

December 26, 1990

Docket No. 50-313

Mr. Neil S. Carns  
Vice President, Operations ANO  
Entergy Operations, Inc.  
Route 3 Box 137G  
Russellville, Arkansas 72801

Dear Mr. Carns:

SUBJECT: LICENSE AMENDMENT REQUEST TO MODIFY PRESSURE-TEMPERATURE LIMITS  
(TAC NO. 77665)

By letter dated September 20, 1990, Entergy Operations requested the subject license amendment for Arkansas Nuclear One, Unit 1 (ANO-1). The NRC staff is currently reviewing your application and has determined that additional information is required to complete our review, as identified in the enclosure.

A 60-day response is requested.

Sincerely,

ORIGINAL SIGNED BY:

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

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PDR ADDCK 05000313  
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Enclosure:  
As stated

cc w/enclosure:  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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A 60-day response is requested.

Sincerely,

A handwritten signature in cursive script that reads "Thomas W. Alexion".

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

Enclosure:  
As stated

cc w/enclosure:  
See next page

Mr. Neil S. Carns  
Entergy Operations, Inc.

Arkansas Nuclear One, Unit 1

cc:

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for Operations  
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Honorable Joe W. Phillips  
County Judge of Pope County  
Pope County Courthouse  
Russellville, Arkansas 72801

Ms. Greta Dicus, Director  
Division of Environmental Health  
Protection  
Arkansas Department of Health  
4815 West Markam Street  
Little Rock, Arkansas 72201

ENCLOSURE

1. In the third paragraph of the cover letter, it is stated, "When approved, the revised P/T curves will be adjusted for plant specific instrument error prior to incorporation into plant operating procedures, in the place of applying generic instrument error." What (how much) is the instrument error that will be added to the P/T curves?
2. The staff needs a copy of B&W Report BAW-11511P as shown on page 19.
3. What is the current EFPY for ANO-1?
4. Page 4 of BAW-2106 (part of the submittal) indicated an RT<sub>NDT</sub> of 183°F at 1/4T and 139°F at 3/4T. What are the parameters that make up these values, i.e., the initial RT<sub>NDT</sub>, chemistry factor, chemical content, shift in RT<sub>NDT</sub>, and margin that were used. Also, identify the limiting material that the RT<sub>NDT</sub> calculations were based on.
5. The LTOP Setpoint Basis in the submittal is insufficient in terms of fracture mechanics analysis. An example of an acceptable analysis, as far as the level of detail and technical contents are concerned, is the report, B&W Document 51-117631-01: "Crystal River-3 Reactor Vessel Low Temperature Overpressure Protection," submitted (proprietary) to the NRC on October 31, 1989. A non-proprietary version, B&W 51-1176431-02 was submitted on March 30, 1990.
  - 5a. The staff needs a detailed fracture mechanics analysis on which the LTOP setpoint is based.
  - 5b. Specifically, what is the governing equation used in the fracture mechanics analysis of LTOP? What are the terms included in the equation?
  - 5c. What is the postulated flaw size in the analysis?
  - 5d. The LTOP analysis should also include an analysis from the system operation and system configuration viewpoints. The B&W report provides a good example of what the staff requires.
6. BAW-2106, which is attached to the submittal, references BAW-2075, "Analysis of Capsule AN1-C, Arkansas Power and Light Co., ANO-1," as the source of the 15 EFPY fluence of 0.488 E19 n/cm<sup>2</sup>. Please provide BAW-2075.