

April 25, 1989

Docket No. 50-368

Mr. T. Gene Campbell
Vice President, Nuclear
Operations
Arkansas Power and Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Campbell:

SUBJECT: ISSUANCE OF AMENDMENT NO. 93 TO FACILITY OPERATING LICENSE
NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. 64757)

The Commission has issued the enclosed Amendment No. 93 to Facility Operating License No. NPF-6 for the Arkansas Nuclear One, Unit No. 2 (ANO-2). This amendment consist of changes to the license in response to your application dated December 12, 1986. In the application you requested the processing of six amendments: (1) deletion of the CESEC Code verification requirements in an ANO-2 license condition, (2) change in the Technical Specifications (TS) reporting requirements for the occurrence of iodine spiking, (3) change in the TS design feature descriptions of the spent fuel storage pool, (4) change in several sections of TS to make editorial, clarifying and administrative corrections, (5) change in the TS Management Organization Chart, and (6) change in the membership of the Safety Review Committee. Amendment (5) was superseded by your December 4, 1987 application for amendment which resulted in Amendment Nos. 109 and 85 for ANO Units 1 and 2 respectively. Amendment (6) was supplemented by your April 14, 1988 submittal and will be processed under TAC No. 72949. Amendments (2), (3), and (4) are being processed separately under TAC numbers to be assigned.

The enclosed amendment deletes a condition in the ANO-2 license which required that AP&L complete verification tests for the Combustion Engineering Systems Excursion Code (CESEC).

A copy of our related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/s/

Chester Poslusny, Jr., Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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Enclosures:

- 1. Amendment No. 93 to NPF-6
- 2. Safety Evaluation

cc w/enclosures: DISTRIBUTION:

See next page	Docket File	BGrimes	PNoonan (3)	ACRS (10)
	NRC PDR	TMeek (4)	CPoslusny (2)	GPA/PA
	Local PDR	Wanda Jones	JCalvo	ARM/LFMB
	PD4 Reading	EButcher	OGC-Rockville	DHagan
	EJordan	Plant File	F. Hebdon	

LTR NAME: ANO2 AMENDMENT

*SEE PREVIOUS CONCURRENCES:

PD4/LA	PD4/PM	OGC-Rockville
PNoonan	CPoslusny:bj	<i>[Signature]</i>
04/18/89	04/23/89	04/25/89

PD4/D *ME*
JCalvo
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Sincerely,

A handwritten signature in cursive script, reading "Chester Poslusny, Jr.".

Chester Poslusny, Jr., Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 93 to NPF-6
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. T. Gene Campbell
Arkansas Power & Light Company

Arkansas Nuclear One, Unit 2

cc:

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Honorable William Abernathy
County Judge of Pope County
Pope County Courthouse
Russellville, Arkansas 72801

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

ARKANSAS POWER AND LIGHT COMPANY

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 93
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Arkansas Power and Light Company (the licensee) dated December 12, 1986, 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, as amended, 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 license 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.

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2. Accordingly, the license is amended by deleting Paragraph 2.C.(3)(g).
3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Jose A. Calvo

Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Date of Issuance: April 25, 1989



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 93 TO

FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

INTRODUCTION

By letter dated December 12, 1986, Arkansas Power and Light Company (AP&L or the licensee) requested amendments to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit 2 (ANO-2). The proposed amendment would delete ANO-2 license condition 2.C.(3).(g), the requirement to complete verification tests for the Combustion Engineering Systems Excursion Code (CESEC).

The CESEC code has been developed by CE for analysis of normal and abnormal (non-LOCA) occurrences in pressurized water reactor nuclear steam supply systems (NSSS). The program is used in licensing safety analyses and for best estimate predictions of the dynamic response of the NSSS.

The CESEC code was utilized for the FSAR safety analyses for the ANO-2 plant. During the operating license review for ANO-2 the staff reviewed the use of the CESEC code and summarized its findings in the portion of the staff Safety Evaluation Report (SER) addressing the reactor coolant pump rotor seizure. The staff's SER findings were stated as follows:

"Our review of the CESEC code has progressed to the point that there is reasonable assurance that the analysis results dependent on CESEC will not be appreciably altered by any methodology revision that may be required as a result of the staff's further review of the code. The parameters used as input to the applicant's analysis were reviewed and found to be suitably conservative. The results of the analysis showed that less than two percent of the fuel rods experienced departure from nucleate boiling. This assures that the fuel damage will be minimal and that there will not be consequential loss of core cooling capability. The analysis showed that the maximum pressure within the reactor coolant and main steam systems did not exceed 110 percent of the design pressures."

The staff concludes that the plant design is acceptable with regard to possible seizure of a rotor of a reactor coolant pump subject to the receipt of a commitment from the applicant to perform confirmatory tests in support of the utilization of the CESEC and COAST codes for the ANO-2 analyses. The staff will require that a description of the test program be submitted for review. Some of the verification tests are expected to be conducted in the

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preoperational test program while others will be performed at a specified level of power. The staff will require, as a part of the commitment noted above, that the needed data and test results, obtained with proper instrumentation, will be submitted to the staff and will also be used by the applicant to confirm the pretest predictions by the CESEC and COAST codes. The results of our completed program will be applicable to ANO-2.

Subsequent to the issuance of the SER further progress was made on this issue which was reported in Supplement 2 to the SER as follows:

"In our Safety Evaluation Report we stated that we had completed our review of the analysis of an instantaneous seizure of the reactor coolant pump rotor, as evaluated by the computer codes CESEC and TORC. We concluded that the plant design, in this regard, is acceptable subject to (1) the receipt of a commitment from the applicant to perform confirmatory tests in support of the utilization of the CESEC code for the ANO-2 analyses, (2) receipt of a description of the test program, and (3) submittal to the staff of the actual test data and results obtained with proper instrumentation which confirms pretest predictions made by the CESEC code."

The licensee submitted (1) a list of the tests to be performed in a letter dated March 13, 1978, (2) the pretest predictions and a copy of the test procedure by the letter dated July 13, 1978, and (3) additional information on startup test results from another operating reactors startup testing programs by letter dated April 5, 1978. We have addressed our requirements for the submittal of the test data and results in a condition to the operating license. This information will be obtained by the licensee during the startup and power ascension testing program when the tests are to be conducted.

We conclude that the licensee has acceptably satisfied our requirement for information, as stated in the Safety Evaluation Report, to be provided prior to the issuance of the operating license. We have addressed our requirements following the issuance of the operating license in a condition to the operating license.

Issuance of Supplement 2 to the SER was concurrent with issuance of the operating license. The operating license included a condition as follows:

"2.C.3(g) Verification of Transient Analysis Code

The licensee shall complete tests to verify the use of the CESEC Code during the initial startup and power ascension testing program and submit the results for Commission review and approval.

The CESEC verification test results shall include an analysis of the uncertainties associated with the test instrumentation and a demonstration that the test instrumentation was adequate for the intended purpose."

In response to this condition to the licensee conducted four types of tests during the initial ANO-2 power ascension program. The four tests included (1) turbine trip, (2) four pump loss of flow, (3) full length CEA drop, and (4) a past length CEA drop. The test results were reported by the licensee's letter dated March 27, 1981.

DISCUSSION

The ANO-2 plant specific aspects of the tests relate to whether or not the tests call into question the validity of the CESEC code as an analysis tool for conducting adequate safety analyses of the ANO-2 plant. As stated above, we concluded, with publishing of the SER, that reasonable assurance then existed "that the analysis results dependent on CESEC will not be appreciably altered by any methodology revision that may be required as a result of the staff's further reviews of the code". The purpose of the license condition was to require the licensee to develop and provide additional information, in the form of actual plant test results, in support of conclusions already reached by the licensee that CESEC is an appropriate analysis tool for ANO-2.

EVALUATION

We have examined the licensee's submittal dated March 27, 1981 which reports the test results and compares the results to the CESEC pretest predictions. We find no information in the submittal that required reperformance of safety analyses or any revision of the ANO-2 Technical Specifications (e.g., Safety Limits, Limiting Safety System Settings (LSSS), Limiting Conditions for Operation (LCO)).

The license condition addresses the uncertainties associated with the test instrumentation and a demonstration that the test instrumentation was adequate for the intended purpose. The licensee stated that the test data was recorded with a PDP-11 minicomputer and the existing plant instrumentation. The existing plant instrumentation mentioned is part of the reactor protection system and engineered safety feature systems; therefore the uncertainties have been conservatively considered in the determination of the LSSS and LCO's. The test recording instrumentation is described in additional detail in the EPRI report NP 1708 "NSSS Transient Tests at ANO-2" prepared by Combustion Engineering, Inc., May 1981. This information indicates that instrumentation recorded the test data with an acceptable degree of accuracy.

On these bases reconfirm the conclusion made in the SER that there is reasonable assurance that the analysis results dependent on CESEC will not be appreciably altered by any methodology revision that may be required as a result of the staff's further review of the code. We reconfirm our approval of the use of the code in current safety analyses which support operation of the ANO-2 plant in accordance with the current Technical Specifications. Accordingly we find that all parts of the ANO-2 license condition have been satisfied and the condition may be deleted from the license.

ENVIRONMENTAL CONSIDERATION

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 exposures. 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. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

CONCLUSION

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 25, 1989

Principal Contributors: R. Martin
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