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October 27, 1993

2CAN109304

U. S. Nuclear Regulatory Commission

Document Control Desk

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Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
Technical Specification Change Request Concerning The Arkansas  
Nuclear One - Unit 2 Emergency Core Cooling System Throttle Valves

Gentlemen:

Attached for your review and approval is a proposed Arkansas Nuclear One - Unit 2 (ANO-2) Technical Specification (TS) change which relocates the requirements currently specified by TS 4.5.2.g.1 to a licensee controlled document to further the goals of TS improvements as delineated in NRC policy statements.

The proposed change has been evaluated in accordance with 10CFR50.91(a)(1) using criteria in 10CFR50.92(c) and it has been determined that this change involves no significant hazards considerations. The bases for these determinations are included in the attached submittal.

Entergy Operations requests that the effective date for this change be 30 days after NRC issuance of the amendment to allow sufficient time to implement procedure changes required to support the amendment. Although this request is neither exigent nor emergency, your prompt review is requested.

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Very truly yours,

*Jerry W. Yelverton*

JWY/cws  
Attachments

To the best of my knowledge and belief, the statements contained in this submittal are true.

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for Logan  
County and the State of Arkansas, this 27th day of October, 1993.

*Sandy Sielkenmorgen*

Notary Public

My Commission Expires May : 2000

cc: Mr. James L. Milhoan  
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ATTACHMENT

TO

2CAN109304

PROPOSED TECHNICAL SPECIFICATION

AND

RESPECTIVE SAFETY ANALYSES

IN THE MATTER OF AMENDING

LICENSE NO. NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT TWO

DOCKET NO. 50-368

## **DESCRIPTION OF PROPOSED CHANGES**

The proposed change deletes Arkansas Nuclear One - Unit 2 (ANO-2) Technical Specification (TS) 4.5.2.g.1 from the TS. The requirement to verify the correct position of each electrical and/or mechanical position stop for the Emergency Core Cooling System (ECCS) throttle valves within 4 hours of each valve stroking operation or maintenance on the valve will be relocated, as appropriate, to the Arkansas Nuclear One procedures that control the maintenance and operation of these valves. TS 4.5.2.g has been reformatted, incorporating the requirements of TS 4.5.2.g.2 as a result of the deletion of TS 4.5.2.g.1.

## **BACKGROUND**

The ECCS throttle valves are normally closed, motor-operated valves that have a safety function to open to allow flow of safety injection into the reactor coolant system (RCS). The valves have electrical position stops (limit switches) which are set to obtain the required flow distribution for high and low pressure safety injection following a loss of coolant accident (LOCA). TS 4.5.2.g.1 requires that the position stops for any of the subject valves be verified following any evolution that could potentially affect the valve's position stop setting. Typical evolutions that ANO has concluded, in the past, require position stop verification per the TS include valve or actuator maintenance or modification, calibration, and stroking the valve to its calibrated full open position.

## **DISCUSSION OF CHANGE**

On February 6, 1987, the NRC published its Interim Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors in the Federal Register (52FR3788). The NRC Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors provides criteria to be utilized in determining which requirements need to be governed by TS. The goal is to assure that TS requirements are consistent with 10CFR50.36 and have a sound safety basis. Following the guidance of the NRC Policy Statement, using the criteria contained therein, the owners groups proposed improved Standard TS (STS) that were subsequently approved and published by the staff as improved STS NUREG reports. The requirement to verify the correct position of the valve position stops on the ECCS throttle valves following stroking operations or maintenance was not incorporated in NUREG-1432 "Improved Standard Technical Specifications for Combustion Engineering Plants" issued in September 1992.

Proper operation of the open position stop (or limit switch) on the ECCS throttle valves is required to assure proper flow balance between the injection flow paths and to prevent physical damage to the valve or operator during any full stroke operation. Proper initial setting, maintenance, and periodic reverification of proper setting of torque, torque bypass, position limits, and overload switches on safety-related motor-operated valves (MOVs) at ANO-2 is controlled by commitments made in response to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," issued June 28, 1989, and its supplements.

Entergy Operations has taken the position in the past that typical evolutions that would require position stop verification in accordance with TS 4.5.2.g.1 include valve or actuator maintenance or modification, calibration, and stroking the valve to its calibrated full open position. However, GL 89-10 does not require verification of the switch settings each time the ASME Code stroke-time test is performed although this test results in stroking the ECCS throttle valve to its calibrated full open position. In order to verify the position of the position stops, the affected ECCS throttle valve must be stroked to its calibrated full open position. This would seem to imply that the position of the position stop must be verified again, entering an endless loop of stroking and verification. GL 89-10 requires verification of switch settings to identify potential MOV degradations or misadjustments after maintenance or adjustment of each MOV, and periodically thereafter, but does not require verification of switch settings following valve stroking operations.

ANO-2 maintenance history was reviewed for the eight high pressure safety injection and four low pressure safety injection throttle valves and their motor operators that are subject to the requirements of TS 4.5.2.g.1. There have been only four instances since the beginning of 1985 where a failure of the open limit switch to stop valve travel at the correct position was documented. Furthermore, no industry experience exists which would indicate a generic problem with limit switch operation due to valve stroking operations. This conclusion is based on the participation of ANO personnel in the Motor-Operated Valve Users Group (MUG) over the last 6 years where such generic problems would be made known.

The maintenance history review has shown that there was no evidence that stroking an ECCS throttle valve to the open position stop affects future operation of the position stop. Based on the maintenance history review and supported by information contained in GL 89-10, Entergy Operations now believes that verification of position switch settings should be performed following maintenance or adjustment of the ECCS throttle valves and periodically thereafter, but that this verification is not required following normal valve stroke operations. The plant operating procedures currently contain requirements to verify the ECCS throttle valve position stop settings following maintenance and stroking operations. Therefore, following approval of this change, plant operating procedures will be revised to delete the requirement to verify the position stop setting following normal stroke operations. Post-maintenance verification of the position stop settings will be maintained in the plant operating procedures. The relocation of the requirement to verify the position stop settings following maintenance is considered to be administrative in nature.

With respect to periodic verification of switch settings, GL 89-10 suggests that the surveillance interval should be based on the licensee's evaluation of the safety importance of each MOV as well as its maintenance and performance history. This surveillance interval should not exceed 5 years or three refueling outages, whichever is longer, unless a longer interval can be justified for a particular MOV. ANO-2 TS 4.5.2.g.2 specifies verification of correct position of each electrical and/or mechanical position stop for the ECCS throttle valves at least once per 18 months. This requirement remains unchanged in the ANO-2 TS in accordance with the NUREG-1432 specifications and in accordance with the program schedule of GL 89-10.

### **DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION**

An evaluation of the proposed change has been performed in accordance with 10CFR50.91(a)(1) regarding no significant hazards considerations using the standards in 10CFR50.92(c). A discussion of these 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 proposed change relocates the requirements concerning verification of correct position stop position following maintenance to licensee controlled documents, consistent with NUREG 1432 "Improved Standard Technical Specifications for Combustion Engineering Plants." The Operations and Maintenance procedures, which will contain these requirements, are controlled under the criteria set forth in 10CFR50.59. The position of the position stops will be verified following maintenance or adjustment of the ECCS throttle valves and periodically thereafter. The position stops will be verified at least every 18 months, as required by TS 4.5.2.g.2. The relocation of these position stop verification requirements is considered to be administrative in nature.

The ECCS throttle valves are not initiators of any accident previously evaluated. Therefore, the deletion of the requirement to verify the correct position of the position stops within 4 hours following completion of each valve stroking operation will not result in the increase in the probability of any accident previously evaluated. The ANO-2 maintenance history reviewed for the eight ECCS throttle valves subject to the requirements of TS 4.5.2.g.1 has shown only four documented instances of failure of the open position stop to stop valve travel at the correct position since the beginning of 1985.

The deletion of the requirement to verify the correct position of the position stops following completion of each valve stroking operation will result in fewer challenges to the proper operation of the ECCS throttle valves. The probability of inducing a position stop failure due to valve stroking operations is considered to be highly unlikely. The process of position stop setting verification results in unnecessary additional challenges that could result in overall lower valve reliability. Therefore, position stop setting verification beyond that required for post-maintenance testing and periodically thereafter, as required by TS 4.5.2.g.2, is considered unwarranted. Since valve reliability will not be decreased as a result of this change, there is no significant increase in the consequences of any accident previously analyzed.

Therefore, this change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

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

Because the proposed change does not change the design, configuration, or method of



operation of the plant, it does not create the possibility of a new or different kind of accident. The proposed change does not allow the ECCS throttle valves to be operated in any new or different way from what is currently allowed.

Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

The proposed change relocates the requirements concerning verification of correct position stop position following maintenance to licensee controlled documents, consistent with NUREG 1432 "Improved Standard Technical Specifications for Combustion Engineering Plants." The Operations and Maintenance procedures, which will contain these requirements, are controlled under the criteria set forth in 10CFR50.59. The position of the position stops will be verified following maintenance or adjustment of the ECCS throttle valves and periodically thereafter. The position stops will be verified at least every 18 months, as required by TS 4.5.2.g.2. The relocation of these position stop verification requirements is considered to be administrative in nature and does not involve a significant reduction in the margin of safety.

The ANO-2 maintenance history reviewed for the eight ECCS throttle valves subject to the requirements of TS 4.5.2.g.1 has shown only four documented instances of failure of the open position stop to stop valve travel at the correct position since the beginning of 1985. The deletion of the requirement to verify the correct position of the position stops following completion of each valve stroking operation will result in fewer challenges to the proper operation of the ECCS throttle valves. The probability of inducing a position stop failure due to valve stroking operations is considered to be highly unlikely. The process of position stop setting verification results in unnecessary additional challenges that could result in overall lower valve reliability. Therefore, position stop setting verification beyond that required for post-maintenance testing and periodically thereafter, as required by TS 4.5.2.g.2, is considered unwarranted. Since valve reliability will not be decreased as a result of this change, there is no significant reduction in the margin of safety.

Therefore, this change does not involve a significant reduction in the margin of safety.

Therefore, based upon the reasoning presented above and the previous discussion of the amendment request, Entergy Operations has determined that the requested change does not involve a significant hazards consideration.