June 28, 1996

Mr. Donald Schnell
Senior Vice President - Nuclear
Union Electric Company
Post Office Box 149
St. Louis, Missouri 63166

SUBJECT: AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. NPF-30 - CALLAWAY PLANT, UNIT 1 (TAC NO. M92975)

Dear Mr. Schnell:

The Commission has issued the enclosed Amendment No. 113 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated June 26, 1995, as supplemented by letter dated February 2, 1996. The February 2, 1996, supplement was required to correct technical errors identified by the staff in your June 26, 1995, letter and to provide additional clarifying information.

The amendment revises the allowed outage times for component cooling water motor operated containment isolation valves, removes the list of containment isolation valves from the TS, and allows containment penetration check valves to be used as isolation devices.

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

Sincerely,

Original Signed By

Kristine M. Thomas, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures: 1. Amendment No. 113 to NPF-30
2. Safety Evaluation

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WBateman	LHurley, RIV
WJohnson, RIV	JKilcrease, RIV
CBerlinger, SCSB	[redacted], EMEB

DOCUMENT NAME: CAL92975.AMD

OFC	PDIV-2/LA	BC:EMEB	BC:SCSB	OGC	PDIV-2/PM
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 28, 1996

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Senior Vice President - Nuclear
Union Electric Company
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St. Louis, Missouri 63166

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Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures: 1. Amendment No. 113 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. 113
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 26, 1995, as supplemented by letter dated February 2, 1996, 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. 113 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 to be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Kristine M. Thomas

Kristine M. Thomas, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 28, 1996

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
IX	IX
1-2	1-2
3/4 6-1	3/4 6-1
3/4 6-16	3/4 6-16
3/4 6-17	3/4 6-17
3/4 6-18	---
3/4 6-19	---
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3/4 6-28	---
3/4 6-29	---
3/4 6-30	---
3/4 6-31	---
B 3/4 6-4	B 3/4 6-4

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or

2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.

b. All equipment hatches are closed and sealed.

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3.

d. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

e. The containment leakage rates are determined per Specification 4.6.1.1.d and are within the limits listed in the Bases of Specification 3.6.1.1.

f. Structural integrity is assured via the program described in Specification 6.8.5.c.

CONTROLLED LEAKAGE

1.8 CONTROLLED LEAKAGE shall be that seal water flow from the reactor coolant pump seals.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

CORE OPERATING LIMITS REPORT

1.10 The CORE OPERATING LIMITS REPORT (COLR) is the unit specific document that provides core operating limits for the current operating reload cycle. The cycle specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.9. Plant operation within these operating limits is addressed in individual specifications.

DOSE EQUIVALENT I-131

1.11 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microCurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

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

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3;

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3;

c. Deleted.

d. By performing containment leakage rate testing in accordance with the Containment Leakage Rate Testing Program of Specification 6.8.4.g; and

e. By verifying containment structural integrity in accordance with the Containment Tendon Surveillance Program of Specification 6.8.5.c.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.6.2.3 Two independent groups of containment cooling fans shall be OPERABLE with two fan systems to each group.

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

ACTION:

a. With one group of the above required containment cooling fans inoperable and both Containment Spray Systems OPERABLE, restore the inoperable group of cooling fans to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With two groups of the above required containment cooling fans inoperable and both Containment Spray Systems OPERABLE, restore at least one group of cooling fans to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore both above required groups of cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one group of the above required containment cooling fans inoperable and one Containment Spray System inoperable, restore the inoperable Containment Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the inoperable group of containment cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each group of containment cooling fans shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1) Starting each non-operating fan group from the control room, and verifying that each fan group operates for at least 15 minutes, and

2) Verifying a cooling water flow rate of greater than or equal to 2200 gpm to each cooler group.

b. At least once per 18 months by verifying that on a Safety Injection test signal, the fans start in slow speed or, if operating, shift to slow speed and the cooling water flow rate increases to at least 4000 gpm to each cooler group.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 Each containment isolation valve shall be OPERABLE.*

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

ACTION:

With one or more of the containment isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position,** or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange or check valve with flow through the valve secured,** or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test, and verification of isolation time.

---

* Locked or sealed closed containment isolation valves may be opened on an intermittent basis under administrative control.

**For penetrations with parallel containment isolation valves, the penetration is considered isolated if the flowpath with the inoperable valve has been isolated. The penetration may still have flow through it utilizing a parallel flowpath. For the motor operated valves associated with reactor coolant pump cooling, automatic isolation valves (EGHV58, 59, 60, 61, 62) and remote manual isolation bypass valves (EGHV127, 130, 131, 132, 133), 12 hours are allowed to conduct actuator diagnostic evaluations which are required for post maintenance testing to restore a motor operated valve to an OPERABLE condition, during which time, the valve may be energized for short periods of time for the purpose of cycling.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a.# Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position,

b.# Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position, and

c. Verifying that on a Containment Purge Isolation test signal, each purge supply and exhaust isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

#The specified 18 month frequency may be waived for Cycle I provided the surveillance is performed prior to restart following the first refueling outage or June 1, 1986, whichever occurs first. The provisions of Specification 4.0.2 are reset from performance of this surveillance.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the Containment Cooling System ensures that: (1) the containment air temperature will be maintained within limits during normal operation, and (2) adequate heat removal capacity is available when operated in conjunction with the Containment Spray Systems during post-LOCA conditions.

The Containment Cooling System and the Containment Spray System are redundant to each other in providing post-accident cooling of the Containment atmosphere. As a result of this redundancy in cooling capability, the allowable out-of-service time requirements for the Containment Cooling System have been appropriately adjusted. However, the allowable out-of-service time requirements for the Containment Spray System have been maintained consistent with that assigned other inoperable ESF equipment since the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 thru 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The opening of locked or sealed-closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a dedicated individual, who is in constant communication with the control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit (or the Purge System) is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. The Hydrogen Purge Subsystem discharges directly to the Emergency Exhaust System. Operation of the Emergency Exhaust System with the heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant Accident," Revision 2, November 1978.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated June 26, 1995, as supplemented by letter dated February 2, 1996, the Union Electric Company (the licensee) submitted a request for amendment to the operating license of the Callaway Nuclear Plant. The proposed amendment would revise Technical Specification (TS) 3/4.6 by:

(a) removing TS Table 3.6-1, Containment Isolation Valves, from the TS and placing it in the Final Safety Analysis Report (FSAR) in accordance with the provisions of NRC Generic Letter GL 91-08, "Removal of Component Lists from Technical Specifications;"

(b) extending the allowed outage time from 4 to 12 hours for motor operated isolation valves associated with component cooling water flow to the reactor coolant pumps; and

(c) allowing containment penetration check valves to be used as isolation devices, consistent with NUREG-1431, "Standard Technical Specifications for Westinghouse Plants."

Other minor editorial changes would also be made to accommodate the removal of TS Table 3.6-1.

The February 2, 1996, supplemental letter provided additional clarifying information and did not change the original no significant hazards consideration determination published in the Federal Register on August 30, 1995 (60 FR 45187).

2.0 EVALUATION

Removal of Table of Containment Isolation Valves from TS

The licensee has proposed to remove the list of containment isolation valves, TS Table 3.6-1, from the TS and to relocate the list to Chapter 16 of the FSAR. To accomplish this, the following changes would be made:

- Table 3.6-1 would be removed from the TS and placed in Chapter 16 of the FSAR.

- A footnote would be added to Limiting Condition for Operation (LCO) 3.6.3 which reads "Containment isolation valves may be opened on an intermittent basis under administrative control."

- TS Definition 1.7 and Surveillance Requirement 4.6.1.1 would be revised by removing references to valves listed in Table 3.6-1, and replacing the references with "for valves that are open under administrative control as permitted by Specification 3.6.3."

- TS LCO 3.6.3 and Surveillance Requirement 4.6.3.1 would be revised by removing the references to the valves listed in Table 3.6-1 and replacing them with the phrase "Each containment isolation valve."

- The following new Action statement, e), would be added to TS 3.6.3:

- "The provisions of Specification 3.0.4 are not applicable."

- The following text would also be added to the Bases for TS 3/4.6.3:

  "The opening of locked or sealed-closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a dedicated individual, who is in constant communication with the control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment."

  This wording is consistent with that given in GL 91-08.

- TS 3/4.6.1 and 1.7, the phrase "except as provided in Table 3.6-1 of Specification TS 3.6.3..." would be replaced with "except for valves that are open under administrative control as permitted by Specification 3.6.3."

The relocation of Table 3.6-1 would not alter the existing Bases, limiting conditions for operation, surveillance requirements, or action statements of the TS associated with the containment (i.e., TS 3/4.6.1, "Containment Integrity," and TS 3/4.6.3, "Containment Isolation Valves").

Section 50.36 of Title 10 of the Code of Federal Regulations establishes the required content of the TS. The rule requires various categories of items to be included in the TS. These categories consist of: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operations; (3) surveillance requirements; (4) design features; and (5) administrative controls.

In addition, GL 91-08, dated May 6, 1991, provided guidance to licensees on the removal of component lists from plant TS and on the relocation of these lists into plant procedures which are subject to the change control provisions

specified in the TS. The relocation of component lists to plant-controlled documents allows for timely updates of the lists without the formal requirement of a TS amendment.

The relocation of Table 3.6-1 from the TS to Chapter 16 of the FSAR is editorial in nature and does not result in any physical change to the plant. In accordance with the provisions of GL 91-08, which require lists removed from the TS to be relocated to controlled documents, Table 3.6-1 will be placed in Chapter 16 of the FSAR. Changes to the FSAR are subject to the requirements of 10 CFR 50.59, which establishes a process to identify any unreviewed safety questions associated with a particular plant or procedural change.

If the licensee determines from the 50.59 process that an unreviewed safety question resulting from a change would exist, due to either (1) an increase in the probability or consequences of accidents or malfunctions of equipment important to safety, (2) the creation of a possibility for an accident or malfunction of a different type than any evaluated previously, or (3) a reduction in the margin of safety, NRC approval via license amendment would be required prior to implementation of the change.

The FSAR is updated every 18 months to reflect any changes which have been made, and the NRC inspection programs enable the staff to monitor facility changes and the licensee's adherence to FSAR commitments.

The staff therefore finds that removal of the table of containment isolation valves does not alter existing TS requirements, and that ceasing to require license amendments to change the table would not be inimical to the public health and safety.

The removal of Table 3.6-1 also necessitates other changes to the TS in order to maintain information in the TS which would otherwise be removed with the table. These changes are also being made in accordance with GL 91-08, and are discussed in the paragraphs that follow.

With respect to the changes regarding the opening of valves under administrative control, certain isolation valves are required to be opened during plant operation for the purpose of testing or maintenance. Administrative controls are necessary to ensure that the valves will be closed if it becomes necessary to isolate containment while a valve is temporarily opened. The text added to the TS simply replaces information which was previously located in TS Table 3.6-1.

The text added to the Bases for TS 3/4.6.3 is that recommended by the staff in GL 91-08, and serves to reiterate the staff's position concerning the opening of locked or sealed-closed valves. The text added to TS 3/4.6.1 and TS 1.7 which reads "except for valves that are open under administrative control as permitted by..." again simply keeps information in the TS which would otherwise be removed with TS Table 3.6-1.

With regard to the change to TS 3.0.4, this TS prohibits operational mode changes when an LCO would not be met without reliance on an action statement. However, mode changes and continued operation are allowed with an inoperable isolation valve provided that the associated penetration is isolated.

The staff concludes that the relocation of TS Table 3.6-1 to the FSAR, and the associated editorial TS changes resulting from its removal, are acceptable based on the following considerations: (1) the location of the table in the TS is not required by any of the TS categories contained in 10 CFR 50.36 or any other regulations; (2) the list of isolation valves has been relocated to the FSAR; therefore, changes to the valves are controlled by the 50.59 process; (3) changes which appear to involve an unreviewed safety question will require prior NRC approval in accordance with 10 CFR 50.59(c); and (4) the changes do not alter existing TS surveillance requirements, action statements, or LCOs.

Increase of Allowed Outage Time

The licensee has requested a change from four to 12 hours for the allowed outage time stated in Action b) of TS 3/4.6.3 for certain motor-operated containment isolation valves. To accomplish this, the following footnote would be added to TS 3.6.3, Action b):

> "For penetrations with parallel containment isolation valves, the penetration is considered isolated if the flowpath with the inoperable valve has been isolated. The penetration may still have flow through it utilizing a parallel flowpath. For the motor-operated valves associated with reactor coolant pump cooling, automatic isolation valves (EGHV58, 59, 60, 61, 62) and remote manual isolation bypass valves (EGHV127, 130, 131, 132, 133), 12 hours are allowed to conduct actuator diagnostic evaluations which are required for post maintenance testing to restore a motor-operated valve to an operable condition, during which time, the valve may be energized for short periods of time for the purpose of cycling."

The subject motor-operated valves (MOVs) isolate the component cooling water (CCW) supply and return piping to the motor air coolers, bearing coolers, and thermal barrier heat exchangers of the reactor coolant pumps (RCPs).

In its submittal, the licensee indicates that motor-operated valve analysis and test system (MOVATS) post-maintenance diagnostic testing and evaluation required to return an inoperable MOV to operable, and which necessitates energizing and cycling the valve, can routinely take up to 12 hours to complete and thus exceeds the four hours allowed by the TS. If the valve cannot be returned to an operable condition within four hours, it must be closed and the parallel remote manual bypass MOV opened to maintain CCW flow to the RCPs (note that within the context of the Callaway TS, isolating the penetration for the subject valves in accordance with the TS is interpreted as closing the inoperable valve while still maintaining flow through the penetration via a parallel path).

Allowing additional time to complete the testing would restore automatic isolation capability to the valve and would remove the necessity of securing CCW flow to the RCPs (which would involve closing primary and parallel path valves) in order to conduct the testing to return the valve to an operable condition.

Containment isolation valves are used to isolate the containment atmosphere from the outside environment in the event that a radioactive release or pressurization occurs within containment. The bases for maintaining isolation valves operable ensures that they will be capable of performing their function if necessary. The ability of the valves to securely isolate containment and to close within a specified time ensures that any radiological release to the environment under accident conditions is minimized.

The CCW system is subject to the isolation requirements of General Design Criteria (GDC) 56 of 10 CFR Part 50, and meets these requirements through the following arrangement. The ten subject isolation valves are arranged in five parallel flow pairs distributed amongst three penetrations. The supply line penetration has one pair of parallel flow valves (HV58 and HV127) outside of containment and a check valve inside containment associated with it. Each of the two penetrations for the return lines has two pairs of parallel flow valves inside and outside of containment associated with it: pairs HV60/HV130 (inside) and HV59/HV131 (outside) for one penetration, and pairs HV62/HV132 (inside) and HV61/HV133 (outside) for the other. For all of the CCW/RCP penetrations, one valve in each parallel flow pair receives a phase B isolation signal: HV58, HV60, HV59, HV62, and HV61. During normal power operation, the automatically actuated MOVs are maintained open and the manually actuated bypass MOVs are kept closed. If the normally opened valve became inoperable, it would be closed and the associated bypass valve opened in order to maintain CCW flow.

In response to staff questions, the licensee reviewed past diagnostic testing and reported in a February 2, 1996, letter that the time required to conduct diagnostic testing had averaged over 11 hours and had ranged up to 20 hours. The requested 12-hour interval includes time for actuator setup, retest, and data evaluation. Although diagnostic testing should typically not require such a long time period, the staff agrees with the licensee's goal to evaluate the test data before returning the MOV to operable status. Furthermore, the licensee's requested time interval might be needed for test setup, any necessary retesting, and evaluation of test data. Therefore, the staff does not object to the licensee's request for additional time to complete diagnostic testing and data evaluation for the subject MOVs. Although not specifically stated in the Bases section of the TS, the licensee's requested time interval includes possible time required for test setup, any necessary retesting, and evaluation of test data.

The staff also considered whether the ability to isolate containment and to maintain redundancy in isolation would be compromised by increasing the outage time. In particular, the staff examined how the ability to isolate containment while an inoperable MOV was being cycled would be affected. For the case of the return lines, there must be confidence that the inoperable

MOV, which is either remote manually (electrically) or automatically actuated, as well as the MOV in parallel with it, would be closed. For these penetrations, the open valve on the side of containment opposite the inoperable valve would be expected to cycle shut upon receipt of an isolation signal. For the case of the supply line, again it is necessary to ensure that the inoperable valve and the MOV in parallel with it would both be closed if isolation becomes necessary. For this penetration, the check valve inside containment would be expected to seat to prevent backflow through the penetration. With respect to these concerns, the licensee is expected to have operators present to close, either electrically or manually, both the inoperable MOV and its associated bypass MOV when the inoperable MOV is open during the twelve-hour time interval.

Additionally, from the licensee's February 2, 1996, letter and followup telephone conference on February 14, 1996, the licensee stated that the subject primary penetration MOVs and their parallel bypass MOVs are included in the GL 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," program at Callaway. However, the licensee has determined that bypass MOVs EGHV-127, 130, and 131 are not currently capable of closing against the predicted differential pressure and flow conditions. The licensee committed to institute the provisions of GL 91-08 for manual operation of bypass MOVs EGHV-127 and 131 which are outside containment, such as establishing written procedures, performing operator training, and making available an operator, if needed, to manually close the valves. For bypass MOV EGHV-130 which is inside containment, the licensee indicated that the provisions of the proposed footnote will not be used and the previous time limit of 4 hours remains applicable at this time. The licensee has established a goal of upgrading these three MOVs to provide motor actuator capability to operate against the predicted differential pressure and flow conditions.

Additional conservatism is added to the TS change by the provisions of the proposed footnote, which states that once diagnostic testing has commenced, the valve "may be energized for short periods of time for the purpose of cycling." This minimizes the amount of time that the inoperable valve is in the open position and reduces the likelihood that the valve will be inadvertently opened. Before the 12-hour time period allotted for testing has started, the inoperable valve will be closed and de-energized, forming a valid isolation barrier.

Based on the administrative controls and provisions of the TS change, the staff finds that isolation capability and redundancy would not be appreciably affected by changing the allowed outage time from 4 to 12 hours.

The staff considered the prudence of operating indefinitely with an inoperable automatic valve in the closed position as opposed to expediently repairing the valve, and concludes that restoring automatic isolation capability by returning the valve to an operable condition is preferable because automatic isolation capability provides the most confidence that under accident conditions the penetration would be isolated.

The implications of securing CCW flow to the RCPs, a scenario which could arise if an inoperable valve were not returned to operability within four hours, or if the licensee opted initially to take CCW/RCP flow out of service to repair the valve, were also examined. Since CCW flow is essential for RCP motor and bearing cooling, and also serves as part of the backup seal cooling system, RCP operation without CCW would result in damage to the pump, and in actuality would require shutdown of the pump and possibly the plant. Therefore, maintaining CCW flow to the pumps while repairing the inoperable valve is a more conservative course of action than entering into the plant evolutions (RCP shutdown, plant shutdown) which would occur as a result of securing CCW flow.

Therefore, on the bases that (1) the proposed footnote will not compromise the ability to isolate containment and will not compromise redundancy in the isolation system; and (2) it is preferable to restore automatic isolation capability and to maintain CCW flow to the RCPs, the staff finds the proposal to change the allowed outage time from 4 to 12 hours acceptable for MOVs EGHV58, 59, 60, 61, 62, 127, 130, 131, 132, and 133, subject to the provisions of the footnote. It should be understood however, that prior to opening the remote manual bypass valves, the valves should be either operable (i.e. capable of being closed from the control room under accident conditions) or administrative controls should be in place locally, at the valve, to ensure valve closure in the event of a containment isolation condition.

Use of Check Valves as Isolation Devices

The licensee has requested a change to TS 3.6.3 which would allow check valves to be used as isolation devices. To accomplish this, the following change would be made:

> TS 3.6.3 Action c) would have the phrase "or check valve with flow through the valve secured" added to it.

This change is consistent NUREG-1431, "Standard Technical Specifications for Westinghouse Plants," which allows check valves with flow through the valve secured to be used as isolation devices.

GDC 55, 56, and 57 state that simple check valves may not be used as the automatic isolation valves outside of containment. However, the provision that flow through the valve be secured, and the availability of other non-check type valves in some lines to provide isolation, provide assurance that flow will not occur through the check valve and that backup isolation capability exists. Considerations of this type led to the acceptance of check valves as valid isolation devices in the Standard Technical Specifications.

The check valves at Callaway are also included in the licensee's Inservice Testing (IST) program, and as such are subject to full flow testing and Appendix J Type C leak rate testing. These testing requirements provide confidence that the valves will perform reliably.

On the bases that (1) the change is consistent with NRC Standard Technical Specifications for Westinghouse plants; (2) the provisions of the change place the respective system in a secure state (i.e. flow secured); and (3) the check valves are capable of functioning as isolation devices, the proposed change to use check valves with flow through the valves secured as isolation devices is acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 45187). 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.

5.0 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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