



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

IOWA ELECTRIC LIGHT AND POWER COMPANY
CENTRAL IOWA POWER COOPERATIVE
CORN BELT POWER COOPERATIVE

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Iowa Electric Light and Power Company, et al., dated March 26, 1993 and as supplemented on September 15 and November 23, 1993 and January 10, 1994 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, Facility Operating License No. DPR-49 is amended to reflect the updated Final Safety Analysis Report in condition 2.B.(2) and correct a typographical error in condition 2.B(4).

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Revise paragraph 2.B.(2) to read:

- 2.B.(2) IELP, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended as of June 1992 and as supplemented by letter dated March 26, 1993.

Revise paragraph 2.B.(4) to read:

2.B.(4) to read:

IELP, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or association radioactive apparatus components.

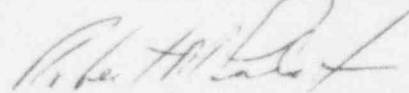
The license is also amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C(2) of Facility Operating License No. DRP-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 195, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of the date of issuance and shall be implemented within 120 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Pulsifer, 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: February 2, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 195

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

LIST OF AFFECTED PAGES

REMOVE

5.5-1

5.5-2

INSERT

5.5-1

5.5 SPENT AND NEW FUEL STORAGE

1. The new fuel storage facility shall be such that the effective neutron multiplication factor (k_{eff}) of the fuel, dry is less than 0.90 and flooded is less than 0.95. These k_{eff} values are satisfied if the maximum infinite lattice multiplication factor (k_{∞}) of the individual fuel bundles is ≤ 1.31 .
2. The k_{eff} of the fuel in the spent fuel storage pool shall be less than or equal to 0.95. This k_{eff} value is satisfied if the maximum, exposure-dependent k_{∞} of the individual fuel bundles is ≤ 1.31 and the initial uniform average enrichment is ≤ 4.6 wt% U-235.
3. Spent fuel shall only be stored in the spent fuel pool in a vertical orientation in approved storage racks.

Bases

The basis for the k_{∞} limit is described in Reference 1 for the GE-designed new fuel storage racks. Compliance with this specification is demonstrated by comparing the beginning-of-life, uncontrolled k_{∞} values for the fuel type of interest to the 1.31 limit. For GE-supplied fuel, k_{∞} values can be found in Reference 2. The k_{∞} values found in Reference 2 represent the maximum, exposure-dependent lattice reactivity and can be conservatively applied to the new fuel limit.

Calculations have been performed (Reference 3) to determine the bounding reactivity limits for bundles of GE-designed fuel, when stored in the spent fuel storage racks of an approved design. These analyses were performed conservatively assuming uniform average initial enrichments in a parametric evaluation for fuel with enrichments up to 4.6 wt% U-235 initially. The bounding limit of an infinite multiplication factor of 1.31 for fuel of 4.6 wt% enrichment (or less) was evaluated at the maximum k_{∞} over β and includes a conservative allowance for possible differences between the rack design calculations and the fuel vendor calculations.

References

- 1) General Electric Standard Application for Reactor Fuel, NEDE-24011-P-A.*
- 2) General Electric Fuel Bundle Designs, NEDE-31152-P.*
- 3) Licensing Report for Spent Fuel Storage Capacity Expansion, Duane Arnold Energy Center, Holtec Report HI-92889.

*Latest NRC-approved revision.