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 DENTON, H.R. Office of Nuclear Reactor Regulation, Director  
 REID, R.W. Operating Reactors Branch 4

DOCKET #  
 05000269  
 05000270

SUBJECT: Forwards response to NRC health physics-related questions re proposed reracking of spent fuel pool. Suppls info provided by 800701 & 25 ltrs.

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DUKE POWER COMPANY

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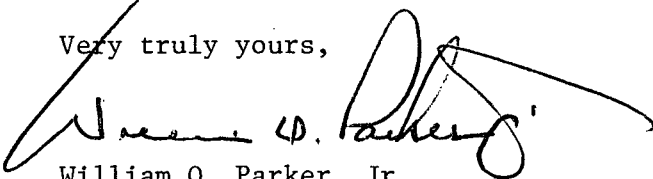
Attention: Mr. R. W. Reid, Chief  
Operating Reactors Branch No. 4

Subject: Oconee Nuclear Station  
Docket Nos. 50-269, -270

Dear Sir:

Please find attached responses to the Staff's health-physics-related questions concerning the proposed reracking of the spent fuel pool shared by Oconee Units 1 and 2. This information supplements that provided by my letter of July 1 and July 25, 1980.

Very truly yours,



William O. Parker, Jr.

FTP:scs

Attachment

As 1/1

8011110

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DUKE POWER COMPANY  
OCONEE UNITS 1 AND 2

Questions for Spent Fuel Pool Modifications

Question 1

Table 5.1-1 of the July 1, 1980 submittal provides an estimate of 22.7 person-rem/s as your ALARA dose during reracking of the SFP. Please prepare an additional table that details the breakdown of this collective dose equivalent in terms of numbers of individuals, their occupancy times and the average dose rates in the work area of each work group for each operation. The format may be similar to your April 20, 1979 response to the staff question 22 submitted during your first SFP modification (i.e., Table 5.2-1 revised).

Response

The attached table provides the requested information.

Question 2

Section 5.2 states that disposal alternatives evaluated for the contaminated racks included burial, with or without compaction, and storage on-site until reuse or plant decommissioning. A decision has been made to send decontaminated intact racks off-site for burial contingent upon their contamination levels. Please expand upon this commitment as follows:

- (a) What radiation levels (mR/hr) will be used as the basis for your decision for shipping the racks off-site for burial?
- (b) If low level burial space is at a premium at the burial site so that you may be required to cut-up and package the contaminated SFP racks to reduce the burial volume, please provide the person-rem/s that may be incurred from both shipping alternatives (i.e., shipping intact vs. cutting-up and packaging the racks).

Response

- 2a. Alternatives other than burial of the racks as low level waste and sale as uncontrolled scrap have been rejected on the basis of cost. The radiation level (mR/hr) which will be the basis of our decision between burial as low level waste and sale as scrap depends upon a definition, if any, by the NRC of de minimus specific activities for fission and corrosion products. At present, in the absence of any definition of de minimus concentrations, we are unable to assure that an object as massive as a spent-fuel storage rack contains less than the exempt quantity of each radionuclide of interest. Therefore, we shall ship the used racks off-site for burial as low level waste unless de minimus specific activities are defined before the racks are shipped from our site.

Response

- 2b. Because Oconee Nuclear Station is located within South Carolina, waste from it is not presently subject to volume limitations. Cutting up the racks for a savings of 7500 cu. ft., which is 65% of their original volume, will cost about \$20,000 even considering the cost saved by volume reduction. In addition, assuming an average radiation level of 1 mrem/hr for 5000 manhours, it will cost 5 person rems of dose. Therefore, we do not intend to compact the racks.

OCONEE NUCLEAR STATION  
SPENT FUEL POOL 1 & 2 MODIFICATION DOSE ESTIMATES

1. Shift Temporary Crane

Work Group	No. of Individuals	Occupancy Time (Man-Hrs.)	Avg. Dose Rate (mrem/hr)	Job Exposure (Man-Rem)
Operations	0	0	-	0.0
Maintenance	8	2250	2	4.5
Health Physics	1	200	2	0.4
Engineering	1	50	2	0.1
Divers	0	0	-	0.0
Total	10	2500	-	5.0

2. Vacuuming Pool for Reracking

Work Group	No. of Individuals	Occupancy Time (Man-Hrs.)	Avg. Dose Rate (mrem/hr)	Job Exposure (Man-Rem)
Operations	1	50	2	0.1
Maintenance	1	50	2	0.1
Health Physics	1	150	2	0.3
Engineering	0	0	-	0.0
Divers	5	95	15	1.4
Total	8	345	-	1.9

3. Rack Removal and Replacement

Work Group	No. of Individuals	Occupancy Time (Man-Hrs.)	Avg. Dose Rate (mrem/hr)	Job Exposure (Man-Rem)
Operations	2	500	2	1.0
Maintenance	4	1900	2	3.8
Health Physics	2	950	2	1.9
Engineering	2	350	2	0.7
Divers	5	560	15	8.4
Total	15	4260	-	15.8