

UNION ELECTRIC COMPANYCALLAWAY PLANT, UNIT NO. 1DOCKET NO. STN 50-483NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission or NRC), has issued Facility Operating License No. NPF-25 to Union Electric Company (the licensee) which authorizes operation of the Callaway Plant, Unit No. 1 (the facility), at reactor core power levels not in excess of 3411 megawatts thermal in accordance with the provisions of the License, the Technical Specifications and the Environmental Protection Plan with a condition currently limiting operation to five percent of full power (170 megawatts thermal). Authorization to operate beyond five percent of full power will require specific Commission approval.

Callaway Plant, Unit No. 1 is a pressurized water reactor located in Callaway County, Missouri, approximately 25 miles east-northeast of Jefferson City, Missouri. The application was submitted and accepted for review under the Commission's standardization policy statement of March 5, 1973. The Union Electric Company was one of five utilities who joined together under the acronym SNUPPS (Standardized Nuclear Unit Power Plant System) to submit applications for Construction Permits for a standard plant design for review under the Commission's standardization policy, using the duplicate plant option described in Appendix N to the Commission's regulations in Part 50

of Title 10 of the Code of Federal Regulations (10 CFR Part 50), "Licensing of Production and Utilization Facilities." This option allows for a simultaneous review of the safety-related parameters of a limited number of duplicate plants which are to be constructed within a limited time span at a multiplicity of sites. The license is effective as of the date of issuance.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I which are set forth in the License. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the Federal Register on November 21, 1980 (45 FR 77208).

The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

For further details with respect to this action, see (1) Facility Operating License No. NPF-25, with Technical Specifications (NUREG-1058) and the Environmental Protection Plan; (2) the report of the Advisory Committee on Reactor Safeguards, dated November 17, 1981; (3) the Commission's Safety Evaluation Report, dated October 1981 (NUREG-0830), and Supplements 1 through 3; (4) the Final Safety Analysis Report and Amendments thereto; (5) the Environmental Report and supplements thereto; (6) and the Final Environmental Statement, dated January 1982.

These items are available for inspection at the Commission's Public Document Room located at 1717 H Street, N. W., Washington, D. C. 20555 and at the Fulton City Library, 709 Market Street, Fulton, Missouri 65251 and at the Olin Library of Washington University, Skinker and Lindell Boulevards, St. Louis, Missouri 63130. A copy of Facility Operating License NPF-25 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies of the Safety Evaluation Report and Supplements 1 through 3 (NUREG-0830) and the Final Environmental Statement (NUREG-0813) may be purchased at current rates from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, and through the NRC GPO sales program by writing to the U. S. Nuclear Regulatory Commission, Attention: Sales Manager, Washington, D. C. 20555. GPO deposit account holders may call 301-492-9530.

Dated at Bethesda, Maryland this ¹¹ ~~11~~ day of June 1984.

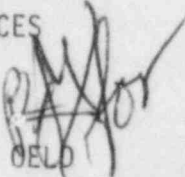
FOR THE NUCLEAR REGULATORY COMMISSION.

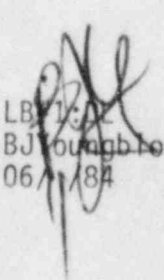
¹⁵¹
B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

*SEE PREVIOUS PAGE FOR CONCURRENCES
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*JHolonich
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ALL
LICENSE



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

Docket No. 50-483

AMENDMENT TO INDEMNITY AGREEMENT NO. B-93
AMENDMENT NO. 1

Effective ~~JUN 11 1984~~, Indemnity Agreement No. B-93, between Union Electric Company and the Nuclear Regulatory Commission, dated October 4, 1982, is hereby amended as follows:

Item 2a. of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 2 - Amount of financial protection

a. \$1,000,000 (From 12:01 a.m., October 4, 1982, to 12 midnight ~~JUN 10 1984~~ inclusive)

\$160,000,000* (From 12:01 a.m., ~~JUN 11 1984~~)

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 3 - License number or numbers

SNM-1901 (From 12:01 a.m. October 4, 1982, to 12 midnight ~~JUN 10 1984~~ inclusive)

NPF-25 (From 12:01 a.m., ~~JUN 11 1984~~)

Item 4 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 4 - Location

All of the premises including the land and all buildings and structures known as the Callaway Plant described as being (1) located within the Owner


*and, as of August 1, 1977, the amount available as secondary financial protection.

Controlled fence plus the corridor areas, (2) located within the intake structure, discharge pipe and barge docking facility areas, and (3) the intake and discharge pipes connecting the foregoing areas (1) and (2) all located approximately ten (10) miles southeast of Fulton in Callaway County, Missouri.

Item 5 of the Attachment to the indemnity agreement is amended by adding the following:

Nuclear Energy Liability Policy (Facility Form) No. MF-111 issued by Mutual Atomic Energy Liability Underwriters.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION



Jerome Saltzman, Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1984

By _____
UNION ELECTRIC COMPANY

ASSESSMENT OF THE EFFECT OF LICENSE DURATION ON MATTERS DISCUSSED

IN THE FINAL ENVIRONMENTAL STATEMENT FOR THE CALLAWAY PLANT

UNIT 1 (Dated JANUARY 1982)

INTRODUCTION

The Final Environmental Statement (FES) for the operation of the Callaway Plant, Unit 1 was published in January 1982. At that time it was staff practice to issue operating licenses for a period of 40 years from the date of the construction permit. For Callaway, the CP was issued in April 1976, thus, approximately 30 years of operating life would be available.

By letters dated December 2, 1983 and March 23, 1984, Union Electric Company requested that the operating license for the Callaway Plant, Unit 1 have a duration of 40 years from the date of issuance.

DISCUSSION

The staff has reviewed the Callaway FES to determine which aspects considered in the FES are affected by the duration of the operating license. In general, the FES assesses various impacts associated with operation of the facility in terms of annual impacts and balances these against the anticipated annual energy production benefits. Thus, the overall assessment and conclusions would not be dependent on specific operating life. There are, however, three areas in which a specific operating life was assumed:

1. Radiological assessments are based on a 15-year plant midlife.
2. Uranium fuel cycle impacts are based on one initial core load and annual refuelings.
3. Uranium availability is evaluated through 30 years of operation.

These were assessed to determine whether the use of a 40-year operating period rather than a 30-year operating period would significantly affect our assessment concerning these areas.

EVALUATION:

The staff's appraisal of the significance of the use of 40 years of operation rather than 30 as it affects these three areas is presented in the following discussions:

1. Radiological Assessments - The NRC staff calculates dose commitments to the human population residing around nuclear power reactors to assess the impact on people from radioactive material released from these reactors. The annual dose commitment is calculated to be the dose that would be received over a 50-year period following the intake of radioactivity for 1 year under the conditions that would exist 15 years after the plant began operation.

The 15 year period is chosen as representing the midpoint of plant operation and factors into the dose models by allowing for buildup of long life radionuclides in the soil. It affects the estimated doses only for radionuclides ingested by humans that have half-lives greater than a few years. For a plant licensed for 40 years, increasing the buildup period from 15 to 20 years would increase the dose from long term life radionuclides via the ingestion pathways by 33% at most. It would have much less effect on dose from shorter life radionuclides. Table C.6 and C.7 of Appendix C to the FES indicate that the estimated doses via the ingestion pathways are only a fraction of the regulatory design objectives. For example, the ingestion dose to the thyroid of an infant is 0.6 mrem/yr compared to an Appendix I design objective of 15 mrem/yr. Thus, for 0.6, an increase of even as much as 33% in these pathways, the dose would remain within the Appendix I guidelines and would still not be significant.

2. Uranium Fuel Cycle Impacts - The impacts of the uranium fuel cycle are based on 30 years of operation of a model LWR. The fuel requirements for the model LWR were assumed to be one initial core load and 29 annual refuelings (approximately 1/3 core). The annual fuel requirement for the model LWR averaged out over a 40-year operating life (1 initial core and 39 refuelings of approximately 1/3 core) would be reduced slightly as compared to the annual fuel requirement averaged for a 30-year operating life.

The net result would be an approximately 1.5% reduction in the annual fuel requirement for the model LWR. This small reduction in fuel requirements would not lead to significant changes in the impacts of the uranium fuel cycle. The staff does not believe that there would be any changes to Callaway FES Table 5.10 (S-3) that would be necessary in order to consider 40 years of operation. If anything, the values in Table 5.10 become more conservative when a 40-year period of operation is considered.

3. Uranium Resources - In Section 6.2 of the Callaway FES, the uranium resource commitment was estimated at 30 metric tons of U-235. Uranium availability is based on the cumulative lifetime of 30 years. A 33% increase in operating life (to 40 years) would still be within the projected uranium resources. Cancellation of many reactors since the Callaway FES was issued will result in an off-setting reduction in demand. Furthermore, the increase in operating life assumption to 40-years will reduce the need for replacement generating capacity, including nuclear, at the end of 30 years.

CONCLUSION

The staff has reviewed the Callaway FES and determined that only three of the areas related to its NEPA analysis discussed in the statement were tied directly to a 30-year operating period. We have concluded, based on the reasons discussed in the sections above, that the impacts associated with a 40-year operating license duration are not significantly different from those associated with a 30-year operating license duration and are not significantly different from those assessed in the Callaway FES.