



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

November 24, 1992

Docket Nos. 50-313
and 50-365

Mr. Jerry W. Yelverton
Vice President, Operations
Entergy Operations, Inc.
Route 3, Box 137G
Russellville, Arkansas 72801

Dear Mr. Yelverton:

SUBJECT: STAFF REVIEW OF GENERIC LETTER 90-06, "RESOLUTION OF GENERIC ISSUE 70, 'POWER-OPERATED RELIEF VALVE AND BLOCK VALVE RELIABILITY,' AND GENERIC ISSUE 94, 'ADDITIONAL LOW-TEMPERATURE OVERPRESSURE PROTECTION FOR LIGHT-WATER REACTORS,' PURSUANT TO 10 CFR 50.54(f)," ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (ANO-1&2) (TAC NOS. T-7326 AND M77327)

By letters dated December 21, 1990 (separate responses for ANO-1 and ANO-2), and June 18, 1991 (response for ANO-2), Entergy Operations, Inc. (the licensee) responded to Generic Letter (GL) 90-06 for ANO-1&2. The GL represented the technical resolution of two generic issues (GIs) and included plant backfits which were cost-justified safety enhancements. GI-70 included upgrades in quality requirements, inservice testing (IST) requirements, and modified technical specifications for all pressurized water reactor facilities that incorporate power-operated relief valves (PORVs) and block valves in their design. The intended purpose was to enhance the overall reliability of the PORVs and block valves so that they could better perform the safety functions identified in the GL. GI-94 included modified technical specifications for all Westinghouse and Combustion Engineering facilities to reduce the allowed outage time for an inoperable low-temperature overpressure protection (LTOP) channel and thus reduce the probability of over-pressurization events during shutdown conditions.

The staff has reviewed your submittals related to GI-70 and finds that you have not adequately responded to selected portions of the GL. It is the staff's position that a regulatory analysis has been performed in accordance with 10 CFR 50.109(a)(3) and 50.109(c) which justifies the backfit. Therefore, absent any information that demonstrates that your facility is not bounded by the regulatory analysis that accompanied the GL, you are requested to resubmit a response that is in keeping with the intent of the GL.

The staff position for the resolution of GI-70 required technical specification upgrades as presented in the GL. Our review of your submittal indicates that you have declined the staff position. The staff will not accept, without sufficient justification, the position that the technical specification upgrades are unnecessary because the PORVs are not the primary

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means of dealing with the three safety functions or other functions (i.e., feed and bleed cooling) identified in the GL. Some specific areas of concern in your submittals are as follows.

The intent of GL 90-06 in regards to GL-70 was to improve the performance of power-operated relief valves (PORVs) and block valves when used for any safety function, including feed and bleed cooling. In your June 18, 1991, submittal for Unit 2, it was implied that valve 2CV4698-1 is used in conjunction with valve 2CV-4740-2 to provide an emergency core cooling system (ECCS) vent path for depressurization in the event of a small-break loss-of-coolant accident (LOCA) or a total loss of feedwater. The staff concludes that these valves should be considered in your response to GL 90-06.

In the Unit 1 submittal, the basis for not relying upon the electromechanical relief valve (ERV) to perform in a steam generator tube accident (SGTA) assumes the availability of offsite power. The staff's analysis assumes loss of offsite power.

As discussed in NUREG-1316, most of the safety enhancement for the proposed backfit is derived from the increase in feed and bleed capability. Therefore, for those facilities with two PORVs that can accomplish the three safety functions and the feed and bleed cooling without relying on the PORVs or their equivalents, the allowed outage time (AOT) for an inoperable PORV (for reasons other than excessive leakage) may be increased from the recommended 72 hours to 7 days.

The staff position also required the 18-month PORV stroke test to be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) and in all cases prior to establishing conditions where the PORVs are used for LTOP. Your submittal did not adequately meet this staff position. The staff is not accepting Mode 5 (COLD SHUTDOWN) testing simply because it is allowed by the ASME Code or that the NRC-approved IST program includes Mode 5 for this particular test.

The requirement to perform stroke tests of the PORVs during Modes 3 or 4 is a new position for some licensees. The basis for this position lies in the uncertainty introduced by stroke testing the PORVs at lesser system temperature conditions and then expecting them to perform adequately at operating system conditions, including feed and bleed situations. If this recommendation is not adopted, a sound technical basis should be provided (e.g., that such testing cannot be performed without significant system modifications or that the intent of such testing is accomplished by some other means). We note that one licensee has proposed the option to bench test the PORVs. This would be acceptable, provided the tests are performed at conditions simulating Mode 3 or 4 conditions or greater and provided the proper reinstallation of the PORVs and controls is verified. In another case, the staff accepted an argument from a licensee that the physical distance between the PORV and the pressurizer maintained the same temperature at the PORV in Modes 3, 4, or 5 such that there is no difference from the valve's

perspective of testing in different modes. In this case the facility had an air-operated PORV and was able to perform the PORV stroke test with the block valve closed such that the PORV would be primarily influenced by the ambient room conditions.

Additionally, the GL required that PORVs be stroke tested in all cases prior to establishing conditions where the PORVs are used for LTOP. This could be interpreted to mean that PORVs should be stroke tested during every shutdown and again during every startup. However, the inclusion of the PORVs in the IST program requires the valves be tested no more frequently than every three months (unless valve maintenance is performed) to demonstrate operability.

In summary, the staff maintains its position that the PORVs should be stroke tested during Modes 3 or 4 in order to verify the capability to function in an environment more representative of operating conditions. In your revised response, discuss how PORV stroke testing provides assurance that the PORVs will perform all necessary safety functions adequately at the required system operating conditions, including feed and bleed cooling.

You are requested to respond within 60 days following receipt of this letter. If you would like to further discuss these issues prior to your resubmittal, please feel free to contact me.

The information requested by this letter is within the scope of the overall burden estimated in GL 90-06 for the resolution of GI-70 and GI-94, which was a maximum of 320 person-hours per licensee response. This request is covered by Office of Management and Budget Clearance Number 3150-0011, which expires May 31, 1994.

Sincerely,

ORIGINAL SIGNED BY:

Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

ORIGINAL SIGNED BY:

Roby B. Bevan, Project Director
Project Directorate IV-1
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cc: See next page

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Docket File	NRC & Local PDRs	PD4-1 Reading	R. Twigg	OGC
J. Roe	M. Virgilio	J. Larkins	R. Young	
P. Noonan	PD4-1 Plant File	T. Alexion	R. Jones	
R. Bevan	ACRS (10) (P-315)	A. B. Beach	J. Norberg	

* See previous concurrence

RBB 11/23/92

OFC	LA:PD4-1	PE:PD4-1*	PM:PD4-1	BC:SRXB*	BC:EMEB*	D:PD4-1
NAME	PNoonan	RTwigg:pk	TAlexion	RJones	JNorberg	JLarkins
DATE	11/13/92	10/28/92	11/23/92	11/16/92	11/19/92	11/24/92

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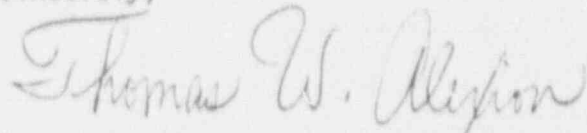
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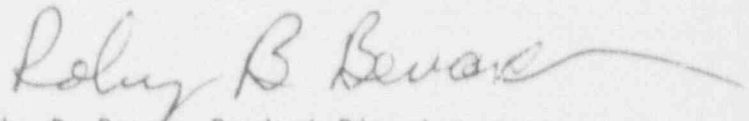
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