



# Entergy Operations

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November 7, 1991

1CAN119102

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Cycle 10 Core Operating Limits Report and  
Proposed Technical Specification Change Request  
Per Generic Letter 88-16

Gentlemen:

Generic Letter 88-16 dated October 4, 1988 (OCNA108809), "Removal of Cycle-Specific Parameter Limits from Technical Specifications", encouraged licensees to propose changes to Technical Specifications to control cycle specific parameters under a separate document. This proposed amendment applies the guidance of Generic Letter 88-16 to remove the Arkansas Nuclear One - Unit 1 (ANO-1) cycle specific variables from the Technical Specifications and control them under a new document called the ANO-1 Core Operating Limits Report. The proposed ANO-1 Technical Specifications and the ANO-1 Cycle 10 Core Operating Limits Report for the current operating cycle are attached for your review.

In accordance with 10CFR50.91(a)(1) and using the criteria in 10CFR50.92(c), Entergy Operations has determined that these changes involve no significant hazards consideration. The basis for these determinations are included in the enclosed submittal.

Although the circumstances of this request are neither emergency nor exigent, prompt review and approval of this proposed amendment is requested prior to startup from our next refueling outage which is currently scheduled for completion on April 21, 1992. We request that the license amendment be effective upon issuance. This submittal is being made in lieu of a cycle specific submittal for Cycle 11. A Cycle 11 Core Operating Limits Report will be submitted to the NRC upon issuance. If you have any further questions, please do not hesitate to contact my staff.

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Page 2

Very truly yours,

  
N. S. Carns

NSC/sjf  
Attachment

cc: Mr. Robert Martin  
U. S. Nuclear Regulatory Commission  
Region IV  
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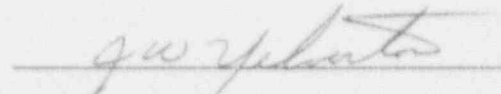
Ms. Greta Dicus, Director  
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and Emergency Management  
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STATE OF ARKANSAS )  
COUNTY OF LOGAN )

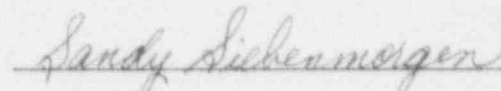
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O A T H

I, J. W. Yelverton, being duly sworn, subscribe to and say that I am General Manager, Plant Operations AND for Entergy Operations; that I have full authority to execute this oath; that I have read the document numbered 1CAN119102 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.

  
J. W. Yelverton

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 7th day of November, 1991.

  
Notary Public

My Commission Expires:

May 11, 2000

ENCLOSURE

PROPOSED TECHNICAL SPECIFICATION

AND

RESPECTIVE SAFETY ANALYSES

IN THE MATTER OF AMENDING

LICENSE NO. DPR-51

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT 1

DOCKET NO. 50-313

## PROPOSED CHANGE

The proposed amendment would change ANO-1 Technical Specifications 1.0, 3.5.2.4, 3.5.2.5, 3.5.2.6, Bases of 3.5.2, and 6.12. Revised copies of the affected pages are included in this attachment. The following changes are proposed:

- a. Index is revised to reflect change.
- b. Section 1.11 is being added to the definitions section to define the CORE OPERATING LIMITS REPORT.
- c. Control Rod Group and Power Distribution Limits of Technical Specification 3.5.2 contain the following changes:
  1. Section 3.5.2.4 is modified to reference the CORE OPERATING LIMITS REPORT, which will now provide the specified limits to use.
  2. Section 3.5.2.5 is modified to reference the CORE OPERATING LIMITS REPORT, which will provide the control rod position setpoints and the APSR insertion limits.
  3. Section 3.5.2.6 is modified to reference the CORE OPERATING LIMITS REPORT, which will provide the reactor power imbalance setpoints for operation.
  4. Figures 3.5.2-1A, page 48b, through 3.5.2-5, page 48n will be deleted and placed in the CORE OPERATING LIMITS REPORT. These figures will be exactly the same when placed into the CORE OPERATING LIMITS REPORT.
  5. The Bases for Technical Specification 3.5.2 is modified to reference the CORE OPERATING LIMITS REPORT.
  6. Consistent terminology is used for quadrant power tilt limits, reactor power imbalance setpoints, and control rod position setpoints.
- d. Section 6.12.3 is being added to reporting requirements to reference the CORE OPERATING LIMITS REPORT.

The pages would be revised as follows:

<u>Remove</u>	<u>Insert</u>
i	i
iv	iv
v	--
vi	--
5b	--
6	6
47	47
48	48
48a1	48a1
48aa	--
48b-n	--
142	142
143	--
144	--
145	--

## BACKGROUND

Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications", encouraged licensees to remove cycle-specific parameter limits from their Technical Specifications and place them in a formal report provided the limits are developed using an NRC-approved methodology. This involves addition of an administrative reporting requirement to submit the formal report on a reload cycle dependent basis and modifications to Technical Specifications to replace these limits with a reference to the defined formal report. These proposed changes will, in the future, remove an unnecessary burden on the licensee and the NRC to prepare and review reload license amendments.

## DISCUSSION

This amendment request removes cycle specific core operating limits from the ANO-1 Technical Specifications in a manner consistent with the guidance provided in Generic Letter 88-16. These proposed changes involve taking Quadrant Power Tilt Limits, Control Rod Position Setpoints, APSR Insertion Limits, Reactor Power Imbalance Setpoints, and LOCA Linear Heat Rate Limits out of the ANO-1 Technical Specifications and Bases and placing them into a formal report. This report will be called the CORE OPERATING LIMITS REPORT (COLR). These limits removed from Technical Specifications will not change for the current cycle of operation. They will only be transferred into the COLR. The Technical Specifications that are affected will refer the user to the COLR for that particular limit or setpoint when needed. These limits and setpoints are calculated as a part of the reload report for each cycle for which a 10CFR50.59 review will be performed. The analytical techniques employed in the analysis have been previously accepted by the NRC and referenced in the COLR.

Each accident analysis addressed in the ANO-1 Safety Analysis Report (SAR) has been considered in the reload report for a particular cycle. This is done with respect to changes for any cycle specific parameters to ensure that thermal performance during hypothetical transients is acceptable. For reload modification, the margins of safety for fuel system design, nuclear design, and thermal-hydraulic design are addressed in the reload report. The applicable limits and setpoints are determined to be within allowable limits and requirements for acceptable operation for a particular cycle.

The quadrant power tilt limits, control rod position setpoints, and reactor power imbalance setpoints of Technical Specification 3.5.2, and LOCA linear heat rate limits of TS Bases 3.5.2, which will be placed in the COLR, assure that the maximum cladding temperature will not exceed the final acceptance criteria in 10CFR50, Appendix K, assuming worst case power distribution. These limits and setpoints were determined using NRC approved codes and methodology, taking into account all perceived uncertainties, worst case conditions and core burnup.

The control rod position setpoints assure hot shutdown by reactor trip under any conditions and ensure that power peaking criteria are not exceeded. These setpoints preclude the insertion of rod groups which could result in any single rod worth greater than the safety analysis assumption for the rod ejection transient. The physical design and actual rod worths of the control rods have not changed nor has cycle operation. The simplified gray APSR position limits have been analyzed using worst case conditions and time of core life such that core peaking limits are not violated.

## DETERMINATION OF SIGNIFICANT HAZARDS

Entergy Operations has performed an analysis of the proposed change in accordance with 10CFR50.91(a)(1) regarding no significant hazards consideration using the standards in 10CFR50.92(c). A discussion of those standards as they relate to this amendment request follows:

Criterion 1 - Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The removal of cycle dependent variables from Technical Specifications and placing them into a COLR has no impact on plant operation or safety. The Technical Specifications will continue to require operation within the core operational limits for each cycle reload calculated by the approved reload design methodologies. The values or setpoints placed in the COLR are addressed in the Reload Report. The reload report presents the results of an evaluation of accidents addressed in the ANO-1 SAR. The evaluation demonstrates that changes in the fuel cycle design and the corresponding COLR do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Criterion 2 - Does Not Create the Possibility of a New or Different Kind of Accident from any Accident Previously Evaluated

The removal of cycle specific variables would not create the possibility of a new or different kind of accident from any previously analyzed. The cycle specific variables will continue to be calculated using NRC approved methods. This change consists of relocating the cycle specific variables from the Technical Specifications to the COLR. Technical Specifications will continue to require operation within the required core operating limits and appropriate actions will be taken if the limits are exceeded. The Technical Specification changes result in no significant changes to the operation of the unit.

Criterion 3 - Does Not Involve a Significant Reduction in a Margin of Safety

The proposed changes do not involve a significant reduction in a margin of safety since these changes only involve transferring data from one document to another. The limits or setpoints themselves will not change until the next fuel cycle. These values are originally provided in the Reload Report for a particular cycle. The development of limits for future reloads will continue to conform to methods described in NRC approved documentation. Each future reload will involve a 10CFR50.59 safety review to assure that operation of the unit within the cycle specific limits will not involve a significant reduction in a margin of safety.

Therefore, based on the reasoning presented above and the previous discussion of this amendment request, Entergy Operations has determined that the requested changes do not involve a significant hazards consideration.