large early release probability (ICLERP) were assessed. These quantities are a measure of the increase in probability of core damage and large early release, respectively, during a single outage assumed to last for the entire duration allowed by the proposed change. Based on the proposed 72-hour extension, the results are summarized in the following table:

	Baseline CDF, /yr	Incremental Change in CCDP	Baseline LERF, /yr	Incremental Change in CLERP
Prior to AOT Extension	2.831E-5/yr (Internal Event only)		4.2E-7/yr	
Incremental Change with 72-hour AOT Extension		3.97E-7		2.53E-10
Total Annualized increase in CDF during 72-hr extension		3.97E-7/yr		2.53E-10/yr
Acceptance Guidelines per RG 1.174 (*)		< 1.0E-5/yr		<1.0E-6/yr
Acceptable ?		Yes		Yes
New Baseline CDF after 72-hr AOT extension	2.87E–5 /yr		4.2E-7 /yr	

NOTE: The Figure 3 values of RG 1.174 were based on permanent changes, and for a temporary change in ICCDP they may be less restrictive than that of the acceptance values in the table.

The acceptance guidance for a permanent change are 5.0E-7 for ICCDP and 5.0E-8 for ICLERP, respectively, as outlined in RG 1.177 and RG 1.174. The guidance is based on the baseline CDF being smaller than 1.0E-4/reactor-year. Thus, the ICCDP (3.97E-7) and ICLERP (2.53E-10) are within the acceptable values of temporary increases.

The proposed 72-hour extension is for one time only. The annualized increase in CDF due to this AOT extension is numerically equal (approximately) to the assessed ICCDP value. Similarly, the increase in LERF is numerically equal (approximately) to the assessed ICLERP value. The baseline CDF will be changed for the 1-year period due to the proposed one-time, 72-hour extension of the AOT.

According to the guidelines of RG 1.174, the estimated increases in the mean values of CDF and LERF are small and of low risk significance.

The licensee's IPEEE included only seismic and fire evaluations. The risk contribution by the external events for the proposed short duration of 72 hours is small due to the low probability of having earthquakes or other natural events during this period.

3.5 Avoidance of High Risk Plant Configurations (Tier 2)

The licensee used its PRA to identify dominant contributing sequences and associated cutsets to the estimated increase in risk, as well as major contributing failures and human errors. The licensee identified and proposed several compensatory measures to avoid plant configurations or conditions that may lead to significant risk increases during implementation of the proposed 72-hour AOT extension. These compensatory steps are identified in Attachments 1 and 5 of the licensee's application. The staff finds that the proposed precautions, as well as their

proposed implementation, are adequate for preventing plant configurations or conditions that may increase risk significantly.

3.6 Risk-Informed Configuration Risk Management (Tier 3)

The intent of the risk-informed configuration risk management is to ensure that plant safety is maintained and monitored during an extended outage. A formal commitment to maintain a configuration risk management program is required on the part of a licensee prior to implementation of a risk-informed TS whenever such TS is entered and risk-significant components are taken out-of-service. The licensee has programs in place to comply with 10 CFR 50.65(a)(4) to assess and manage risk from proposed maintenance activities. These programs can support the licensee's decisionmaking regarding the appropriate actions to control risk whenever a risk-informed TS is entered.

The licensee is committed to comply with the risk action thresholds specified in Section 11.3.7.2 of NUMARC 93-01 in conjunction with the guidelines provided in RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," as standards for implementation of the maintenance rule. The licensee also addressed the non-quantifiable factors and will establish risk management action accordingly. The licensee will adhere to the station configuration risk management program specified in procedures APA-ZZ-00315, "Configuration Risk Management Program," and EDP-ZZ-01129, "Callaway Plant Risk Assessment."

3.7 Conclusions Regarding Probabilistic Risk Evaluation

The staff has concluded that the proposed 72-hour one-time extension of the AOT under TS 3.7.5 in Mode 3 for TDAFW pump is acceptable from a PRA perspective. The conclusion is based in part, on the following:

- Redundancy in two motor-driven auxiliary feedwater pumps (M-D AFWPs)
- Low-to-non likelihood common mode failure due to cross-cutting event
- Low likelihood of risk increases

In addition, the licensee will take compensatory measures limiting activities that could result in a plant configuration with the potential for a transient which could adversely impact the availability of other safety features. The licensee will continue to monitor plant configurations to avoid high risk configurations. Therefore, the staff finds that the licensee's request for the 72-hour AOT extension for the TDAFW pump is acceptable.

3.8 Conclusion

The following is based on the above evaluation:

Because there is no change to the preventive maintenance activities of the licensee because of the amendment, the staff concludes that the licensee continues to meet 10 CFR 50.65.

Because the staff concludes that the proposed 72-hour one-time extension of the TDAFW pump AOT is acceptable from a PRA perspective, the staff also concludes that this meets the

guidance in RGs 1.174 and 1.177, and is an acceptable basis for granting the 72-hour extension.

Because (1) there is a sufficient basis for requesting the 72-hour extension from traditional engineering considerations, (2) there is adequate defense-in-depth capability during this extension, and (3) sufficient safety margins will be maintained, the staff concludes that allowing an additional 72-hour AOT for the TDAFW pump continues to meet the requirement in 10 CFR 50.36(c)(2) for the licensee to follow this remedial action when LCO 3.7.5 is not met because the TDAFW pump is inoperable.

Based on the above, the staff finds that the licensee meets the regulatory requirements and guidance listed in Section 2.0. Therefore, the licensee's proposal is acceptable.

Based on the above evaluation, the staff also concludes that the commitments listed in Section 1.0 of this SE that the licensee has made as regulatory commitments (i.e., are being included in the licensee's commitment tracking system) are acceptable as regulatory commitments. As such, if the licensee would make any changes to these commitments that have safety significance, the licensee will inform the staff.

4.0 EMERGENCY CIRCUMSTANCES

In its February 5, 2004, letter, the licensee requested that this amendment be treated as an emergency because unless approved the plant would have to shut down.

The TDAFP was declared inoperable on February 3, 2004, immediately following the occurrence of an overspeed trip. When the trip occurred, the TDAFW pump had been running in the recirculation mode for several hours following an automatic start in response to a plant trip. The licensee to date has not determined the cause of the overspeed trip. It has requested an additional 72 hours to remain in Mode 3 (Hot Standby) to continue trouble shooting the problem with the TDAFW pump. Therefore, the amendment is needed to permit Callaway to remain in Mode 3 rather than proceeding to Mode 4 (Shutdown). Adequate steam pressure is needed to run the pump and to maintain desired thermal conditions for evaluation of the turbine condition and performance during troubleshooting.

Given that the TDAFW pump was declared inoperable on February 3, 2004, and the plant will have to shut down to Mode 4 within 12 hours of the expiration of the 72-hour AOT for the inoperable pump on February 6, 2003, the staff concludes that an emergency situation exists in that failure to act in a timely manner would result in a derating of Callaway or shutdown to hot shutdown (Mode 4). Because the licensee stated that there was no indication of the inoperability of the pump until the trip occurred on February 3, 2004, the staff concludes that the licensee could not have acted in a timely manner to avoid the need for an emergency TS change. Based on this, the staff concludes that the licensee has met the conditions of 10 CFR 50.91(a)(5) and the emergency TS amendment may be issued.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration, if operation of the facility, in accordance with the amendment would not:

1. Involve a significant increase in the probability or consequences of any 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.

This amendment has been evaluated against the standards in 10 CFR 50.92. It does not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of any accident previously evaluated. Overall protection system performance will remain within the bounds of the previously performed accident analyses since no hardware changes are proposed. The protection systems will continue to function in a manner consistent with the plant design basis. This change to the technical specifications does not result in a condition where the design, material, and construction standards that were applicable prior to the change are altered. The proposed change will not modify any system interface. The proposed change will not affect the probability of any event initiators. There will be no degradation in the performance of or an increase in the number of challenges imposed on safety-related equipment assumed to function during an accident situation. There will be no change to normal plant operating parameters or accident mitigation performance. The proposed change will not alter any assumptions or change any mitigation actions in the radiological consequence evaluations in the FSAR.

   Implementation of the proposed change will result in an insignificant risk impact. The proposed one-time only change to the TS 3.7.5 Required Action C.1 completion time does not, of itself, increase the probability of any accident previously evaluated. However, the proposed change will result in an insignificant increase in the risk of plant operation. This is demonstrated by showing that the impact on plant safety as measured by the increase in core damage frequency (ΔCDF) is less than 1.0E-06 per year and the incremental conditional core damage probabilities (ICCDP) is less than 5.0E-07. This change meets the acceptance criteria in Regulatory Guides 1.174 and 1.177. The AFW system design and testing provisions are not being changed, and the AFW system will continue to perform its required safety function with high reliability. Since the increase in risk as measured by the ΔCDF and ICCDP risk metrics is

within the acceptance criteria of existing regulatory guidance, there will not be a significant increase in the consequences of any accidents.

The proposed change does not adversely affect accident initiators or precursors nor alter the design assumptions, conditions, or configuration of the facility or the manner in which the plant is normally operated and maintained. The proposed change does not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. The proposed change is consistent with safety analysis assumptions which apply when the plant is operating in compliance with LCO requirements.

Therefore, this change does not increase the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any previously evaluated. There are no hardware changes nor are there any changes in the method by which any safety-related plant system performs its safety function. The proposed changes will not affect the normal method of plant operation. No performance requirements will be affected or eliminated. The proposed change will not result in physical alteration to any plant system nor will there be any change in the method by which any safety-related plant system performs its safety function. There will be no setpoint changes. There will be no changes to accident analysis assumptions; however, those assumptions only apply in the absence of a technical specification condition entry. The completion time limitations in the technical specification LCOs are intentionally limited in duration such that the initial condition assumption in the accident analyses is that LCO compliance is in place.

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

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Involve a significant reduction in a margin of safety. The proposed change does not affect the acceptance criteria for any analyzed event nor is there a change to any safety analysis limit. There will be no effect on the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined nor will there be any effect on those plant systems necessary to assure the accomplishment of

protection functions. There will be no impact on the overpower limit, DNBR limits, F_Q, $F\Delta H$, LOCA PCT, peak local power density, or any other margin of safety. The radiological dose consequence acceptance criteria listed in the Standard Review Plan will continue to be met.

The calculated impact on risk is insignificant and meets the acceptance criteria contained in Regulatory Guides 1.174 and 1.177.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

The no significant hazards consideration given above was taken from Attachment 1 of the licensee's application. The staff has reviewed this no significant hazards consideration during its review of the amendment and has determined that the licensee's evaluation is correct. Therefore, the above no significant hazards consideration is the staff's final no significant hazards consideration for the amendment. Accordingly, the Commission has determined that this amendment involves no significant hazards considerations.

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 did not offer any comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to 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 made a final no significant hazards consideration finding with respect to this amendment. 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.

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