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Fred W. Titus
Vice President
Engineering

January 7, 1994

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

SUBJECT: Request For Review of Entergy Proprietary Topical Report "Qualification of Reactor Physics Methods for the Pressurized Water Reactors of the Entergy System," (ENEAD-01-P, Revision 0)

Arkansas Nuclear One Units 1 & 2
Docket Nos. 50-313 & 50-368
License Nos. DPR-51 & NPF-6

Waterford 3 Steam Electric Station
Docket No. 50-382
License No. NPF-38

CNRO-93/0037

Gentlemen:

Entergy Operations is submitting by this letter for your review and approval the enclosed topical report. This report describes the methodology used at Entergy Operations to determine the uncertainties and the resultant "reliability factors" associated with the CASMO/SIMULATE reactor physics models. The results contained in this document were derived from extensive benchmarking efforts performed by Entergy Operations personnel on the three Entergy pressurized water reactors: Arkansas Nuclear One - Unit 1 (ANO-1), Arkansas Nuclear One - Unit 2 (ANO-2), and the Waterford Steam Electric Station - Unit 3 (WSES-3)

CASMO is a multigroup two-dimensional transport theory code for burnup calculations on BWR and PWR fuel assemblies. SIMULATE is an advanced two-group nodal code that uses inputs derived from CASMO to model PWR and BWR core behavior. Engineering currently uses the codes for work on all four Entergy Operations units, but not in applications requiring NRC review/approval.

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Request For Review of Proprietary Topical Report ENEAD-01-P, Revision 0
January 7, 1994
CNRO-93/0037
Page 2 of 3

Entergy Operations now proposes to use these codes to generate input to core monitoring codes used at ANO-1, ANO-2 and WSES-3. These codes would also be used to provide operations with reactivity balance data and predictions of physics parameters for all PWR sites.

The benefits from using the new codes are to allow the use of the same codes for all Entergy Operations' reactor units, to increase the ability to model more advanced core designs, and to reduce the uncertainties of calculated physics parameters.

The CASMO and SIMULATE codes themselves have been approved by the NRC for use at least one other utility. In order to qualify these codes for work affecting core operating limits, reload physics, and/or the reload safety analysis of Entergy Operations PWRs, Entergy Operations is submitting this application specific topical report for your review.

This report is considered proprietary and is being submitted pursuant to 10CFR2.790. Attachment 1 is an affidavit documenting the basis for this proprietary submittal. Entergy Operations requests your review and approval of the attached topical report for use at ANO-1, ANO-2, and WSES-3. In order to meet our refueling schedules, we request your approval by October 31, 1995.

Sincerely,

A handwritten signature in dark ink, appearing to be 'MDH' followed by a flourish.

FWT/JKW/bt
attachment
cc:

(See Next Page)

Request For Review of Proprietary Topical Report ENEAD-01-P, Revision 0
January 7, 1994
CNRO-93/0037
Page 3 of 3

cc: (w/o encl.)

Mr. T. W. Alexion
Mr. R. P. Barkhurst
Mr. R. H. Bernhard
Mr. R. B. Bevan, Jr.
Mr. J. L. Blount
Mr. L. J. Callan
Mr. J. L. Colvin
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DCC (ANO)
Records Center (WF-3)
Corporate File [6]

AFFIDAVIT PURSUANT
TO 10 CFR 2.790

Entergy Operations, Inc.
State of Mississippi
County of Hinds

I, Fred W. Titus, depose and say that I am the Vice President, Engineering of Entergy Operations, Incorporated, (hereafter called "Entergy") and duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations for withholding this information.

The information for which proprietary treatment is sought is contained in the following document:

ENEAD-01-P, "Qualification of Reactor Physics Methods for the Pressurized Water Reactors of the Entergy System", December 23, 1993.

This document has been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by Entergy in designating information as a trade secret, or as confidential commercial or financial information.

The following is furnished, per Section 2.790 paragraph (b) (4) of the Commission's regulations, for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld:

1 - The information sought to be withheld in this submittal is that which is appropriately marked by vertical lines in the aforementioned report. This document is being submitted as a Topical Report and will be referenced in future licensing applications regarding the Entergy pressurized water reactors.

2 - The information considered proprietary consists of extensive measured data, computer simulations, specific computer algorithms, and statistical analyses which were used to justify the use of the overall methodology.

25

Entergy Operations Inc., Proprietary Topical Report ENEAD-01-P, Revision 0
CNRO-93/0037
Attachment 1
Page 2 of 2

3 - Release of the information which is sought to be withheld proprietary might result in the loss of existing or potential competitive advantages. This type of information includes the following:

- a - Information which reveals the distinguishing aspects of a program, methodology, algorithm, or procedure. Prevention of their use without license would provide a competitive advantage over other organizations.
- b - Supporting and test data which aids in the validation of methodologies and thereby provides a competitive advantage such as reduced computer cases or credibility.
- c - Information which is not the property of Entergy but must be treated as such according to agreements with the owner (specifically, ABB-CE).
- d - Information which could reduce the expenditure of resources of a competitor of either Entergy or ABB-CE.

4 - The information is being transmitted to the commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.

5 - Development of this information by Entergy required several thousand of man-hours and several hundred thousands of dollars. A competitor would have to undergo similar expense.