

JUL 18 1985

DOCKET: 70-1151

LICENSEE: Westinghouse Electric Corporation
Columbia, S.C.

SUBJECT: SAFETY EVALUATION REPORT, AMENDMENT APPLICATION DATED
JUNE 25, 1985, RE ADDITION OF URANYL NITRATE STORAGE TANKS

BACKGROUND

On March 29, 1985, Westinghouse informed the NRC of its intent to install new facilities, including two additional uranyl nitrate storage tanks. By letter dated May 2, 1985, the NRC staff notified Westinghouse that construction of the facilities could be done but that a license amendment would be needed prior to use of the storage tanks. In the subject amendment application, Westinghouse has responded to the May 2, 1985 letter.

DISCUSSION

Westinghouse has requested authorization to use two additional 7,500 gallon-tanks for the storage of uranyl nitrate solution. The two tanks will be installed inside a curbed concrete pad adjacent to the existing four storage tanks. The curbing is high enough to contain 15,000 gallons of solution. The tanks are not interconnected so that the complete failure of two or more tanks is unlikely.

The licensee has justified use of nonfavorable geometry storage tanks because over 500 favorable geometry tanks would be needed to replace the six (four existing and two new) storage tanks. Nuclear criticality safety controls for the two new tanks, i.e., concentration control, will be the same as for the existing tanks. Westinghouse has presented an analysis of twelve events which could affect concentration control and shown that administrative and process controls would ensure criticality safety. In addition, Westinghouse has analysed 15 recognized factors contributing to previous criticality accidents in large nonfavorable geometry vessels and has shown that controls or conditions exist to ensure criticality safety.

In addition to authorizing the use of the nonfavorable geometry storage tanks, license conditions will be revised to require justification for future use of nonfavorable geometry as well as analyses of causes which have contributed to accidents in nonfavorable geometry containers.

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The existing radiation protection program will be extended to the new tanks. No unusual radiation protection risks are involved in storing uranyl nitrate solution.

FINDINGS/CONCLUSION

The NRC staff finds that no undue risk to the public health and safety or to the environment would exist if the license amendment application were approved. Approval is recommended.

The Region II Project Inspector has no objection to this action.

Original signed by
George H. Bidinger

G. H. Bidinger
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
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Original Signed By:
W. T. Crow

Approved by: W. T. Crow, Section Leader

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