

March 2, 2004

Mr. Jeffrey S. Forbes
Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:
REVISION TO CONTROL ROOM EMERGENCY VENTILATION SYSTEM
(CREVS) SURVEILLANCE REQUIREMENTS (TAC NO. MB9930)

Dear Mr. Forbes:

The Commission has issued the enclosed Amendment No. 221 to Renewed Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated June 30, 2003, as supplemented by letter dated December 16, 2003.

The amendment revises the CREVS surveillance requirements (SRs) by modifying an existing SR related to the makeup flow rate to show that it is applicable to the ventilation system fan (VSF)-9 train and by adding a new makeup flow rate SR that is applicable to the 2VSF-9 train.

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

Sincerely,

/RA/

Thomas W. Alexion, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosures: 1. Amendment No. 221 to DPR-51
2. Safety Evaluation

cc w/encls: See next page

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ENTERGY OPERATIONS INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 221
Renewed License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated June 30, 2003, as supplemented by letter dated December 16, 2003, 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, 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.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Renewed Facility Operating License No. DPR-51 is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 221, are hereby incorporated in the renewed license. EOI shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 2, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 221
RENEWED FACILITY OPERATING LICENSE NO. DPR-51
DOCKET NO. 50-313

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

3.7.9-2

Insert

3.7.9-2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 221 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-51

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

1.0 INTRODUCTION

By application dated June 30, 2003, as supplemented by letter dated December 16, 2003, Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for Arkansas Nuclear One, Unit No. 1 (ANO-1). The supplement dated December 16, 2003, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on July 22, 2003 (68 FR 43384).

The proposed changes would revise the control room emergency ventilation system (CREVS) TS surveillance requirements (SRs) by modifying existing SR 3.7.9.4 related to the makeup flow rate to show that it is applicable to the ventilation system fan (VSF)-9 train, and by adding a new makeup flow rate SR (SR 3.7.9.5) that is applicable to the 2VSF-9 train, so that each VSF train will be tested to requirements that are appropriate for the individual fan.

2.0 REGULATORY EVALUATION

The CREVS is a shared system which provides a protected environment from which the operators in the ANO-1 and Arkansas Nuclear One, Unit 2 (ANO-2) control rooms can control their respective units. Upon receipt of a unit-specific high radiation signal or high chlorine concentration, the control room envelope is isolated, the associated normal control room ventilation system is shutdown, and the associated unit's CREVS is started.

The CREVS consists of two independent filter trains. One train (VSF-9) consists of a fan, one filter unit assembly rated for 2000 cubic feet per minute (cfm) and an outside air filter unit rated for 333 cfm. Both of these filter unit assemblies are comprised of the necessary roughing filters, high efficiency particulate air (HEPA) filters, and 2-inch charcoal tray adsorber. The other train (2VSF-9) consists of a fan, roughing filters, HEPA filters, and a 4-inch deep bed charcoal adsorber rated for 2000 cfm. An outside air damper with the accompanying ductwork is connected to 2VSF-9. For either fan, outside air used for pressurization is filtered through a total of four inches of charcoal adsorber and the recirculation air goes through at least two inches of charcoal bed. Due to space limitations, the two filter trains were designed differently.

The primary regulation related to the CREVS and its design and safety functions is 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 19. This GDC requires, in part, that adequate radiation protection be provided to the operators to permit access and occupancy of the control room under accident conditions. In particular, it requires that the operators not be subject to radiation exposures in excess of 5 rem whole body, or its equivalent, to any part of the body for the duration of the accident. An exposure of 30 rem is generally accepted as the equivalent dose to the thyroid.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes to CREVS TS SRs

Current SR 3.7.9.4

| SURVEILLANCE | | FREQUENCY |
|--------------|---|-----------|
| SR 3.7.9.4 | Verify the system makeup flow rate is ≥ 300 and ≤ 366 cfm when supplying the control room with outside air. | 18 months |

Proposed SR 3.7.9.4 and SR 3.7.9.5

| SURVEILLANCE | | FREQUENCY |
|--------------|---|-----------|
| SR 3.7.9.4 | Verify VSF-9 makeup flow rate is ≥ 300 and ≤ 366 cfm when supplying the control room with outside air. | 18 months |
| SR 3.7.9.5 | Verify 2VSF-9 makeup flow rate is ≥ 418.5 and ≤ 511.5 cfm when supplying the control room with outside air. | 18 months |

The staff reviewed the system design of the ANO-1 CREVS with respect to compliance with GDC 19 requirements for control room habitability. The staff determined that the license amendment request makes the existing SR, SR 3.7.9.4, now in effect for the VSF-9 train of the CREVS fan, specific for VSF-9, and that it adds a fan-specific SR, SR 3.7.9.5, for 2VSF-9 in the 2VSF-9 train of the CREVS. The staff understands that because of system design differences, the two fans operate at different design flow rates. The staff considered the increased flow range for 2VSF-9 in SR 3.7.9.5 and concluded, based on the licensee's submittal, that it was the correct flow range for the 2VSF-9 fan surveillance program, that the flow rate was acceptable with respect to the 2000 cfm rated 4-inch deep bed filter, and that the design basis analysis results were acceptable considering the increased flow rate. Additional discussion of the impact of this change on control room habitability follows in the next section. The staff finds that this change in SRs is more reflective of the system operation and has no impact on the health and safety of the public and control room operators.

3.2 Radiological Consequences and Control Room Habitability

The requested TS changes do not change the amount of radioactive material released to the outside environment, nor do they change the dose mitigation capabilities of the CREVS. The ANO-1 current licensing basis calculation assumes that the VSF-9 fan is in operation. In its letter dated December 16, 2003, the licensee provided analysis information that shows the

control room thyroid dose as analyzed for VSF-9 operation, bounds that for 2VSF-9 operation for a range of control room unfiltered inleakage assumptions. Considering the above, the NRC staff has determined that the requested changes to the CREVS SRs would not negatively impact the radiological consequences offsite or in the control room.

3.3 Evaluation Summary

On the basis of the above regulatory and technical evaluations of the licensee's justifications for TS changes, the staff finds that changes to the TSs for ANO-1 to amend SR 3.7.9.4 and add SR 3.7.9.5 are acceptable and that the changes do not adversely impact the health and safety of the public or the control room operators.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 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 amendments involve 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 (68 FR 43384, dated July 22, 2003). 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.

6.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: E. Forrest
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Date: March 2, 2004

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cc:

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