

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

In the Matter of)
)
ARKANSAS POWER AND LIGHT COMPANY) Docket No. 50-313
)
(Arkansas Nuclear One - Unit 1 Plant))

ORDER FOR MODIFICATION OF LICENSE

I.

The Arkansas Power and Light Company (the licensee) is the holder of facility license DPR-51, which authorizes operation of the Arkansas Nuclear One - Unit 1 Plant, in Pope County, Arkansas. This license provides, among other things, that it is subject to all rules, regulations and orders of the Commission now or hereafter in effect.

II.

Pursuant to the requirements of the Commission's regulations in 10 CFR § 50.46, "Acceptance Criteria and Emergency Core Cooling Systems for Light Water Nuclear Power Reactors", on August 2, 1974, the licensee submitted an evaluation of ECCS cooling performance calculated in accordance with an evaluation model developed by the Babcock and Wilcox Company ("the vendor"), along with certain proposed

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technical specifications necessary to bring reactor operation into conformity with the results of the evaluation.

The evaluation model developed by the vendor has been analyzed by the Regulatory staff for conformity with the requirements of 10 CFR Part 50, Appendix K, "ECCS Evaluation Models". The Regulatory staff's evaluation of the vendor's model is described in two previously published documents: Status Report by the Directorate of Licensing in the Matter of Babcock and Wilcox ECCS Evaluation Model Conformance to 10 CFR Part 50, Appendix K, issued October 15, 1974, and a Supplement to the Status Report, issued November 13, 1974. Based on its evaluation, the Regulatory staff has concluded that the vendor's evaluation model was not in complete conformity with the requirements of Appendix K and that certain modifications described in the above-mentioned documents were required in order to achieve such conformity. The Regulatory staff assessments were reviewed by the Commission's Advisory Committee on Reactor Safeguards in meetings held on October 26, 1974 and November 14, 1974.

In its Report to the Chairman of the AEC, dated November 20, 1974, the Advisory Committee has concluded that "the four light-water reactor vendors have developed Evaluation Models which, with additional modifications required by the Regulatory staff, will conform to Appendix K to Part 50".

Since the licensee's evaluation of ECCS cooling performance is based upon the vendor's evaluation model, the licensee's evaluation is similarly deficient. The Regulatory staff has assessed the effect of the changes required in the evaluation model upon the results of the evaluation of ECCS performance for Arkansas Unit 1 plant submitted on August 2, 1974. This is described in the Safety Evaluation Report of the Arkansas Nuclear One - Unit 1 Plant dated December 27, 1974. On the basis of its review, the Regulatory staff has determined that the operating limitations for the plant proposed in the licensee's submittal of August 2, 1974 will assure that ECCS cooling performance will conform to all of the criteria contained in 10 CFR § 50.46(b), which govern calculated peak clad temperature, maximum cladding oxidation, maximum hydrogen generation, coolable geometry and long term cooling. However, the Regulatory staff believes that these limitations should be verified by a re-analysis based upon an approved evaluation model, in conformity with 10 CFR § 50.46 and Appendix K. During the interim, before an evaluation in conformity with the requirements of 10 CFR § 50.46 can be submitted and evaluated, the Regulatory staff has concluded that continued conformance to the requirements of the Commission's Interim Acceptance Criteria* should be required in addition to conformance to the restrictions contained in the licensee's August 2, 1974 submittal. These limitations will provide reasonable assurance that the public health and safety will not be endangered.

*Interim Acceptance Criteria for Emergency Core Cooling Systems for Light Water Power Reactors, 36 F.R. 12247, June 29, 1971, as amended 36 F.R. 24082, December 18, 1971

III.

In view of the foregoing and, in accordance with the provisions of § 50.46(a)(2)(v), the Acting Director of Licensing has found that the evaluation of ECCS cooling performance submitted by the licensee is not consistent with the requirements of 10 CFR § 50.46(a)(1) and that further restrictions on facility operation, as set forth in

this Order, are required to protect the public health and safety. The Acting Director of Licensing has also found that the public health, safety, and interest require that the following Order be made effective immediately. Pursuant to the Atomic Energy Act of 1954, as amended, the Commission's regulations in 10 CFR §§ 2.204, 50.46, and 50.54.

IT IS ORDERED THAT:

1. As soon as practicable, but in no event later than six months from the date of publication of this order in the FEDERAL REGISTER, or prior to any license amendment authorizing any core reloading, whichever occurs first, the licensee shall submit a re-evaluation of ECCS cooling performance calculated in accordance with an acceptable evaluation model which conforms with the provisions of 10 CFR Part 50, § 50.46. Such evaluation may be based upon the vendor's evaluation model as modified in accordance with the changes described in the Safety Evaluation Report of the Arkansas Nuclear One - Unit 1 Plant, dated December 27, 1974. The evaluation shall be accompanied by such proposed changes in Technical

Specifications or license amendments as may be necessary to implement the evaluation results.

2. Effective immediately reactor operation shall continue only within the limits of:

(a) The requirements of the Interim Acceptance Criteria, and the Technical Specifications, and license conditions imposed by the Commission in accordance with the requirements of the Interim Acceptance Criteria, and

(b) The limits of the proposed Technical Specifications submitted by the licensee on August 2, 1974.

The license shall conform operation to the foregoing limitations until such time as the proposed Technical Specifications required to be submitted in accordance with paragraph 1 above are approved or modified and issued by the Commission. Subsequent notice and opportunity for hearing will be provided in connection with such action.

IV.

Within thirty (30) days from the date of publication of this Order in the FEDERAL REGISTER the licensee may file a request for a hearing with respect to this Order. Within the same thirty (30) day period

any other person whose interest may be affected may file a request for a hearing with respect to this Order in accordance with the provisions of 10 CFR § 2.714 of the Commission's Rules of Practice. If a request for a hearing is filed within the time prescribed herein, the Commission will issue a notice of hearing or an appropriate order.

For further details with respect to this action, see (1) the licensee's submittal dated August 2, 1974 and vendor's topical reports referenced in the licensee's submittal, which describe the vendor's evaluation model, (2) the Status Report by the Directorate of Licensing in the Matter of Babcock and Wilcox ECCS Evaluation Model Conformance to 10 CFR 50, Appendix K, (3) Supplement 1 thereto dated November 13, 1974, (4) the Safety Evaluation Report dated December 27, 1974, and (5) Report of the Advisory Committee on Reactor Safeguards dated November 20, 1974. All of these items are available at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Arkansas Polytechnic College, Russellville, Arkansas 72801. A single copy each of items (2) through (5) may be obtained upon request addressed to the U. S. Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing, Regulation.

Dated at Bethesda, Maryland, this 27th day of December 1974.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed By
E. G. Case

Edson G. Case, Acting Director
Directorate of Licensing