December 20, 1995

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

SUBJECT: CALLAWAY PLANT, UNIT NO. 1 - AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NO. NPF-30 (TAC NO. M92160)

Dear Mr. Schnell:

The Commission has issued the enclosed Amendment No. 106 to Facility Operating License No. NPF-30 for the Callaway Plant, Unit No. 1. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated April 26, 1995.

The amendment revises TS 3/4.7.6 to reduce the upper limit on the flow rate through the control room filtration subsystem and adopts ASTM D-3803-1989 as the laboratory testing standard for control room filtration and control building pressurization charcoal adsorber. The amendment also revises the Bases for TS 3/4.7.6 to reflect the changes.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly <u>Federal</u> <u>Register</u> 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. 106 to NPF-30 2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES

WASHINGTON, D.C. 20555-0001

December 20, 1995

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

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Mr. D. F. Schnell

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Manager - Electric Department Missouri Public Service Commission 301 W. High Post Office Box 360 Jefferson City, Missouri 65102

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Mr. Dan I. Bolef, President
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Mr. Lee Fritz Presiding Commissioner Callaway County Court House 10 East Fifth Street Fulton, Missouri 65151

Mr. Alan C. Passwater, Manager Licensing and Fuels Union Electric Company Post Office Box 149 St. Louis, Missouri 63166

Mr. J. V. Laux, Manager Quality Assurance Union Electric Company Post Office Box 620 Fulton, Missouri 65251

December 20, 1995

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT NO. 1

DOCKET NO. 50-483

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 106 License No. NPF-30

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Callaway Plant, Unit 1 (the facility) Facility Operating License No. NPF-30 filed by the Union Electric Company (the licensee), dated April 26, 1995, 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, as amended, 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 license 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. <u>Technical Specifications</u>

The Technical Specifications contained in Appendix A, as revised through Amendment No. 106, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. UE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license 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

Knotine 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: December 20, 1995

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ATTACHMENT TO LICENSE AMENDMENT NO. 106

FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT	
3/4 7-15 3/4 7-16	3/4 7-15 3/4 7-16	
B 3/4 7-4	B 3/4 7-4	

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months, or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 - 1) Verifying that the Control Room Emergency Ventilation System satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2000 cfm $\frac{+200}{-200}$ for the Filtration System and 2200 cfm + 800 - 400 for the Pressurization System with 500 cfm $\frac{+500}{-50}$ going through the Pressurization System filter adsorber unit;
 - 2) Verifying within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM D-3803-1989 when tested at 30°C and 70% relative humidity for a methyl iodide penetration of less than 2%; and
 - 3) Verifying a system flow rate of 2000 cfm $\frac{+200}{-200}$ for the Filtration System and 2200 cfm $\frac{+800}{-400}$ for the Pressurization System with 500 cfm $\frac{+500}{-50}$ going through the Pressurization System filter adsorber unit during system operation when tested in accordance with ANSI N510-1975.
- d. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM D-3803-1989 when tested at 30°C and 70% relative humidity for a methyl iodide penetration of less than 2%;
- e. At least once per 18 months by:
 - 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 5.4 inches Water Gauge while operating the system at a flow rate of 2000 cfm + 200 200 for the Filtration System and 500 cfm + 500 50 for the Pressurization System filter adsorber unit;

CALLAWAY - UNIT 1

Amendment No. 47,106

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PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying that on a Control Room Ventilation Isolation or High Gaseous Radioactivity test signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks;
- 3) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge relative to the outside atmosphere during system operation; and
- 4) Verifying that the Pressurization System filter adsorber unit heaters dissipate 15 ± 2 kW in the Pressurization System when tested in accordance with ANSI N510-1975.
- f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing criteria of less than 1% in accordance with ANSI N510-1975 for a DOP test aerosol while operating the

system at a flow rate of 2000 cfm $^+$ 200 for the Filtration System and 500 cfm $^+$ 500 for the Pressurization System filter adsorber unit; and

g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing criteria of less than 1% in accordance with ANSI N510-1975 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of

2000 cfm $\frac{+200}{-200}$ for the Filtration System and 500 cfm $\frac{+500}{-50}$ for the Pressurization System filter adsorber unit.

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PLANT SYSTEMS

BASES

ULTIMATE HEAT SINK (Continued)

The limitations on minimum water level and maximum temperature are based on providing a 30-day cooling water supply to safety-related equipment without exceeding its design basis temperature and are consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants," March 1974.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

The OPERABILITY of the Control Room Emergency Ventilation System ensures (1) the ambient air temperature does not exceed the allowable that: temperature for continuous-duty rating for the equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during and following all credible accident conditions. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the charcoal adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with Control Room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rems or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50. ANSI N510-1975 will be used as a procedural guide for in-place surveillance testing. ASTM D-3803-1989 will be used as a procedural guide for the laboratory testing of carbon samples.

3/4.7.7 EMERGENCY EXHAUST SYSTEM

The OPERABILITY of the Emergency Exhaust System assures that radioactive materials leaking from the ECCS equipment within the pump room following a LOCA are filtered prior to reaching the environment. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the charcoal adsorbers and HEPA filters. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the safety analyses. ANSI N510-1975 will be used as a procedural guide for surveillance testing.



WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT NO. 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated April 26, 1995, Union Electric Company (the licensee) submitted a request for changes to the Callaway Plant, Unit 1 Technical Specifications (TS). The requested amendment would modify TS 3/4.7.6 to reduce the upper limit on the flow rate through the control room filtration subsystem and would adopt American Society for Testing and Materials (ASTM) D-3803-1989 as the laboratory testing standard for control room filtration and control building pressurization charcoal adsorber. The amendment would also revise the Bases for TS 3/4.7.6 to reflect the changes.

2.0 BACKGROUND

By letter dated August 4, 1994, the licensee submitted an amendment application to replace the containment spray additive system with a passive recirculation fluid pH control system consisting of trisodium phosphate dodecahydrate (TSP-C) inside stainless steel baskets in the containment recirculation sumps. In letters dated March 14, 1995, and March 28, 1995, the licensee submitted supplementary information to support the issuance of the amendment (Amendment No. 96, dated March 30, 1995). However, the amendment was issued with a commitment from the licensee to pursue a TS change to reduce the upper limit on the flow rate through the control room filtration subsystem and adopt ASTM D-3803-1989 as the laboratory testing standard for control room filtration and control building pressurization charcoal adsorber. By letter dated April 26, 1995, the licensee proposed the TS changes to satisfy the commitment.

3.0 EVALUATION

As indicated above, Amendment No. 96 approved the retirement of the containment spray additive system. One of the key accident analysis assumptions approved in the amendment was a change in the filter decontamination efficiency from 90 percent to 95 percent for the calculation of doses to the control room personnel. Staff approval of this change was contingent on (1) the assurance of a 0.25-second average atmosphere residence time in the control room filtration and control building pressurization filter adsorber units, per Position C.3.i of Regulatory Guide (RG) 1.52, "Design,

7512280307 751220 PDR ADUCK 05000483 P PDR PDR Testing, and Maintenance Criteria for Postaccident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants," and (2) a change in the testing protocol for the charcoal adsorber samples to reflect testing per ASTM D-3803-1989 at 30 degrees C and 70 percent relative humidity (RH) for a methyl iodide penetration not to exceed 2 percent.

In the amendment application dated April 26, 1995, the licensee submitted the changes to TS 3/4.7.6 to reduce the upper limit on the flow rate through the control room filtration subsystem and adopt ASTM D-3803-1989 as the laboratory testing standard for control room filtration and control building pressurization charcoal adsorber. In addition, the proposed amendment revised the Bases for TS 3/4.7.6 to reflect the changes. The staff has concluded that the proposed amendment incorporates the required modifications as established in the safety evaluation for Amendment No. 96, dated March 30, 1995, and is therefore acceptable.

In the staff's SE to Amendment 96, it was stated that the licensee's existing TSs had an allowable flow rate for the control room pressurization system of 500 cfm +500/-50 cfm. The SE also stated that the licensee claimed that the control room pressurization system capacity was 1,000 cfm. In the SE the staff did not disagree with the licensee's claim. For this assessment the staff's position has not changed. However, in the review of the proposed change associated with this amendment request the staff has noted that the existing TS 3/4.7.6 has several surveillance requirements where the flow rates are stated as 2,200 cfm +800/-400 for the pressurization system with 500 cfm +500/-50 through the pressurization system filter adsorber unit. Such information seems to be conflicting. Based upon discussions with the licensee, it was determined that the pressurization flow rate of 2,200 cfm +800/-200 is only associated with the flow through a pressurization fan and includes some recirculation flow that has not passed through the filter adsorber unit. This flow rate of 2,200 cfm has no bearing on the staff's accident analyses for the control room operator doses. The only number of concern to the staff for the pressurization systems is the 450-1,000 cfm passing through the pressurization system filter adsorber unit. However, in the opinion of the staff, the inclusion in the TSs of the 2,200 cfm value only obfuscates the TS. Therefore, the staff recommended to the licensee that they remove from the TSs the pressurization system flow rates associated with the 2,200 cfm since its value has no safety significance with respect to the CREVS. In a telephone call with the licensee they agreed to address the removal of the reference to the 2,200 cfm value in their conversion to the ISTS. This commitment addresses the staff's concern with respect to the clarity of TS 3/4.7.6.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Missouri official was notified of the proposed issuance of the amendment. The State official had no comments.

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5.0 ENVIRONMENTAL CONSIDERATION

The amendment 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 27345). 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 <u>CONCLUSION</u>

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.

Principal Contributor: K. Thomas

Date: December 20, 1995