



April 29, 1993

1CAN049301

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Individual Plant Examination for Severe  
Accident Vulnerabilities  
Generic Letter 88-20 (TAC No. M74376)

Gentlemen:

By NRC Generic Letter (GL) 88-20 dated November 23, 1988 (OCNA118827), licensees were requested to perform an Individual Plant Examination (IPE) for Severe Accident Vulnerabilities and submit the results to the NRC. By letter dated March 13, 1992 (OCAN039204), Entergy Operations at Arkansas Nuclear One (ANO) informed the Staff that we would complete the IPE for ANO-1 and submit the results by April 30, 1993. Enclosed is the ANO-1 Probabilistic Risk Assessment (PRA) summary report as required by GL 88-20, IPE for Severe Accident Vulnerabilities. The ANO-2 IPE summary was submitted on August 28, 1992 (2CAN089201).

The ANO-1 IPE scope included a Level I PRA, a limited Level II PRA, and an internal flooding analysis. Objectives for the ANO-1 IPE were established consistent with GL 88-20 and the submittal guidance of NUREG-1335. Entergy Operations personnel were involved in all aspects of the development, quantification, and documentation of the PRA models used in the ANO-1 IPE. Similar to the ANO-2 IPE submittal, Entergy Operations personnel also contributed well over 50% of the total engineering effort (approximately 9 person-years) to the project.

As a result, the IPE provided a comprehensive, detailed analysis of the severe accident behavior for ANO-1 and quantified the overall likelihood of core damage and fission product release. The IPE results show no indication of any plant unique modifications deemed necessary based on the results of our evaluation. The overall core damage frequency of  $4.7 \times 10^{-5}$  per year is below the NRC's Severe Accident Policy Statement goal of less than  $1 \times 10^{-4}$  per reactor year and is consistent with other PWR PRAs. The potential for early (relative to core damage) large off-site releases was conservatively determined to exist for 2.8% of the core melt frequency. The ANO-1 IPE also estimates risk for Unresolved Safety Issue A-45, Generic Issue (GI)-23, and GI-105 which are discussed in the enclosed summary report.

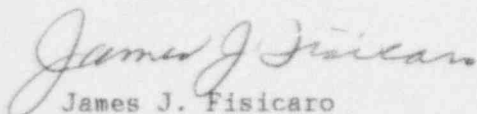
9305040339 930429  
PDR ADDCK 05000313  
P PDR

AD11 2/11

Although no plant specific vulnerabilities have been identified, a number of insights have been gained pertaining to sensitive plant features (i.e., areas where changes can have significant impact on plant risk) and areas of potential plant improvement (both procedural and hardware). These areas are also discussed in detail in the attached report.

This information is being provided to you under affirmation pursuant to 10CFR50.54(f). If you have any further questions, please do not hesitate to contact me or my staff.

Very truly yours,



James J. Fisicaro  
Director, Licensing

JJF/NBM/sjf  
Attachment

cc: Mr. James L. Milhoan  
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 - ANO-1 & 2  
Number 1, Nuclear Plant Road  
Russellville, AR 72801

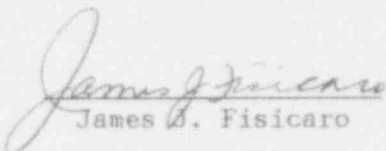
Mr. Roby Bevan  
NRR Project Manager, Region IV/ANO-1  
U. S. Nuclear Regulatory Commission  
NRR Mail Stop 13-H-3  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

Mr. Thomas W. Alexion  
NRR Project Manager, Region IV/ANO-2  
U. S. Nuclear Regulatory Commission  
NRR Mail Stop 13-H-3  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

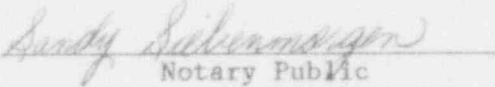
STATE OF ARKANSAS        )  
                                  )  
COUNTY OF LOGAN        )            SS

Affidavit

I, James J. Fisicaro, being duly sworn, subscribe to and say that I am Director, Licensing AND for Entergy Operations, that I have full authority to execute this affidavit; that I have read the document numbered GCAN049301 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.

  
James J. Fisicaro

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 29th day of April, 1993.

  
Notary Public

My Commission Expires:  
May 11, 2000