NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 7337

FILE:

FROM: Arkansas Poer & Light Co. Little Rock, Ark. 72203 J.D. Phillips	DATE OF DOC 7-9-75	DATE REC'D 7-10-75	LTR XX	TWX	RPT	OTHER
TO: Mr. A. Giambusso	ORIG 1 signed	CC 39	OTHER	SENT NRC PDR XX SENT LOCAL PDR XX		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 40	DOCKET NO: 50-313	

DESCRIPTION: Ltr notarized 7-9-75 furn addl info re Re-Evaluation of ECCS Performance & trans the following:

ENCLOSURES: Attachment 1 includes listing of pages to App A, Tech Specs which are revised as a result of re-evaluation of ECCS performance.....

Attachment 2 entitled "Single Failure Analysi
attachments 3 + 4...
(40 cys ea encl rec'd)

PLANT NAME: Arkansas Unit 1

FOR ACTION/INFORMATION DHL 7-10-75

BUTLER (L) W/ Copies	SCHWENCER (L) W/ Copies	ZIEMANN (L) W/ Copies	REGAN (E) W/ Copies
CLARK (L) W/ Copies	STOLZ (L) W/ Copies	DICKER (E) W/ Copies	LEAR (L) W/ Copies
PARR (L) W/ Copies	VASSALLO (L) W/ Copies	KNIGHTON (E) W/ Copies	SPIES W/ Copies
KNIEL (L) W/ Copies	PURPLE (L) W/ Copies	YOUNGBLOOD (E) W/ Copies	LPM W/ Copies

THIS DOCUMENT CONTAINS POOR QUALITY PAGES

INTERNAL DISTRIBUTION

REG FILE	TECH REVIEW	DENTON	LIC ASST	A/T IND
NRC PDR	SCHROEDER	GRIMES	R. DIGGS (L)	BRAITMAN
OGC, ROOM P-506A	MACCARY	GAMMILL	H. GEARIN (L)	SALTZMAN
GOSSICK/STAFF	KNIGHT	KASTNER	E. GOULBOURNE (L)	MELTZ
CASE	PAWLICKI	BALLARD	P. KREUTZER (E)	
GIAMBUSSO	SHAO	SPANGLER	J. LEE (L)	PLANS
BOYD	STELLO		M. RUSHBROOK (L)	MCDONALD
MOORE (L)	HOUSTON	ENVIRO	S. REED (E)	CHAPMAN
DEYOUNG (L)	NOVAK (3)	MULLER	M. SERVICE (L)	~~DUBE (L)~~ E. HUGHES
SKOVHOLT (L)	ROSS	DICKER	S. SHEPPARD (L)	E. COUPE
GOLLER (L) (Ltr)	IPPOLITO	KNIGHTON	M. SLATER (E)	PETERSON
P. COLLINS	TEDESCO	YOUNGBLOOD	H. SMITH (L)	HARTFIELD (2)
DENISE	J. COLLINS	REGAN	S. TEETS (L)	KLECKER
REG OPR	LAINAS	PROJECT LDR	G. WILLIAMS (E)	EISENHUT
FILE & REGION (2)	BENAROYA	MIRAGLIA	V. WILSON (L)	WIGGINTON
MIPC	VOLLMER	HARLESS	R. INGRAM (L)	VARGA
			M. DUNCAN (E)	

EXTERNAL DISTRIBUTION

1 – LOCAL PDR Russellville, Ark.		
1 – TIC (ABERNATHY) (1)(2)(10)	– NATIONAL LABS _____	1 – PDR SAN/LA/NY
1 – NSIC (BUCHANAN)	1 – W. PENNINGTON, Rm E-201 GT	1 – BROOKHAVEN NAT LAB
1 – ASLB	1 – CONSULTANTS NEWMARK/BLUME/AGBABIAN	1 – G. ULRIKSON ORNL
1 – Newton Anderson		
14 ACRS ~~HOLDING~~ SENT L.A.		

8004250 464 P

HELPING BUILD ARKANSAS

ARKANSAS POWER & LIGHT COMPANY

9TH & LOUISIANA STREETS • LITTLE ROCK, ARKANSAS 72203 • (501) 372-4311

July 9, 1975

Mr. A. Giambusso, Director
Division of Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Arkansas Power & Light Company
Arkansas Nuclear One-Unit 1
Docket No. 50-313
License No. DPR-51
Re-Evaluation of ECCS Performance

Dear Mr. Giambusso:

Pursuant to the Commission's Order for Modification of License for Arkansas Nuclear One-Unit 1 dated December 27, 1974, a re-evaluation of ECCS cooling performance calculated in accordance with an acceptable evaluation model which conforms with the provisions of 10 CFR 50, Section 50.46, has been completed and Arkansas Power & Light Company is submitting herewith proposed revisions to Appendix A, Technical Specifications for Arkansas Nuclear One-Unit 1. The prepared revisions are in the attached replacement pages (Attachment 1).

The evaluation model utilized in performing the re-evaluation of ECCS cooling performance is described in Babcock & Wilcox (B&W) non-proprietary Topical Report BAW-10104, "B&W's ECCS Evaluation Model". The results of the evaluation for B&W 177 fuel assembly units with a lowered-loop arrangement are described in Non-Proprietary Topical Report BAW-10103, "ECCS Evaluation of B&W's 177 Fuel Assembly Lowered Loop NSS". The analysis presented in BAW-10103 for the B&W 177 fuel assembly units with a lowered-loop configuration is generic in nature since the parameters used in this analysis are conservative for Arkansas Nuclear One-Unit 1. The parameters associated with Arkansas Nuclear One-Unit 1 are bounded by those utilized in the generic analysis, and thus BAW-10103 provides a conservative evaluation of ECCS performance for Arkansas Nuclear One-Unit 1.

The results presented in BAW-10103 demonstrate the conformance of Arkansas Nuclear One-Unit 1 to the criteria of 10 CFR 50, Section 50.46, under the operating conditions specified in the attached proposed Technical Specifications.

In addition to the above and in accordance with Mr. D. L. Ziemann's letter of June 18, 1975, the following information is also provided:

1. Break Spectrum and Partial-Loop Operation

It has been demonstrated using the FAC guidelines that peak cladding temperatures were significantly lower for partial pump operation than for four (4) reactor coolant pump operation. The proposed Technical Specification limits for partial pump operation in Attachment 1 are based on minimum shutdown margin and ejected rod worth criteria. An additional analysis using the FAC guidelines will verify that the minimum shutdown margin and ejected rod worth criteria are still limiting. This analysis will be completed by July 23, 1975.

2. Potential Boron Precipitation

The requested information was provided in Mr. William Cavanaugh's letter of April 21, 1975, in response to Mr. D. L. Ziemann's letter of March 14, 1975.

3. Single Failure Analysis

As requested, a single failure analysis for manually-controlled, electrically-operated ECCS valves has been performed and the results are provided in Attachment 2.

Based on the information provided in Attachment 2, it is concluded that no credible single failure or operator error affecting any manually-controlled, electrically-operated ECCS valve could significantly adversely affect ECCS performance.

4. Submerged Valves

A review of equipment arrangement to determine if any valve motors within the Reactor Building will become submerged following a LOCA has been performed and those valves which may be affected are identified in Attachment 3. This analysis was performed using a conservatively calculated maximum post-LOCA containment water level of 8.75 feet. As shown in the attachment, flooding of the valve motors produced no effect on short or long term ECCS functions, save those valves involved in the prevention of boron precipitation. The motors for those valves used for recirculation of borated water to prevent boron precipitation are being investigated as to the alternatives available for prevention of inoperability during submergence. The results of this analysis will be provided within 30 days.

5. Containment Pressure

The containment pressure used to evaluate the performance capability of the ECCS has been calculated in accordance with the methods contained in Section 4.3.6.1 of BAW-10104 and the results are presented in Section 4.4 of BAW-10103.

Also, as requested on Page 7 of the Staff's Safety Evaluation Report which accompanied the Order for Modification of License, as-built passive containment heat sink data has been compiled and is given in Attachment 4.

The heat sink imputs to the generic model are conservative compared to this as-built data compilation. Using the generic heat sinks, the containment pressure calculation is in accordance with Branch Technical Position CSB 6-1.

We request that the proposed Technical Specifications be expeditiously reviewed. The need for these new specifications is twofold. First, Mr. K. Goller's letter to Mr. J. D. Phillips of March 26, 1975, (in response to Unusual Event Report No. 50-313/75-1) requested Technical Specification changes concerning ejected rod worths be submitted at least 45 days prior to control rod interchange (planned for October 1975). Changes to the Technical Specifications concerning this matter are included in this submittal as they also effect the rod withdrawal limits. Second, with current specification limits (i.e. the combined IAC and FAC limits) and the imbalance which we are experiencing in the core, we are unable to operate at 100% power without significant probability of tripping the unit. As a result, the unit has been operating in the 95-98% full power range. The rod withdrawal limits included herein allow more flexibility in control rod operation which will aid in reducing our imbalance.

We feel that this submittal meets all requirements and provisions of 10 CFR 50, Section 50.46. If you have any questions concerning this information, please contact us.

Very truly yours,

J. D. Phillips
Senior Vice President

JDP:lt

Attachments

STATE OF ARKANSAS)
) SS
COUNTY OF PULASKI)

J. D. Phillips, being duly sworn, states that he is a Senior Vice President of Arkansas Power & Light Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this Supplementary Information; that he has read all of the statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

J. D. Phillips

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named this 9th day of July, 1975.

Linda B. Thomas
Notary Public

My Commission Expires:

March 1, 1978