



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

*Nite-site Application*

*1/29*

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Files

TELECON WITH RICHARD WALZ CONCERNING NITE-SITE APPLICATION

Mr. Walz called me late in the afternoon Friday, January 29, 1971, to request an interpretation of 10 CFR 32.51(b)(2). Specifically, he wished to know how a "major portion of the body" would be interpreted with respect to an exposure to a small area of the hip of a police officer receiving radiation from a self-luminous gun-site illuminator installed on his hand gun. I informed Mr. Walz that I would look into the matter and return his call Monday.

I called Mr. Walz on Monday, February 1, 1971, and suggested that he submit the dose rates which he has calculated for the hip as well as other portions of the body such as gonads, blood forming organs, and lens of the eye with a statement of whatever criteria, bases, and other assumptions he used in making these determinations and also include any arguments which he thinks are applicable toward demonstrating compliance with the limitation of 10 CFR 32.51(b)(2). He stated that he would prepare something along this line and would perhaps call me again just prior to submitting it. He stated that the maximum calculated dose rate to the hip is 2,000 millirem per year. He quoted other calculated dose rates for gonads, blood forming organs, etc., which were very small fractions of this maximum. He seemed to be unsure of what total area or volume he should use in averaging the dose. I told him to propose an area or volume that seemed reasonable to him and we would consider his proposal.

His figures are apparently based on  $\alpha$  calculated radiation levels reported in the ORNL November 1970 Progress Report. These figures do not include beta nor do they include any self-absorption within the source or any shielding as may be provided by the site housing. Mr. Walz pointed out that plotting the ORNL calculated radiation levels on semi-log paper resulted in a curve that could apparently be fitted with two intersecting straight lines, the initial line having a greater slope than the second intersecting line. It is not clear why he plotted the data on semilog paper instead of log-log paper. I would not expect to obtain a linear plot of inverse square data on semilog paper.

*Jack M. Bell*

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