

Supplement No. 2

To The

Safety Evaluation

By The

Directorate of Licensing

U. S. Atomic Energy Commission

In the Matter of

Duke Power Company

Oconee Nuclear Station Units 2 and 3

Docket Nos. 50-270, -287

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1.0 Introduction

The AEC Regulatory staff's Safety Evaluation Report (SER), dated July 6, 1973, and its Supplement No. 1, dated August 2, 1973, of the Duke Power Company (applicant) application for a license to operate its Oconee Nuclear Station Units 2 and 3 was sent to the Advisory Committee on Reactor Safeguards (ACRS or Committee) in preparation for the Committee's August 1973 meeting. At that meeting, the ACRS reviewed the application, and subsequently, reported its findings to the Commission by letter dated August 14, 1973.

This supplement describes the steps that have been or are being taken by the AEC Regulatory staff (staff) with respect to specific issues identified in the ACRS report.

In addition, the supplement contains a concluding statement relating to the staff's evaluation of the structural capability of the steam generator subcompartment. It also contains an updated chronology as Appendix A and the report of the ACRS as Appendix B.

2.0 Report of the Advisory Committee on Reactor Safeguards

The ACRS completed its review of the Oconee Units 2 and 3 operating license application at a meeting held August 9, 1973. The staff has considered the comments and recommendations made by the ACRS. The steps which the staff has taken or will take relative to these comments and recommendations are described in the following paragraphs.

2.1 Operation at 2568 MWt

The Committee believes that the operation of Oconee Unit 1 at power levels up to 2452 MWt should be found satisfactory by the staff before Unit 1 and Units 2 and 3 are operated at full licensed power (2568 MWt). The applicant is required to provide an operating report on Unit 1 for the staff's review prior to proceeding above 2452 MWt (95% of full rated power). Units 2 and 3 will be restricted by Technical Specifications to power levels below 95% full rated power until such time as the staff is satisfied that the operating experience of Unit 1 at power levels up to 2452 MWt further demonstrates that the Oconee Units can be safely operated at 2568 MWt.

2.2 Positive Moderator Temperature Coefficient

The Committee's concern with regard to operation with a positive moderator temperature coefficient will be resolved in a manner satisfactory to the staff in the Technical Specifications. The moderator temperature coefficient will be restricted to values less than (more negative) those values employed in the safety evaluation accident

analysis. The Technical Specifications will prohibit operation above 95% power unless the moderator temperature coefficient is zero or less.

2.3 Pump Overspeed

The staff is investigating on a generic basis the consequences of an unlikely rupture of a reactor coolant pipe which in certain locations could result in reactor coolant pump overspeed. If this study indicates that additional protective measures are warranted to prevent significant pump overspeed or the potential consequences to safety related equipment, the staff will require the applicant to provide these protective measures.

2.4 Common Mode Failure and Anticipated Transients Without Scram

The staff's position with regard to this potential problem is stated in Section 7.1.10 of the SER.

2.5 Control of Power Peaking Factors and Linear Heat Rate

The Committee recommends that the staff establish suitable criteria for those measures which will be taken to prevent operating under conditions which might result in exceeding acceptable fuel limits established from accident studies and other considerations. The Committee also recommends that the staff provide suitable bases for evaluating future core loadings (beyond the first fuel cycle).

The applicant will be required to provide alarms and administrative procedures acceptable to the staff prior to operation of Unit 2

to prevent exceeding acceptable fuel limits. In addition, power distribution maps will be required periodically during steady state and following transient operation in order to verify predicted power distributions.

2.6 Changes in AEC ECCS Acceptance Criteria

In the event of changes in the AEC ECCS Acceptance Criteria, operating limits will be re-evaluated and changes acceptable to the staff will be incorporated into the Technical Specifications.

3.0 Other Matters3.1 Steam Generator Subcompartment Structural Capability

The staff's analysis of the steam generator subcompartment overpressure and structural capability is discussed in Section 6.2 of the SER. The staff has completed its review of the subcompartment structural capability and concluded that it is adequate to withstand the calculated 15 psi overpressure resulting from a LOCA. Our review confirmed the applicant's conclusion which was based on an examination of the walls as a series of horizontal, continuous strips with the weakest point of the weakest strip governing the strength of the entire compartment.

4.0 Conclusions

The staff's conclusions as stated in the SER remain unchanged.

Appendix A

Supplement to Chronology of Regulatory
Review of the Duke Power Company
Oconee Nuclear Station Unit Nos. 2 and 3

1. June 29, 1973 Application Amendment No. 42 provided
Revision 29 to the FSAR and Technical
Specifications for Units 1 and 2 operation.
2. July 23, 24, 1973 ACRS Subcommittee site visit and meeting.
3. August 9, 1973 ACRS meeting.
4. September 4, 1973 Application Amendment No. 43, provided
Revision 30 to the FSAR and revised
Technical Specifications for Units 1
and 2 operation.