

March 18, 1996

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

SUBJECT: ENVIRONMENTAL ASSESSMENT OF REQUEST TO INCREASE THE MAXIMUM INITIAL  
ENRICHMENT FOR RELOAD FUEL AND STORAGE IN THE SPENT FUEL POOL -  
CALLAWAY PLANT, UNIT 1 (TAC NO. M93704)

Dear Mr. Schnell:

Enclosed is a copy of the Environmental Assessment and Finding of No  
Significant Impact related to your September 6, 1995 request to increase the  
maximum initial enrichment for reload fuel and storage in the spent fuel pool  
at Callaway Plant, Unit 1.

The assessment is being forwarded to the Office of the Federal Register for  
publication.

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

Enclosure:

cc w/encl: See next page

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

March 18, 1996

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Union Electric Company  
Post Office Box 149  
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Sincerely,

A handwritten signature in cursive script, reading "Kristine M. Thomas".

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

Docket No. 50-483

Enclosure: Environmental Assessment

cc w/encl: See next page

cc w/encl:

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UNITED STATES NUCLEAR REGULATORY COMMISSIONUNION ELECTRIC COMPANYCALLAWAY PLANT, UNIT 1DOCKET NO. 50-483ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-30 to Union Electric Company (the licensee) for the Callaway Plant, Unit 1 located in Callaway County, Missouri.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action

By letter dated September 6, 1995, (ULNRC-03264) the licensee proposed to change the Technical Specifications (TSs) to allow an increase in fuel enrichment (Uranium 235) from 4.45 to 5.0 weight percent for fuel with integral fuel burnable absorbers (IFBAs) and from 3.85 to 4.10 weight percent for fuel without IFBAs. In addition, the licensee proposed to change the maximum reference  $K_{\infty}$  from 1.455 to 1.480 for storage of fuel in Region 1 of the spent fuel pool and to change the maximum initial enrichment for fuel storage in Region 2 of the spent fuel pool to 5.0 weight percent.

Need for Proposed Action:

The licensee intends to load fuel into the core during Refuel 8 and subsequent refueling outages which does not currently meet the TSs. By increasing the fuel enrichment, the licensee will implement the fuel strategies developed for the Callaway Plant.

Environmental Impact of the Proposed Action:

The Commission has completed its evaluation of the proposed revision to the TSs and concludes that storage and use of Vantage 5 fuel enriched with U-235 up to 4.10 weight percent for fuel without IFBAs and up to 5.0 weight for fuel with IFBAs at the Callaway Plant, Unit 1 is acceptable. The safety considerations associated with higher enrichments have been evaluated by the NRC staff and the staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no adverse effect on the probability of any accident. As a result, there is no increase in individual or cumulative radiation exposure.

The environmental impacts of transportation resulting from the use of higher enrichment and extended irradiation are discussed in the staff assessment entitled "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation." This assessment was published in the Federal Register on August 11, 1988 (53 FR 30355) as corrected on August 24, 1988 (53 FR 32322) in connection with the Shearon Harris Nuclear Power Plant, Unit 1: Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of an increase in fuel enrichment of up to 5 weight percent U-235 and irradiation limits of up to 60 Gigawatt Days per Metric Ton (GWD/MT) are either unchanged, or may in fact be reduced from those summarized in Table S-4 as set forth in 10 CFR 51.52(c). These findings are applicable to the proposed amendment for the Callaway Plant, Unit 1. Accordingly, the Commission concludes that this proposed action would result in no significant radiological environmental impact.

With regard to potential nonradiological impacts, the proposed changes involve systems located within the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed amendment.

The Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing in connection with this action was published in the Federal Register on November 8, 1995 (60 FR 56372).

#### Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternative with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts of plant operation and would result in reduced operational flexibility.

#### Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for Callaway Plant, Unit 1, dated January 1982 (NUREG-0813).

#### Agencies and Persons Contacted

In accordance with its stated policy, on March 18, 1996, the staff consulted with the Missouri State official, Mr. David A. Shorr, Director, Department of Natural Resources, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to this action, see the application for license amendment dated September 6, 1995. Copies are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document room located at the Callaway County Public Library, 710 Court Street, Fulton, Missouri 65251.

Dated at Rockville, Maryland, this 18th day of March 1996.

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