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FROM: Iowa Elec. Light & Power Co. Cedar Rapids, Iowa C. W. Sandford		DATE OF DOC 6-16-75	DATE REC'D 6-20-75	LTR XX	TWX	RPT	OTHER
TO: Mr. B. C. Rushe		ORIG 1 signed	CC 39	OTHER	SENT NRC PDR <u>XX</u>		SENT LOCAL PDR <u>XX</u>
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 40	DOCKET NO: 50-331		

DESCRIPTION: Ltr trans the following:

SAME DISTRIBUTION AS 6-10-75 SUBMITTAL

PLANT NAME: Duan Arnold Plant

ENCLOSURES: SUPPLEMENT 1 to Duane Arnold Energy Center Safety Analysis With Bypass Holes Plugged....
ACKNOWLEDGED
(40 cys encl re'cd)
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FOR ACTION/INFORMATION DHL 6-23-75

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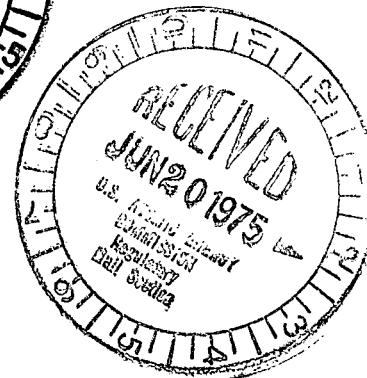
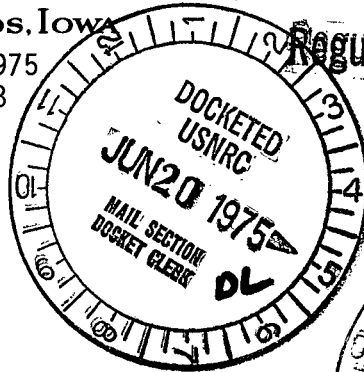
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CEDAR RAPIDS, IOWA

June 16, 1975
IE-75-718

CHARLES W. SANDFORD
EXECUTIVE VICE PRESIDENT

Regulatory Docket File



00-331

Mr. Benard C. Rusche, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Reactor Regulation
Washington, D.C. 20545

Dear Mr. Rusche:

The enclosed information is in addition and clarification to our submittal of June 10, 1975. Additional information will be provided as necessary.

Transmitted herewith are forty (40) copies.

Very truly yours,


Charles W. Sandford
Executive Vice President

CWS/KAM/ms
Encls.
cc: D. Arnold
J. Newman

6885

SUPPLEMENT 1

DUANE ARNOLD ENERGY CENTER

SAFETY ANALYSIS WITH BYPASS HOLES PLUGGED

Received y/Ltr Dated 6-16-75

4. ABNORMAL OPERATIONAL TRANSIENT AND CODE OVERPRESSURE PROTECTION ANALYSESTable 4-1

Note: The void coefficient of 8.04 $\text{¢}/\%$ listed in the FSAR is the analysis input data value for the unplugged condition.

4.1.5.1 Delayed Neutron Fraction

Change β in last sentence to 0.00549 vice 0.00546.

4.1.5.4 Doppler Reactivity Coefficient

Plugging of the bypass flow holes tends to increase the core average voids which will result in a reduction of core average density. This effect will result in a slightly more negative Doppler coefficient than for the unplugged condition.

4.2.3 Code Overpressure Protection

Change 68.4% to 74.7% in first sentence.

The relief/safety valve capacities in Amendment 3, Page H.1-17, and Page 4.4-14 of the DAEC FSAR are listed incorrectly. An FSAR change is being initiated. The correct values are as follows:

Number of Valves	Set Pressure (psig)	ASME Rated Capacity at 103% of Set Pressure (lbs/hr)
2	1090	869,000
2	1100	876,800
2	1110	884,700

The analyses assumed that the safety/relief valves operated at their safety setting. The failed valve in the MSIV closure with flux scram is the lowest set point valve which is conservative. The results compared with the FSAR are very similar. The larger void coefficient is offset by the increased safety/relief valve capacities.

4.2.4 Determination of Operational MCPR Limits

The following parameters were used for GETAB transient initial conditions:

Peaking factors

Local	1.176
Radial	1.26
Axial (mid-plane peaked)	1.50
R factor	1.0839
Non-fuel power fraction	0.040
Core flow	49×10^6 lbs/hr
Bundle Flow	148×10^3 lbs/hr
Inlet Enthalpy	526.3 Btu/lb
MCPR	1.34

5. ECCS ANALYSES - APPENDIX K REQUIREMENTS

5:2 Emergency Core Cooling System Analysis - Bypass Flow Holes Plugged

In order to determine the change in LAPLHGR due to plugging of the bypass flow holes, the August 5, 1974 LAPLHGR was modified using the "patch" methods generated in December 1974 but considering the effects of the plugged holes. That is the entries for reflooding correction were the August 5, 1974 (no plugs) reflooding time and the June 1975 flooding time (plugged holes).