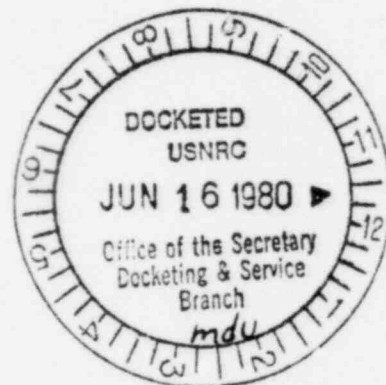


11 June 1980

DEPARTMENT OF PHYSICS AND ASTRONOMY
(413) 597-2482

DOCKET NUMBER
PROPOSED RULE PR-Misc Notice
Reg Guide



Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
ATT: Docketing and Service Branch

Dear Sir:

Thank you for Draft Regulatory Guide and Value/Impact Statement, May 1980, Division 2, Task OH 902-1. I think the Guide will be useful in educational institutions. I look forward to using it as source material in future physics courses. A few comments concerning specific parts of the Guide draft follow.

(a) Question 4: you seem to belittle the serious genetic effects. Since these effects result in the loss of 70 man-years they are actually over twice as important as other delayed effects. Additionally, extending the analysis to future generations may result in substantial long-range damage. Question 4 should draw a distinction between the procreating worker and the non-procreating worker. (Also see (i) and (m) below.)

(b) Question 4: you should refer to the future children of workers to avoid confusion about the effects of radiation on children born before exposure.

(c) Question 7: introduce ALARA by underlining first letters in appropriate words " as low as is reasonably achievable." We who do not speak in acronyms need help.

(d) Question 8: discuss linear hypothesis when estimating risk of cancer. People can understand this singularly important concept.

(e) Question 8: draw a distinction between individual concern and societal concern. Fallout from nuclear tests in the late 50's and 60's gives me only a 1/10,000 chance of getting cancer but results in 2,000 world wide deaths per year. The NRC's mandate is to protect the public, not just the individual.

(f) Question 8: most scientists would not agree that 300 is a high estimate of risk and may be considered an upper limit. 300 is a reasonable estimate based upon the linear hypothesis. Should the linear hypothesis be wrong then the analysis becomes invalid.

Acknowledged by card. 6/16/80. mdv...

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(g) Question 8: your chances of developing cancer are equal to drawing two aces and a king. They are a factor of two greater than the aces.

(h) Question 8: explain why ICRP estimated only 10 years lost/cancer. People can understand this concept and it will be awakening if not reassuring to worry about death at 60 versus death at 40.

(i) Question 10: you must do a better job somewhere on genetic damage. It is dishonest to suggest that a person can procreate after receiving 20 rems to the testes. Perhaps question 10 should be just "impotent" and an additional question, "Can I have children?", should be added.

(j) Question 17: shouldn't you say that industrial/political power in non-regulatory times prevents government from pursuing reasonable actions?

(k) Question 19: include societal costs of exposure. EPA data indicates 100 cancers or 1,000 lost years, excluding genetic damage.

(l) Question 20: set upper limit of acute dose which results in prompt effects.

(m) Question 22: discuss genetic effects and long term population effects.

(n) Question 23: \$30million dollars to prevent a death is too much. Society considers, not society may consider. This is why NRC limits are at their present levels.

(p) Question 24: this point should be discussed earlier, before people have stopped reading.

(q) Question 25: Table 5; state that the release of radiative material in mining, milling, etc., occurs primarily in the mining area. State that the weapons fallout is primarily from tests before the test ban treaties.

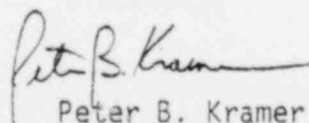
(r) Question 27: give examples such as plutonium induced lung cancer and iodine induced thyroid tumors.

(s) Question 29: is 3 rems correct? Do you want 1-1/4?

I hope these comments will be helpful in clarifying your concerns about occupational radiation exposure. I understand that your position as a regulatory body may preclude incorporating many of these proposed changes.

Looking forward to following the progress of this guide I remain

Sincerely,



Peter B. Kramer
Assistant Professor of Physics