

July 27, 1990

Docket No. 50-483

Mr. Donald F. Schnell
Senior Vice President - Nuclear
Union Electric Company
Post Office Box 149
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Dear Mr. Schnell:

SUBJECT: AMENDMENT NO. 55 TO FACILITY OPERATING LICENSE NO. NPF-30
(TAC NO. 76434)

The Commission has issued the enclosed Amendment No. 55 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit 1. This amendment revises the Technical Specifications in response to your application dated March 6, 1990.

The amendment modifies the Limiting Conditions for Operation to address flowpath requirements of the motor-driven and steam turbine-driven auxiliary feedwater pumps. Additionally, it provides further requirements to the ACTION Statements if any of the Essential Service Water (ESW) system valves to the steam turbine-driven auxiliary feedwater pump are inoperable or if one ESW loop is inoperable.

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, *151* **original signed by**
Anthony T. Gody, Jr., Project Manager
Project Directorate III-3
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

- Amendment No. 55 to License No. NPF-30
- Safety Evaluation

cc w/enclosures:
See next page

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Union Electric Company

Callaway Plant
Unit No. 1

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

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. STN 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 55
License No. NPF-30

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Union Electric Company (UE, the licensee) dated March 6, 1990 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, 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:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 55, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the license. UE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective immediately to be implemented no later than 30 days from the date of its issuance. The licensee will immediately inform the Commission, in writing, of the implementation date.

FOR THE NUCLEAR REGULATORY COMMISSION

For Robert B. Hannon

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: July 27, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 55

OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Corresponding overleaf pages are provided to maintain document completeness.

REMOVE

3/4 7-4

INSERT

3/4 7-4
3/4 7-4a

TABLE 3.7-2

STEAM LINE SAFETY VALVES PER LOOP

<u>VALVE NUMBER</u>				<u>LIFT SETTING* (+1%)</u>	<u>ORIFICE SIZE</u>
<u>Loop 1</u>	<u>Loop 2</u>	<u>Loop 3</u>	<u>Loop 4</u>		
V055	V065	V075	V045	1185 psig	16.0 sq. in.
V056	V066	V076	V046	1197 psig	16.0 sq. in.
V057	V067	V077	V047	1210 psig	16.0 sq. in.
V058	V068	V078	V048	1222 psig	16.0 sq. in.
V059	V069	V079	V049	1234 psig	16.0 sq. in.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One steam turbine-driven auxiliary feedwater pump capable of being powered from both steam supply system loops, and
- c. Associated flowpaths for each motor-driven auxiliary feedwater pump consisting of suction from the Condensate Storage Tank capable of automatically transferring to an OPERABLE Essential Service Water Supply and discharge to two steam generators, and
- d. Associated flowpaths for the turbine-driven auxiliary feedwater pump consisting of suction from the Condensate Storage Tank capable of automatically transferring to two separate OPERABLE Essential Service Water supplies and discharging to four steam generators.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With any part of the associated flowpath for a motor-driven auxiliary feedwater pump inoperable*, the associated pump shall be declared inoperable and ACTIONS a., e., or f. satisfied as applicable.
- c. With one of the Essential Service Water flowpaths to the turbine-driven auxiliary feedwater pump inoperable*, restore the required supply flowpaths to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With the associated flowpaths for the turbine-driven auxiliary feedwater pump inoperable, other than as described in ACTION c., the turbine-driven auxiliary feedwater pump shall be declared inoperable and ACTIONS a., e., or f. satisfied as applicable.

*One train of Essential Service Water inoperable will result in entering ACTION statements b. and c. concurrently.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

ACTION: Continued

- e. With two auxiliary feedwater pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by:
 - 1) Verifying that each motor-driven pump develops a discharge pressure of greater than or equal to 1535 psig on recirculation flow when tested pursuant to Specification 4.0.5;
 - 2) Verifying that the steam turbine-driven pump develops a discharge pressure of greater than or equal to 1625 psig at a flow of greater than or equal to 120 gpm when the secondary steam supply pressure is greater than 900 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3;



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 55 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY
CALLAWAY PLANT, UNIT 1
DOCKET NO. STN 50-483

1.0 INTRODUCTION

By letter dated March 6, 1990 (Ref. 1) the Union Electric Company (the licensee) proposed changes to the Technical Specifications (TSs) for the Callaway Plant. The proposed changes would add additional conditions to the Limiting Conditions for Operation (LCOs) to address flowpath requirements of the motor-driven and steam turbine-driven auxiliary feedwater (AFW) pumps. Additionally, the proposed TS would provide further ACTION Statements to address situations where an Essential Service Water (ESW) system valve to the steam turbine-driven AFW pump became inoperable or if one ESW loop is inoperable.

2.0 DISCUSSION

The licensee's proposed revision to the TSs would add additional conditions to the LCOs for the AFW pump flowpaths and steam turbine-driven AFW pump supply. Specifically, the proposal would ensure that an adequate steam supply for the steam turbine-driven AFW pump is available from both loops and that the associated flowpaths for all the AFW pumps are capable of performing their intended functions. The amendment aims to provide a more complete definition of system operability and should contribute to increased clarity and consistency in the TSs for operation of the Callaway Plant.

The licensee's proposed amendment also modifies the ACTION Statements to provide direction in the event a selected ESW supply valve to the steam turbine-driven AFW pump or an ESW loop becomes inoperable. Additionally, the proposed ACTION Statements b. and c. provide clear guidance on AFW pump operability from flowpath component inoperable conditions.

3.0 EVALUATION

Specification 3.7.1.2 addresses the requirement of having three independent steam generator AFW pumps and associated flowpaths operable with the plant in modes 1, 2 and 3. Individual changes to the TSs for the Callaway Plant are discussed below:

- (1) Specification 3.7.1.2b. addressing the steam supply requirements for the steam turbine-driven AFW pump has been modified to clearly indicate that both steam supply systems need to be available to ensure system operability.

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(2) Specification 3.7.1.2c. has been added to clarify the operability requirements and definition of the associated flowpaths for the motor-driven AFW pumps. Specifically, the associated flowpath consists of a suction from the Condensate Storage Tank (CST) capable of automatically transferring to an OPERABLE ESW supply and discharge to two steam generators.

(3) Specification 3.7.1.2d. has been added to provide clarification of the operability requirements of the associated flowpaths for the steam turbine-driven AFW pump. The associated flowpath consists of a suction from the CST capable of automatically transferring to two separate OPERABLE ESW supplies and discharging to all four steam generators.

The proposed changes above are consistent with the current interpretation of the Callaway TSs and are for clarification only. Since the intent of the original TSs is not changed and the proposed improvements merely provide a more concise definition for the LCOs in Specification 3.7.1.2 the staff concludes that these changes are acceptable.

Additionally, changes to the ACTION Statements for TS 3.7.1.2 are proposed. ACTION Statements b., c. and d. are added as follows:

(1) ACTION Statement b., "With any part of the associated flowpath for a motor-driven auxiliary feedwater pump inoperable*, the associated pump shall be declared inoperable and ACTIONS a., e., or f. satisfied as applicable." is added providing a more concise definition of when a motor-driven AFW becomes inoperable and the followup actions required. ACTION Statement b. combined with the definition of "associated flowpath" in TS 3.7.1.2.c. provides clarity for entering the original TS ACTION Statements.

(2) ACTION Statement c., "With one of the Essential Service Water flowpaths to the turbine-driven auxiliary feedwater pump inoperable*, restore the required supply flowpaths to OPERABLE status within 72 hours or be in at least HOT STANDBY within the following 6 hours" originates within the Callaway seismic design commitment to Regulatory Guide 1.29 in Final Safety Analysis Report (FSAR) Table 3.2-3, stating that all plant components need to be capable of coping with a secondary pipe break inside containment. The Callaway Plant Condensate Storage Tank (CST) is not a seismically Category I qualified component and therefore could not be assumed to mitigate a postulated pipe break during a design basis seismic event. If the CST was assumed to be unavailable following a seismic event, both ESW trains would need to be operable to satisfy the single failure criterion, thus the proposed ACTION Statement above. The Callaway design basis (FSAR Section 10.4.9.3) does not postulate breaks in Category I piping (e.g., secondary side pipe breaks inside containment) during a seismic event.

The result is the licensee's non-mechanistic characterization of the CST unavailability during the design basis seismic scenario. The licensee asserts in its safety evaluation that a postulated single ESW valve inoperability would not cause the steam turbine-driven AFW to become inoperable. This interpretation is consistent with the licensing basis of the Callaway Plant and is acceptable in light of the proposed ACTION Statement requiring operability within the 72-hour window. This change would allow a distinction between AFW pump inoperability and AFW flowpath inoperability, both of which have the same action statement. The actual change in the TSs occurs when an ESW loop is taken out of service and the Callaway plant enters TS 3.8.1.1. ACTION Statement d. concerning diesel generator operability. The current TSs are subject to interpretation, one of which forces the Callaway plant into the 2-hour ACTION Statement 3.8.1.1.d.2.

(3) Action Statement d. "With the associated flowpaths for the turbine-driven auxiliary feedwater pump inoperable, other than as described in ACTION c., the turbine-driven auxiliary feedwater pump shall be declared inoperable, and ACTIONS a., e., or f. satisfied as applicable" is added to make clear that loss of the CST rather than an ESW flow path to the Turbine-driven auxiliary feedwater pump requires declaring the turbine-driven auxiliary feedwater pump inoperable and taking the appropriate action for an inoperable auxiliary feedwater pump.

The staff has reviewed the above proposed change to the TS and concludes that the original intent of the TS has been maintained and that the changes proposed would serve to clarify the TSs. Therefore, the staff finds that the proposed TS changes are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 or a change to a surveillance requirement. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

5.0 CONCLUSION

The staff 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; and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. T. Gody, Jr.

Dated: July 27, 1990