

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

KANSAS GAS & ELECTRIC COMPANY

DOCKET NO.: 50-482

NOTICE OF ENVIRONMENTAL ASSESSMENT AND

FINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an Exemption from a portion of the requirements of General Design Criterion-4 (10 CFR 50, Appendix A) to the Kansas Gas & Electric Company (the licensee) for the Wolf Creek Generating Station, Unit 1, located at the licensee's site in Coffey County, Kansas.

ENVIRONMENTAL ASSESSMENT:

Identification of Proposed Action: The Exemption would permit changing reactor cavity shielding from the water bags presently installed to rigid shielding at the Wolf Creek Generating Station, Unit 1 on the basis of advanced calculational methods for assuring that piping stresses would not result in rapid piping failure; i.e., pipe breaks.

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Need for Proposed Action: The proposed Exemption is required because General Design Criterion (GDC) 4 requires that structures, systems and components important to safety shall be appropriately protected against dynamic effects including the effects of discharging fluids that may result from equipment failures, up to and including a double-ended rupture of the largest pipe in the reactor coolant system (Definition of LOCA). In recent submittals the applicant has provided information to show by advanced fracture mechanics techniques that the detection of small flaws by either inservice inspection or leakage monitoring systems is assured long before flaws in the piping materials can grow to critical or unstable sizes which could lead to large break areas such as the double-ended guillotine break or its equivalent. The NRC staff has reviewed and accepted the applicant's conclusion. Therefore, the NRC staff agrees that the double-ended guillotine break in the primary pressure coolant loop piping need not be required as a design basis accident. Accordingly, the reactor cavity shielding will not be subjected to a rapid pressure increase that could potentially cause rigid shielding to become a missile. Therefore it is acceptable to replace the water bag shielding with rigid shielding.

Environmental Impact of the Proposed Action: The proposed Exemption would not adversely affect the environmental impact of the facility. The rigid shielding is easier to install, maintain and remove than the flexible water bag shielding thereby reducing the radiation exposure to the plant staff.

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The Exemption does not otherwise affect radiological plant effluent. Likewise, the relief granted does not affect non-radiological plant effluents, and has no other environmental impact. The elimination of the water bags would tend to lessen the occupational doses to workers inside containment. Therefore, the Commission concludes that there are no significant radiological or non-radiological impacts associated with this Exemption.

The proposed Exemption involves design features located entirely within the restricted area as defined in 10 CFR 20. It does not affect plant non-radioactive effluents and has no other environmental impact. Therefore, the Commission concludes that there are no non-radiological impacts associated with this proposed Exemption.

Since we have concluded that there are no measurable negative environmental impacts associated with this Exemption, any alternatives would not provide any significant additional protection of the environment. The alternative to the compliance would be to require literal compliance with GDC 4.

Alternative Use of Resources: This action does not involve the use of resources not previously considered in the Final Environmental Statement related to the operation of the Wolf Creek Generating Station, Unit 1.

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Agencies and Persons Contacted: The NRC staff reviewed the applicant's request and applicable documents referenced therein that support this Exemption for the Wolf Creek Generating Station, Unit 1. The NRC did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

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

For details with respect to this action, see the request for exemption dated May 31, 1984 and additional information provided by the applicant in letters dated August 31, 1983, February 17, 1984, May 31, 1984, October 22, 1984 and October 26, 1984. These documents, utilized in the NRC staff's technical evaluation of the exemption request, are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., at the William Allen White Library, Emporia State University, 1200 Commercial Street, Emporia, Kansas, and at the Washburn University School of Law, Library in Topeka Kansas.

Dated at Bethesda, Maryland this 11th day of February 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

CONCURRENCES:

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