



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. DPR-40
OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION, UNIT NO. 1
DOCKET NO. 50-285

1.0 INTRODUCTION

By application dated August 23, 1996, Omaha Public Power District (OPPD) requested an amendment to Facility Operating License No. DPR-40 and changes to the Technical Specifications (Appendix A to Facility Operating License No. DPR-40) for the Fort Calhoun Station, Unit No. 1. The requested changes would allow the use of source materials as reactor fuel.

2.0 EVALUATION

2.1 Proposed Change to Facility Operating License Paragraph 2.B.(2)

The licensee has proposed a change to paragraph 2.B.(2) of Facility Operating License No. DPR-40 to allow the use of source materials as reactor fuel. Specifically, paragraph 2.B.(2) would be changed to read:

Pursuant to the Act and 10 CFR Parts 40 and 70, to receive, possess and use at any time source and special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for operation, as described in the Final Safety Analysis Report, as supplemented and amended;

Changing paragraph 2.B.(2) to add reference to 10 CFR Part 40 and to allow the use of source materials as reactor fuel would allow the use of depleted or natural uranium in addition to using slightly enriched uranium which is currently allowed. The licensee has stated that the use of depleted or natural uranium in future core designs would result in reduced neutron leakage.

The use of depleted or natural uranium would be selective fuel rod loading in the radial direction. Fuel rods near the exterior of the core would be loaded with depleted or natural uranium to reduce neutron leakage to the reactor pressure vessel thereby reducing radiation induced embrittlement. The depleted uranium content acts like a shield compared to a fuel rod with an enriched loading.

The staff has reviewed the licensee's proposed change to paragraph 2.B.(2) and finds it acceptable. The reference to 10 CFR Part 40 will allow the licensee to use source materials. Source material by definition in 10 CFR 40.4 does not include special nuclear material, and therefore needs to be identified separately in this paragraph from special nuclear material. The

use of depleted or natural uranium is acceptable because it does not introduce any new kind, or additional amount of, fission product material nor does its use affect the safety limits, limiting conditions for operations, or other operating limits.

2.2 Proposed Changes to TS 4.3.2

By letter dated July 15, 1996, the licensee submitted a proposed change to TS 4.3.2. In that submittal, TS Section 4.3.2, "Reactor Core and Control," was completely rewritten for consistency with the Combustion Engineering Standard Technical Specifications. The licensee's August 23, 1996, application proposed to add the word "depleted" to the description of fuel material used in a fuel assembly. Since the current proposed change to TS 4.3.2 is related to the July 15, 1996 TS change, they are being reviewed jointly. Therefore, this change is not being addressed in this Safety Evaluation and will be evaluated in a future SE addressing the changes to TS Section 4.3.2.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska 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 installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (61 FR 45995). 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.

5.0 CONCLUSION

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.

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Date: October 2, 1996