

December 9, 1993

Docket No. 50-483

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

DISTRIBUTION

Docket File	GHill(2)
NRC & Local PDRs	GBagchi
PD3-3 Reading	CGrimes
JRoe	ACRS(10)
JZwolinski	OPA
JHannon	OC/LFDCB
LRWharton	OGC
EGreenman, RIII	DHagan
MRushbrook	ETomlinson (11E22)

Dear Mr. Schnell:

SUBJECT: AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. NPF-30
(TAC NO. M84887)

The Commission has issued the enclosed Amendment No. 85 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 November 3, 1992, as clarified by letter dated December 1, 1992.

The amendment revises Technical Specification 3.3.2 and 3/4.8.1 to add Mode 5 and 6 applicability for OPERABILITY of the load sequencer and supplying 4 KV Bus undervoltage circuits.

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
L. Raynard Wharton

L. Raynard Wharton, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 85 to License No. NPF-30
2. Safety Evaluation

cc w/enclosures:
See next page

LA: PDIII-3
MRushbrook

11/16/93

PM: PDIII-3
LRWharton:sw

11/22/93

D: PDIII-3
JHannon

11/23/93

OGC-OWF

11/24/93

DOCUMENT NAME: g:\callaway\CAL84887.AMD

160030

9312200078 931209
PDR ADDCK 05000483
PDR

NRC FILE CENTER COPY

FOI
11



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 9, 1993

Docket No. 50-483

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

Dear Mr. Schnell:

SUBJECT: AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. NPF-30
(TAC NO. M84887)

The Commission has issued the enclosed Amendment No. 85 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 November 3, 1992, as clarified by letter dated December 1, 1992.

The amendment revises Technical Specification 3.3.2 and 3/4.8.1 to add Mode 5 and 6 applicability for OPERABILITY of the load sequencer and supplying 4 KV Bus undervoltage circuits.

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,

A handwritten signature in cursive script that reads "L. Raynard Wharton".

L. Raynard Wharton, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 85 to License No. NPF-30
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. D. F. SchnellPlant
Union Electric Company

Callaway
Unit No. 1

cc:

Cermark Fletcher Associates
18225 Flower Hill Way #A
Gaithersburg, Maryland 20879-5334

Mr. Dan I. Bolef, President
Kay Drey, Representative
Board of Directors Coalition
for the Environment
6267 Delmar Bopulevard
University City, Missouri 65130

Mr. S. E. Sampson
Supervising Engineer,
Site Licensing
Union Electric Company
Post Office Box 620
Fulton, Missouri 65251

U.S. Nuclear Regulatory Commission
Resident Inspectors Office
RR #1
Steedman, Missouri 65077

Mr. Alan C. Passwater, Manager
Licensing and Fuels
Union Electric Company
Post Office Box 360
Jefferson City, Missouri 65102

Regional Administrator
U.S. NRC, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. Ronald A. Kucera, Deputy
Director
Department of Natural Resources
P. O. Box 176
Jefferson City, Missouri 65102

Mr. Bart D. Withers
President and Chief
Executive Officer
Wolf Creek Nuclear Operating
Corporation
P. O. Box 411
Burlington, Kansas 66839



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

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 85
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 November 3, 1992, and clarified December 1, 1992, 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:

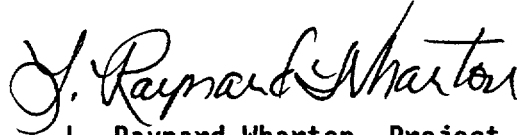
9312200082 931209
PDR ADOCK 05000483
P PDR

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 85, 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 as of its date of issuance. The Technical Specifications are to be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



L. Raynard Wharton, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: December 9, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 85

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 contains marginal lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE

3/4 3-19

3/4 3-20

3/4 3-21

3/4 3-27

3/4 3-36(a)

3/4 3-37

3/4 8-8

INSERT

3/4 3-19

3/4 3-20

3/4 3-20a

3/4 3-21

3/4 3-27

3/4 3-36(a)

3/4 3-37

3/4 8-8

TABLE 3.3-3 (CONTINUED)ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
8. Loss of Power					
a. 4 kV Bus Undervoltage -Loss of Voltage	4/Bus	2/Bus	3/Bus	1, 2, 3, 4, 5++, 6++	19*
b. 4 Kv Bus Undervoltage -Grid Degraded Voltage	4/Bus	2/Bus	3/Bus	1, 2, 3, 4, 5++, 6++	19*
9. Control Room Isolation					
a. Manual Initiation	2	1	2	All	26****
b. Automatic Actuation Logic and Actuation Relays (SSPS)	2	1	2	1, 2, 3, 4	26
c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	2	1	2	All	26****
d. Phase "A" Isolation	See Item 3.a above for all Phase "A" Isolation initiating functions and requirements.				
10. Load Shedder Emergency Load Sequencer	2-1/Train	1/Train	2-1/Train	1, 2, 3, 4, 5+, 6+	25
11. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	20
b. Reactor Trip, P-4	4-2/Train	2/Train	2/Train	1, 2, 3	22

TABLE 3.3-3 (Continued)

TABLE NOTATION

- # Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.
- ## Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam line pressure is not blocked.
- ### Trip function may be blocked just before shutdown of the last operating main feedwater pump and restored just after the first main feedwater pump is put into service (following its startup trip test).

- * The provisions of Specification 3.0.4 are not applicable.
- ** One in Separation Group 1 and one in Separation Group 4.
- *** The de-energization of one train of BOP ESFAS actuation logic and actuation relays renders two of the four channels inoperable. Action Statement 21 applies to both Functional Units 6.c and 6.g in this case.
- **** The provisions of Specification 3.0.4 are not applicable in Modes 5 and 6.

- + Only the shutdown portion of one sequencer is required to be OPERABLE in Modes 5 and 6 which corresponds to the OPERABLE Emergency Diesel Generator.

- + + Operability is only required for associated OPERABLE bus in Modes 5 and 6.

ACTION STATEMENTS

- ACTION 14 - With the number of OPERABLE channels on less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

- ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANANLOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

- ACTION 16 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypass condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1

- ACTION 17 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.

TABLE 3.3-3 (continued)
ACTION STATEMENTS (continued)

- ACTION 18 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 19 -** With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour, and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.
- ACTION 20 -** With less than the Minimum Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 21 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.
- ACTION 22 -** With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 23 -** With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.
- ACTION 24 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected auxiliary feedwater pump inoperable and take the ACTION required by Specification 3.7.1.2.

TABLE 3.3-3 (continued)
ACTION STATEMENTS (continued)

- ACTION 25 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected diesel generator and off-site power source inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2.
- ACTION 26 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or initiate and maintain operation of the Control Room Emergency Ventilation System.
- ACTION 27 -** With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

(NOTE: ACTION STATEMENTS 28 THROUGH 31 ARE LOCATED ON OTHER TABLES.)

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

ACTION 32 - With the number of OPERABLE channels one less than the Total Number of Channels, except for testing, STARTUP and/or POWER OPERATION may proceed for up to 72 hours provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within 6 hours, and
- b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.

Restore the inoperable channel 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.

With the number of OPERABLE channels one less than the Total Number of Channels due to testing of a channel, that channel may be tripped for up to 4 hours for surveillance testing per Specification 4.3.2.1.

ACTION 33 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within 6 hours, and
- b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 34 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 35 - With an inoperable delay timer in the Trip Time Delay circuitry, STARTUP and/or POWER OPERATION may proceed provided that the Vessel ΔT (Power-1, Power-2) channels in the affected protection sets are placed in the tripped condition within 6 hours.

CALLAWAY - UNIT 1

3/4 3-27

Amendment No. 74, 85

TABLE 3.3-4 (CONTINUED)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
8. Loss of Power (Continued)					
b. 4 kV Undervoltage - Grid Degraded Voltage	N.A.	N.A.	N.A.	104.5V (120V Bus) w/119s delay	104.5+2.6, -OV (120V Bus) w/119±11.6s delay
9. Control Room Isolation					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	N.A.
c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	N.A.	N.A.	N.A.	N.A.	N.A.
d. Phase "A" Isolation	See Item 3.a. above for all Phase "A" Isolation Trip Setpoints and Allowable Values.				
10. Load Shedder Emergency Load Sequencer	N.A.	N.A.	N.A.	N.A.	N.A.
11. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	N.A.	N.A.	N.A.	≤ 1970 psig	≤ 1981 psig
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	N.A.	N.A.

TABLE 3.3-4 (Continued)

TABLE NOTATIONS

*Time constants utilized in the lead-lag controller for Steam Pressure-Low are $\tau_1 \geq 50$ seconds and $\tau_2 \leq 5$ seconds. CHANNEL CALIBRATION shall ensure that these time constants are adjusted to these values.

**The time constant utilized in the rate-lag controller for Steam Line Pressure-Negative Rate-High is greater than or equal to 50 seconds. CHANNEL CALIBRATION shall ensure that this time constant is adjusted to this value.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
6. Auxiliary Feedwater (Continued)								
f. Loss-of-Offsite Power	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3
g. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
h. Auxiliary Feedwater Pump Suction Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
7. Automatic Switchover to Containment Sump								
a. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
b. RWST Level - Low-Low Coincident With Safety Injection	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
	See Item 1 above for all Safety Injection Surveillance Requirements.							
8. Loss of Power								
a. 4 kV Undervoltage-Loss of Voltage	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++
b. 4 kV Undervoltage-Grid Degraded Voltage	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
9. Control Room Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	A11
b. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	A11
d. Phase "A" Isolation	See Item 3.a. above for all Phase "A" Isolation Surveillance Requirements.							
10. Load Shedder Emergency Load Sequencer	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	1, 2, 3, 4, 5+, 6+
11. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3

TABLE NOTATIONS

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) Continuity check may be excluded from the ACTUATION LOGIC TEST.
- (3) Except Relays K602, K620, K622, K624, K630, K740, and K741, which shall be tested at least once per 18 months during refueling and during each COLD SHUTDOWN exceeding 24 hours unless they have been tested within the previous 90 days.
- # The specified 18 month frequency may be waived for Cycle 1 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.
- + Only the shutdown portion of one sequencer is required to be OPERABLE in Modes 5 and 6 which corresponds to the OPERABLE Emergency Diesel Generator.
- ++ Operability is only required for associated OPERABLE bus in Modes 5 and 6.

CALLAWAY - UNIT 1

3/4 3-37

Amendment No. 8, 8A, 85

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING FOR PLANT OPERATIONS

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels for plant operations shown in Table 3.3-6 shall be OPERABLE with their Alarm/Trip Setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel Alarm/Trip Setpoint for plant operations exceeding the value shown in Table 3.3-6, adjust the Setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels for plant operations inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel for plant operations shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST for the MODES and at the frequencies shown in Table 4.3-3.

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE #

<u>NUMBER OF FAILURES IN LAST 20 VALID TESTS*</u>	<u>or</u>	<u>NUMBER OF FAILURES IN LAST 100 VALID TESTS*</u>	<u>TEST FREQUENCY</u>
<u>≤ 1</u>		<u>≤ 4</u>	At least once per 31 days
<u>≥ 2**</u>		<u>≥ 5</u>	At least once per 7 days

#The most limiting test frequency should be applied from the two columns of this table.

*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, but determined on a per diesel generator basis.

For the purposes of determining the required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new conditions is completed, provided that the overhaul, including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer, and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with Specification 4.8.1.1.2a.4) and 4.8.1.1.2a.5); four tests in accordance with Specification 4.8.1.1.2i. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

**The associated test frequency shall be maintained until seven consecutive failure free tests have been performed and the number of failures in the last 20 valid tests has been reduced to one.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
 - 1) A day tank containing a minimum volume of 390 gallons of fuel,
 - 2) A fuel storage system containing a minimum volume of 85,300 gallons of fuel, and
 - 3) A fuel transfer pump.

APPLICABILITY: Modes 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over the spent fuel pool. In addition, when in Mode 5 with the reactor coolant loops not filled, or in Mode 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specifications 4.8.1.1.2a.5), and 4.8.1.1.2f.5), 6), 10) and 12) for the LOCA sequencer portion of LSELS only), and 4.8.1.1.3.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By application for license amendment dated November 3, 1992, and clarifying information dated December 1, 1992, Union Electric Company (the licensee), requested changes to Technical Specifications (TS) 3.3.2 and 3/4.8.1 for the Callaway Plant, Unit 1. The licensee's amendment request adds Mode 5 and 6 applicability for OPERABILITY of the load sequencer and supplying 4KV Bus undervoltage circuits. The requested changes are intended to correct an inconsistency in TS which could lead to a TS compliance problem.

2.0 EVALUATION

TS Surveillance Requirement (SR) 4.8.1.2 states that the emergency diesel generators (EDG) shall be demonstrated OPERABLE, in Modes 5 and 6, by performing SR 4.8.1.1.2.f. Performance of this SR involves use of the shutdown/LOCA load sequencers which, as a minimum, implies that the load sequencers are OPERABLE. However, other parts of the Callaway TS which deal specifically with load sequencers do not include a requirement that they be Operable in Modes 5 and 6. In accordance with Callaway TS, surveillances are not required for systems or components that are not required to be OPERABLE. With the load sequencer inoperable (or not required to be OPERABLE), SR 4.8.1.1.2.f can not be performed, thereby creating an inconsistency and potential compliance problem.

To eliminate this problem, the licensee proposes to revise TS 3/4.3.2 by adding Mode 5 and 6 OPERABILITY applicability for load sequencer and supplying 4KV undervoltage circuits to Functional Units 8 and 10 of Tables 3.3-1 and 4.3-2. With these additional Mode requirements, the inconsistency is eliminated and SR 4.8.1.1.2.f can be performed in Modes 5 and 6. The staff finds this acceptable.

The proposed changes to Tables 3.3-3 and 4.3-2 are modified by Table Notations which clarify the OPERABILITY requirements to only require the shutdown portion of one load sequencer associated with the OPERABLE EDG and only the 4KV undervoltage circuit of the associated OPERABLE bus to be OPERABLE in Modes 5 and 6. The LOCA function of the load sequencer need not be OPERABLE in Modes 5 and 6 because a LOCA is not a postulated event in Modes 5 and 6. Therefore, it is reasonable that only the non-LOCA, or shutdown portion of any sequencer need be OPERABLE. Further, since not all EDGs are required to be

9312200085 931209
PDR ADOCK 05000483
P PDR

OPERABLE in Modes 5 and 6, it is also reasonable that only the sequencer associated with the OPERABLE EDG need be OPERABLE. This rationale also extends to the undervoltage circuits because they provide a support function to the load sequencer. The staff finds these proposed table notations to be acceptable on the basis that they are consistent with the staff interpretation of the Callaway TS and with the TS shutdown requirements.

The licensee also proposes to change Action statement 25 of Table 3.3-3 to include Specification 3.8.1.2. With this change, inoperability of a required load sequencer in Modes 5 and 6 will cause the Actions required by Specification 3.8.1.2 to be invoked. This proposed change is both consistent with and a logical extension of the changes discussed above. Therefore, the staff finds it acceptable.

The licensee proposes to revise SR 4.8.1.2 (which references SR 4.8.1.1.2.f) to exempt the LOCA portion of the sequencer from the SR when it is performed in Modes 5 and 6. This is also a logical extension of the new Table Notations discussed earlier in this evaluation and to be acceptable for the same reasons the new Table Notations are acceptable. However, this change has a potential for misinterpretation, and a note of caution is justified. While the LOCA portion of the load sequencer associated with the OPERABLE EDG is not required to be OPERABLE in Modes 5 and 6, the OPERABILITY of the LOCA portion of the load sequencer, in addition to all other load sequencer functions, must be demonstrated as specified in SR 4.8.1.1.2 in order to meet the requirements of LCO 3.8.1.1 (i.e., every 18 months during shutdown) for normal plant operation. The staff will address the above concern as well as the generic issue of surveillance requirements for AC sources during shutdown as part of the development of Technical Specifications for Shutdown and Low Power Operation.

Finally, the licensee proposes to change the terminology "Solid State Load Sequencer" to "Load Shedder Emergency Load Sequencer" in Tables 3.3-3, 3.3-4, and 4.3-2. The staff considers this to be an editorial correction with no TS impact. It is, therefore, acceptable.

The licensee has proposed to add surveillance requirements during plant shutdown conditions (modes 5 and 6) for the load sequencers associated with the emergency diesel generator power sources. Although these load sequencers are not specifically relied on to perform safety functions in these plant modes, they are part of the emergency power system which may be needed to mitigate transients or accidents in these modes. The added surveillances will preclude any question regarding the capability of the emergency power system to perform its safety function. On this basis, the staff concludes that the proposed changes to the technical specification requirements are 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 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 (58 FR 600). 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: E. B. Tomlinson

Date: December 9, 1993