

Omaha Public Power Distr
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402/536-4000

November 22, 1988
LIC-88-1051

U.S. Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

References: (1) Docket No. 50-285
(2) Letter to NRC (Document Control Desk) from OPPD (K.J. Morris)
dated September 2, 1988 (LIC-88-709)

Gentlemen:

SUBJECT: No Environmental Impact for Cycle 12 Design

As requested, this letter is submitted to address the potential environmental impact of the Cycle 12 reload analysis. This material is not a change, but rather an expanded discussion of the no significant environmental effects consideration.

In accordance with the requirements of 10 CFR 51.21 OPPD has reviewed the potential environmental effects of the Cycle 12 reload design (Reference 2) and believe there is no environmental impact for the following reasons:

- (1) Although the burnup of the Advanced Nuclear Fuel (ANF) fuel was increased to 52,000 MWD/MTU peak pin, the burnup continues to be bounded by the previously evaluated Combustion Engineering (CE) fuel burnup level of 55,000 MWD/MTU peak pin (48,000 MWD/MTU assembly average).
- (2) We have reviewed the design basis accidents (DBAs) previously analyzed in the Fort Calhoun USAR and have determined that the radiological consequences are bounded by the existing USAR Chapter 14 DBAs. An example would be Chapter 14 Section 18 "Fuel Handling Accident". The following assumptions per Regulatory Guide 1.25, were utilized:

Power Level	1500 MWt
Burnup	876 EFPD
Decay Time	72 hours
Number of Failed Rods	56
Fraction of fission product gases contained in the gap region of the fuel rods:	
KR-85	30%
Other Noble Gases	10%
Iodine	10%
Fraction of gap activity released to the SFP	100%

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Activity released to the fuel pool, Ci (ORIGEN output)	
I-131	1.93 E+04
Xe-131m	1.57 E+02
Xe-133	3.89 E+04
Kr-85	7.50 E+02
Dispersion Factors, sec/m ³	
EAB	1.57 E-05
LPZ	4.4 E-04

The resulting doses from the above assumptions are:

	<u>Thyroid</u>	<u>Whole Body</u>
EAB	6.54 E+00	7.51 E-01
LPZ	1.56 E-01	2.68 E-02

- (3) No new or different modes of operation are planned for Cycle 12 that have not been previously evaluated. No changes are being made in the types or amounts of any radiological effluents that may be released offsite.
- (4) OPPD has reviewed a publication prepared for the NRC entitled "Assessment of the Use of Extended Burnup Fuel in Light Water Reactors, NUREG/CR5009, February 1988, as well as the Shvaron Harris application for increased fuel enrichment as contained in the Federal Register (53FR30355) and have concluded that the transportation of spent nuclear fuel in accordance with potential impacts listed in 10 CFR 51.52(c). Table S-4 would be bounded by the finding contained in the above documents for the Fort Calhoun Station.

Therefore, it is concluded that the reload analysis involves no significant increase in the amounts, and no significant increase in the types of any effluents that maybe released offsite. Accordingly the reload analysis meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment would need to be prepared.

If you have any questions please contact us.

Sincerely,



K. J. Morris
Division Manager - Nuclear Operations

KJM/lt

c: LeBoeuf, Lamb, Leiby & MacRae
R. D. Martin, NRC Regional Administrator
P. D. Milano, NRC Project Manager
P. H. Harnell, NRC Senior Resident Inspector
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