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NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

DOCKET NUMBER	50 - 313
FILE NUMBER	

TO:	FROM:	DATE OF DOCUMENT
Mr. D. K. Davis	Arkansas Power & Light Company Little Rock, Arkansas Daniel H. Williams	12/22/77
		DATE RECEIVED 12/27/77

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DESCRIPTION

Consists of info. re. NRC request for licensee to provide an analysis of the potential for & consequences of a boron dilution accident.....

(2-P)

ENCLOSURE

PLANT NAME: Arkansas Unit No. 1
RJL 12/28/77

40 Encls *

FOR ACTION/INFORMATION

SAFETY	
BRANCH CHIEF: (7)	DAVIS

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HELPING BUILD ARKANSAS

ARKANSAS POWER & LIGHT COMPANY

P.O. BOX 551 LITTLE ROCK, ARKANSAS 72203 • (501) 371-4000

December 22, 1977

1-127-17

Director of Nuclear Reactor Regulation
ATTN: Mr. D. K. Davis, Acting Chief
Operating Reactor Branch #2
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Arkansas Nuclear One-Unit 1
Docket No. 50-313
License No. DPR-51
Inadvertent NaOH Addition to RCS
(File: 1510)

Gentlemen:

By letter dated September 15, 1977, you informed us of a limited boron dilution incident at an operating PWR facility due to the inadvertent injection of a portion of the contents of the sodium hydroxide (NaOH) tank into the reactor coolant system while the reactor was in the cold shutdown condition. Your letter requested we provide an analysis of the potential for and consequences of a boron dilution accident at Arkansas Nuclear One-Unit 1 (ANO-1).

Our review of this potential incident indicated that ANO-1 operates with two isolation valves closed between the NaOH Engineered Safeguards (ES) control valves and the decay heat removal (DHR) pumps when we are in the DHR mode of operation and testing the NaOH control valves. Therefore, for that mode of operation, no single valve failure would allow a boron dilution accident due to NaOH injection in the reactor coolant system.

Also, our review indicated that only one valve would isolate the NaOH tank from the reactor core when filling the refueling canal by way of the low pressure injection (LPI) system when testing the NaOH control valves. Although the possibility of that valve failing at that time is very remote, we have changed our operating procedures to require that valve CA49 be manually closed in addition to valves CA61 and CA62 during NaOH control valve testing.

~~7712480071~~

Based on the above, we contend that adequate measures exist to preclude the possibility of a postulated boron dilution accident. Should you require additional information, please advise.

Very truly yours,

Marshall L. Bordenas

for Daniel H. Williams
Manager, Licensing

DHW:DGM:dr