

1305/19/78

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DOC DATE: 05/11/78
DATE RCVD: 05/19/78

DOCTYPE: LETTER NOTARIZED: YES

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SUBJECT:

LTR 1 ENCL 40

FORWARDING APPLICANT'S UPDATED ANSWER TO QUESTION NO 22 OF THE ENCL TO NRC
TR DTD 01/17/78 ON THE REPLACEMENT OF SPENT FUEL STORAGE RACKS AT SUBJECT
FACILITY...NOTARIZED 05/15/78.

PLANT NAME: DUANE ARNOLD

REVIEWER INITIAL: XJM
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IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

May 11, 1978

IE-78-659

LEE LIU
VICE PRESIDENT - ENGINEERING

50-331

U.S. NRC
DISTRIBUTION SERVICES
BRANCH

1978 MAY 19 AM 9 55

RECEIVED DISTRIBUTION
SERVICES UNIT

Mr. Edson Case, Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Case:

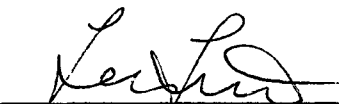
The intent of this letter is to update our answer to question no. 22 of the enclosure to your letter dated January 17, 1978 on the replacement of spent fuel storage racks at the Duane Arnold Energy Center.

Three signed and notarized originals and 37 copies are transmitted herewith.

This submittal consisting of the foregoing letter and enclosure hereto is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

BY:



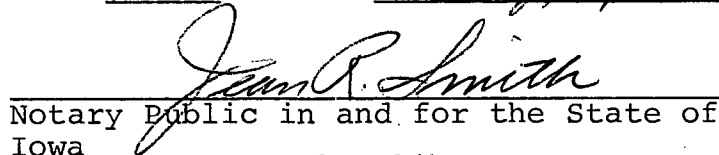
Lee Liu
Vice President, Engineering

LL/RFS/gan

Attach.

cc: R. Salmon
D. Arnold
R. Lowenstein
R. Clark (NRC)
L. Root
File J-81d

Subscribed and Sworn to before me on
this 15th day of May, 1978



Notary Public in and for the State of
Iowa

Jean R. Smith
NOTARY PUBLIC
STATE OF IOWA
Commission Expires
September 30, 1978

781390010

4001
1/40*

22. Identify the principal radionuclides and their respective concentrations in the spent fuel pool water found by gamma isotopic analysis prior to and following refueling.

Spent fuel pool water radioanalyses were performed on February 3, 1978; March 30, 1978; and April 28, 1978 which represent the equilibrium concentrations of principal radionuclides prior to, during, and after refueling. The results are summarized below.

<u>Nuclide</u>	<u>Prior (μCi/ml)</u>	<u>During (μCi/ml)</u>	<u>After (μCi/ml)</u>
Cr-51	1.91 E-5	1.62 E-4	LTMDA
I-131	LTMDA	9.44 E-6	LTMDA
Cs-134	3.57 E-6	3.46 E-5	1.26 E-5
Cs-137	8.58 E-6	6.90 E-5	1.79 E-5
Nb-95	9.04 E-7	LTMDA	LTMDA
Co-58	5.08 E-6	1.42 E-4	1.70 E-5
Mn-54	1.69 E-5	2.42 E-4	2.42 E-5
Mn-56	1.16 E-6	LTMDA	LTMDA
Ag-110m	1.75 E-6	LTMDA	2.88 E-6
Fe-59	9.52 E-6	9.63 E-5	LTMDA
Zn-65	1.27 E-6	3.15 E-5	4.21 E-6
Co-60	3.08 E-5	3.57 E-4	5.45 E-5
Na-24	LTMDA	LTMDA	5.20 E-7
Sb-124	8.97 E-7	3.07 E-6	7.27 E-7

LTMDA - Less Than Minimum Detectable Activity

23. Provide the dose rate values above and around the spent fuel pool from the concentrations of the radionuclides identified in (3) above and the concomitant estimated occupational exposure, in annual man-rem, due to all operations associated with fuel handling, etc., in the spent fuel pool area.

The dose rates from the radionuclides in the spent fuel pool water are very small and do not contribute significantly to occupational doses. These dose rates are less than 1 mr/hr and are less than the minimum levels which can be detected in the areas above and around the fuel pool. Background radiation in these areas is less than 1 mr/hr during refueling.