

DUKE POWER COMPANY

POWER BUILDING

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SENIOR VICE PRESIDENT  
PRODUCTION AND TRANSMISSION

P. O. Box 2178

April 11, 1975

Mr. Norman C. Moseley, Director  
U. S. Nuclear Regulatory Commission  
Suite 818  
230 Peachtree Street, Northwest  
Atlanta, Georgia 30303

Re: IE:II:TNE  
50-269/75-1  
50-270/75-1  
50-287/75-1

Dear Mr. Moseley:

The purpose of this letter is to provide additional information regarding item I.B.3, "Personnel Radiation Exposure Records," of IE Inspection Report 50-269, -270, and -287/75-1. The following discussion provides the justification for reducing the exposure records of two individuals and not similarly reducing the records of all other personnel when a possible error in TLD dosimetry results was discovered.

The method of determining the day-to-day radiation dose to personnel at Oconee Nuclear Station is through the use of personnel dosimeters. In addition, TLD badges are worn by personnel and are processed, generally monthly, to provide a more accurate, after-the-fact, measurement of dose received. In general, dosimeter results are higher than TLDs, and hence this is a conservative practice. The results of the TLD are transcribed to the personnel exposure records as they are received from the TLD service contractor.

On January 16, 1975, radiation dose information was supplied by the TLD vendor which indicated that two contract personnel had been exposed above 100 CFR 20.101 limits during the fourth quarter, 1974. The specific values of dose reported by the TLD vendor were 3040 and 3410 millirem. This dose was not consistent with dosimeter results which were much less than 3 rem. Additionally, one of the individuals had worn a film badge, supplied by his employer, which indicated that he had only received a dose of 2100 millirem during the quarter. His dosimeter was in substantial agreement with this film badge. Subsequently, a letter received from the TLD vendor described uncertainties in the TLD results and concluded that fourth quarter TLD readings had been reported as 15 percent to 30 percent high.

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As a result of this evidence, the individual previously thought to have received a dose of 3040 millirem was assigned an exposure of 2110 millirem based upon his film badge and dosimeter readings. The second individual, previously thought to have received a dose of 3410 millirem was assigned an exposure of 2965 millirem based upon his dosimeter readings and a TLD correction factor of 15 percent.

The records of all other personnel were not similarly reduced because there is no method of accurately determining the specific error associated with each individual TLD. It would not be correct to apply an across-the-board correction factor to all records since the accuracy of the dosimeter totals for each individual could not be determined and there was no additional supporting evidence of the most likely dose that should be assigned each individual. The exposure data which is currently recorded, based on the uncorrected TLD results, is greater than actually received. This is a conservative method of dose assignment in accordance with long-standing health physics practice. The net effect of this practice is to unnecessarily limit the maintenance activities of the station in order to minimize the indicated personnel exposure. Duke Power Company is aware of, and is working to solve the problem of inconsistencies between dosimeter and TLD results.

Very truly yours,



A. C. Thies

ACT:vr