

GRAPHICAL PRESENTATION OF STATISTICAL RISK PROJECTIONS

H.L. Wedlick
Bechtel National, Inc.
P.O. Box 6388
Kennewick, WA 99336
U.S.A.

The purpose of this work will determine if a simple graphical presentation of dosimetry data can be easily used quantitatively (statistically) to evaluate the population sub-group which contributes most heavily to total collective dose (person rem).

The method used is to plot individual dose of the exposed group on statistical graph paper (dose value vs. cumulative probability). A straight line is drawn through the points and the usual statistical parameters are identified; then, the smooth data is transferred to a log-plot of cumulative probability vs. dose for further graphical analysis to compare risk.

The results of using this graphical display and analysis allows 1) any easy method to determine the statistical parameters, 2) extrapolative determination and evaluation of low probability values of dose and 3) determination of the population sub-group which contributes most to the total collective dose.

The author concludes that use of this technique for dosimetric analysis, using data collected from operating sites, provides an easily used mechanism to quantitatively and objectively evaluate the radiation exposure control program. This graphical tool is also an excellent method to communicate results and conclusions.