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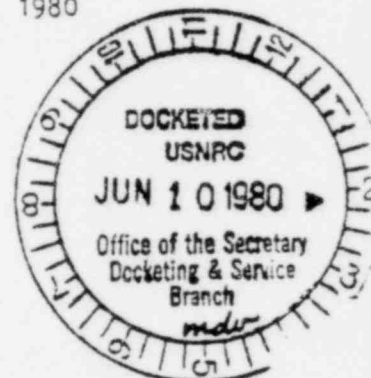
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June 4, 1980

DOCKET NUMBER
PROPOSED RULE PR-Misc Notice
Reg Guide



Dr. A. K. Roecklain
Office of Standards Development
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Roecklain:

I was given a copy of your draft guide "Instruction Concerning Risk from Occupational Radiation Exposure" and thought that I would give you a few comments that may be useful to you. In general, I found it to be very good, particularly sections 7 and 11. However, I believe that technical accuracy is paramount and submit the following comments for your consideration.

1. In the first paragraphs of the discussion, it might be useful to include teratogenic or effects on the fetus under somatic effects. This is not a delayed effect (at least not beyond nine months) and is a somewhat different type than those usually considered under somatic effects. In fact I usually list it as a different class along with somatic and genetic.
2. Last line pp. 1, 1st line pp. 2. The words "concern" and "stringent" seem out of place to me. We do not derive limitations because of concerns; we derive them to ease concerns. If the limits are appropriate and necessary to control health, then it is improper to say that they are stringent. The collective dose limitation really arises from the assumption of the linear - no threshold dose effect relation. This sentence would seem to me to be better if it simply stated that limitations on the dose received by workers and the public have been established to control the risks from these effects to a level below that of other causes of harm.
3. pp. 5, 1st parag. The statement "generally recognized as reliable" will cause many questions. There are many people who claim effects much greater than those in your bibliography. You might consider acknowledging this fact and explain that you have chosen to use the information derived by the great majority of the national and international scientists. In fact it might be useful to

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TO: A. K. Roecklain

-2-

DATE: June 4, 1980

add another section giving a brief discussion of why the general scientific community has rejected many of these claims because the worker will be exposed to these claims from the media. I would also note that there has been a sizeable controversy over the work of Inhaber.

4. pp. 5, item 2. The exclusion of direct effects on the fetus (teratogenic) makes this paragraph somewhat confusing, because there are two ways of obtaining birth defects.
5. pp. 6, item 3, line 2. This is an inappropriate use of the rem because the RBE for neutrons, for example, is close to one for acute doses. Note, also, that the medical care will have a strong influence on the outcome at this dose level. Incidentally, it would be useful for this audience to describe the genetic material as ovaries and testes.
6. pp. 7, line 5. Wouldn't it be useful to tell the people what a rem is before this point?
7. item 14. It should be stressed that these are assumptions, not fact.
8. pp. 19, item 20, lines 5-6. Our present speed limits are based upon gas saving. Prior to this many speed limits were 70, and even 75, MPH.
9. pp. 24, item 28. The present regulations for internal emitters were derived on the basis of an individual accumulating sufficient material so that the dose rate to the bone marrow would be 5 rems/yr and to most other organs 15 rems/yr. The values were set based upon exposure every week and the limit was applied at the time when the calculated dose would reach this value. For many nuclides, this occurred only after 50 years of continuous exposure. The present NRC regulation of 40 mpc-hr per week is a legal requirement that bears no relationship to the dose received for most radionuclides.

Sincerely yours,


J. W. Healy

JWH:d1

xc: J. Jackson, DIR, M.S. 145