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Iowa Electric Light & Power Company Ceder Rapids, Iowa 52406 C. W. Sandford	6-1-72	6-9-72	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Edward J. Bloch	1			X	X

CLASS: (U) PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
		1	50-331

DESCRIPTION:
Ltr re our 10-12-71 ltr..... furnishing info concerning control of combustible gas concentrations in containment following a Loss-of-Coolant Accident.....

ENCLOSURES:

DO NOT REMOVE
ACKNOWLEDGED

PLANT NAMES:

FOR ACTION/INFORMATION 6-12-72 AB

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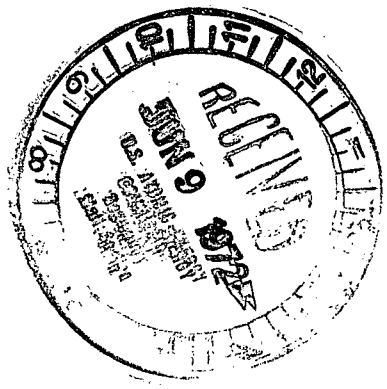
Regulatory File C

50-331

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office
CEDAR RAPIDS, IOWA
June 1, 1972
IE-72-290

C. W. SANDFORD
VICE PRESIDENT



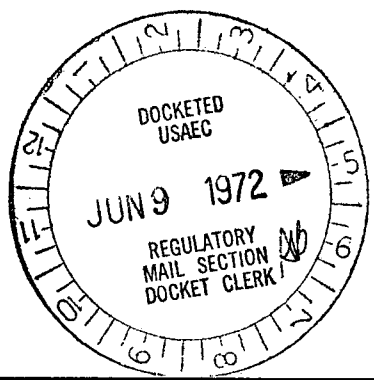
U. S. Atomic Energy Commission
Directorate of Licensing
Washington, D.C. 20545
Attention: Edward J. Bloch, Actg. Dir.

Re: Duane Arnold Energy Center
Subject: Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant Accident
Ref: Dr. P. A. Morris letter to Duane Arnold Dated October 12, 1971

Gentlemen:

Your referenced letter stated that in accordance with the Commission's regulation in 10CFR50.109 you were reviewing the possible need for backfitting of plants, such as the Duane Arnold Energy Center, that received a construction permit prior to the date Safety Guide #7 was issued to provide hydrogen control systems other than purging and requested additional information to complete your review.

Since Safety Guide #7 was published in March 1971, various solutions have been considered which hopefully would resolve the problem of hydrogen control. The Duane Arnold Energy Center FSAR Appendix G, Section G.7 describes a solution to controlling the combustible gases within the containment by simply diluting the combustible gases. Thus the combustible gases will always remain below their flammability limit. It has been determined in accordance with the guidance provided in Safety Guide #7 that this proposed containment atmosphere dilution operation is an acceptable method of controlling the combustible gas concentration within the containment following a loss-of-coolant accident.



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Appl.

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Using the assumptions contained in Table 1 of Safety Guide #7, our evaluation indicates that venting would not be required to keep hydrogen and oxygen concentrations below the limits listed in Safety Guide #7.

The containment atmosphere dilution operation does not result in any increased exposure to the public over that calculated and presented in FSAR Section 14.9. However, evaluation of the incremental radiological effects of containment venting has been performed assuming that the primary containment is completely exhausted of all remaining activity during a seven-day period arbitrarily assumed to start 30 days after LOCA. Based upon this evaluation, the resulting incremental exposures would be low compared to those exposures reported in the DAEC FSAR due to containment leakage following LOCA. This information is contained in Table G.7-2 of the FSAR.

In summary, Iowa Electric, in our judgement, is providing in its design of the Duane Arnold Energy Center an acceptable hydrogen control system in accordance with the guidance of Safety Guide #7.

We would be pleased to discuss this matter further at your convenience.

Very truly yours,

C. W. Sandford

C. W. Sandford
Vice President

DMF:CWS:hp

cc D. Arnold
R. Lowenstein