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March 26, 2003

Nuclear Regulatory Commission
Document Control Desk
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Washington, DC 20555

Subject: Arkansas Nuclear One, Unit 2
Docket No. 50-368
Response to Request for Additional Information Regarding the Power Uprate
Startup Testing Report Supplement

Reference: Entergy Operations, Inc. letter to the NRC dated January 31, 2003, "Power
Uprate Startup Testing Report Supplement"

Dear Sir or Madam:

The attachment to this letter provides the response to the request for additional information submitted informally to Entergy Operations, Inc. by the Nuclear Regulatory Commission staff on February 21, 2003. If you have any questions regarding this submittal, please contact Mr. Richard Scheide at 479-858-4618. This submittal contains no new commitments.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 26, 2003.

Sincerely,

A handwritten signature in cursive script that reads "Sherrie R. Cotton".

Sherrie R. Cotton
Director, Nuclear Safety Assurance

SRC/rhs
Attachment

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

U.S. Nuclear Regulatory Commission
Attn: Mr. Thomas W. Alexion MS 0-7 D1
Washington, DC 20555-0001

Response to Request for Additional Information Regarding the Power Uprate Startup Testing Report Supplement for Arkansas Nuclear One, Unit 2

- 1. Please clarify what is meant by secondary side differential pressure. Is it the difference between the steam generator inlet pressure (feedwater) and the outlet pressure (steam pressure)?**

Secondary side differential pressure is defined as the difference between the pressure at the steam generator inlet nozzle entrance and the pressure at the steam nozzle exit. This pressure was determined by collecting pressure data from installed instrumentation upstream of the steam generators (feedwater) and downstream of the exit from the steam generators. These measurements were analytically adjusted to reflect the pressures at the inlet nozzle entrance and the steam nozzle exit.

- 2. Please discuss the cause for the higher than anticipated differential pressure. Provide any test data supporting your assessment.**

Entergy and the replacement steam generator vendor performed an assessment of the steam generator secondary side differential pressure drop. The assessment included a review of fabrication documents as well as the evaluation that predicted the steam generator secondary side pressure drop. The assessment concluded that none of the documented manufacturing variations significantly impacted the secondary side pressure drop and that the predicted pressures were consistent with expected values when standard handbook correlations are used.

By comparing the predicted values to actual data collected at three sites (including ANO-2) with recently replaced steam generators, the vendor determined that reported plant pressure drops consistently tended to be greater than analytical estimates and that there can be significant variations in reported plant data due in part to uncertainties in pressure measurements and line loss estimates.

The vendor concluded that, since the ratios of measured versus analytically estimated pressures for the three plants were consistent, the ANO-2 steam generators are operating within their design basis.

Entergy performed additional evaluations which concluded that instrument error was not a significant contributor to the difference between the actual and predicted differential pressures and that the measured differential pressures are well within the design margins for the secondary system.

3. **Please discuss the implications of these higher than anticipated differential pressures. Discuss any analyses that may be potentially affected by these results [e.g., because the pressure drop across the steam generator (or secondary side) is used in the analyses, or because the analyses use methods/codes similar to those used in determining the "projected" pressure drop]. Please provide the results of any re-analyses performed.**

The steam generator related analyses were reviewed for impact. As stated previously, the measured secondary system differential pressures are well within the design margins of the secondary system. Additionally, it was determined that no other analyses, including safety analyses, were adversely affected. Therefore, there were no re-analyses necessary as a result of the higher than predicted differential pressures.