



Entergy

Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72801
Tel 501 858-5000

October 2, 1998

2CAN109802

U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station OP1-17
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2
Docket No. 50-368
License No. NPF-6
General Application Of Leak-Before-Break to ANO-2 Reactor Coolant System

Gentlemen:

Entergy Operations, Inc. (Entergy) is in the process of fabricating replacement steam generators for installation in the Arkansas Nuclear One, Unit 2 (ANO-2) facility. The steam generator replacement is scheduled for the fall of 2000 during the 14th Unit 2 refueling outage. The design of the replacement steam generators will utilize state-of-the-art replacement materials and technology. In addition, the reactor coolant system (RCS) analysis in support of the replacement steam generators plans to use leak-before-break (LBB) technology in accordance with Topical Report CEN-367, "Leak-Before-Break Evaluation of Primary Coolant Loop Piping in Combustion Engineering (CE) Designed Nuclear Steam Supply Systems."

By letter to the Combustion Engineering Owners Group dated October 30, 1990, the NRC Staff provided an evaluation of Topical Report CEN-367. In that evaluation the staff concluded that CEN-367 was acceptable for use by certain CEOG plants, including Arkansas Nuclear One, Unit 2. In its conclusion, the staff stipulated that "when referencing the CEOG topical report as a technical basis for applying LBB to primary loop piping, licensees must submit information to demonstrate that leakage detection systems installed at the specific facility are consistent with Regulatory Guide 1.45, Reactor Coolant Pressure Boundary Leakage Detection Systems."

On September 16, 1994 (2CAN099402), Entergy requested NRC staff approval to apply LBB technology in accordance with Topical Report CEN-367 for installation of a permanent reactor pressure vessel seal plate over the reactor vessel annulus in ANO-2. Entergy provided a comparison of the ANO-2 RCS leak detection systems to the guidelines of R.G. 1.45. In a

9810060193 981002
PDR ADOCK 05000368
P PDR

1/0
A001

U. S. NRC

October 2, 1998

2CAN109802, Page 2

subsequent submittal dated February 29, 1996 (2CAN029602), ANO-2 described additional enhancements to the containment sump level monitoring to improve system sensitivity.

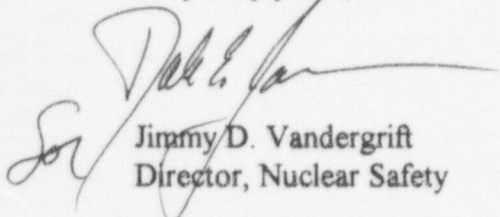
The NRC Staff reviewed the ANO-2 RCS leakage detection systems to determine if the systems are consistent with R.G. 1.45. Based on its review of the RCS leakage detection systems at ANO-2 the staff concluded in their Safety Evaluation dated June 18, 1996 (2CNA069601), that with the modifications described in the ANO-2's February 29, 1996 submittal, the leakage detection systems are consistent with the guidance in R.G. 1.45. Specifically, the NRC Staff concluded that "the RCS leakage detection systems are adequate to support the application of LBB technology as described in Topical Report CEN-367 which was found acceptable for referencing in the staff's Safety Evaluation dated October 30, 1990."

The initial application of LBB technology on ANO-2 was for the permanent seal plate above the reactor vessel annulus. However, the NRC criteria for application CEN-367 for primary loop piping was that the licensee demonstrate that leakage detection systems installed at the specific facility are consistent with R.G. 1.45. As discussed above, ANO-2 adequately demonstrated that the leakage detection system met the guidance found in R.G. 1.45 as provided in letters to the NRC dated September 16, 1994, and February 29, 1996, and approved by the NRC staff on June 18, 1996.

Therefore, Entergy concludes that other ANO-2 RCS piping applications for LBB technology, within the scope of CEN-367, are correspondingly acceptable. Based on the NRC's acceptance of the ANO-2 leakage detection systems for compliance to CEN-367, Entergy intends to apply the leak-before-break methodology to the ANO-2 replacement steam generator analyses and other acceptable applications under the requirements of 10CFR50.59.

No specific NRC action is being requested by this letter. If you have questions regarding our proposed action, please contact me.

Very truly yours,



Jimmy D. Vandergrift
Director, Nuclear Safety

JDV/sab

U. S. NRC
October 2, 1998
2CAN109802, Page 3

cc: Mr. Ellis W. Merschoff
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Arkansas Nuclear One
P.O. Box 310
London, AR 72847

Mr. William D. Reckley
NRR Project Manager Region IV/ANO-1 & 2
U. S. Nuclear Regulatory Commission
NRR Mail Stop 13-H-3
One White Flint North
11555 Rockville Pike
Rockville, MD 20852