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ENVIRONMENTAL HEALTH AND SAFETY SANTA BARBARA, CALIFORNIA 93106

(25)

-19-20 (44FR 10388)

4 April 1979

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attn: Docketing and Service Branch

Gentlemen:

Re: Proposed Changes to 10 CFR Part 20 to Eliminate the 5(N-18) Accumulated Dose Limit

I have reviewed the proposed amendments to 10 CFR Part 20 that were published in the Federal Register on 20 February 1979. My comments are as follows:

1) I am strongly in favor of making 5 rems per year the dose limit, with no exceptions, for whole body exposure.

2) I would like to see the limits for calendar quarters abolished, as recommended in ICRP Publication 26. If this is too radical a step, then the quarterly limits for the skin of the whole body, and for the hands and forearms, feet and ankles should be set at 50% of the annual limits, rounded off upward to a reasonably round number. If current annual limits are kept, this would become 15 rems/quarter to the skin of the whole body and 40 rems/quarter to the hands and forearms, and feet and ankles. Having a limit of 18.75 rems in the regulations, with 4 significant figures, makes no sense to me when the instruments used to measure the doses often involve an error of no better than 10% or so. Limits should be specified in numbers rounded off to one significant digit, or two significant digits if the first digit is a low number and the second digit is a five (e.g. 15, 25).

3) NCRP Report 39 recommends lower annual limits for the skin of the whole body and for the forearms. In addition, ICRP Publication 26 recommends a lower annual limit for the hands, feet and ankles. Therefore, I feel that NRC

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regulations should reflect the most conservative annual limits recommended by these two authoritative bodies:

	Rems per calendar year
Whole body	5
Skin of whole body	15
Forearms	30
Hands, feet and ankles	50

4) If the annual limits recommended in item 3 above are adopted, and if the elimination of quarterly limits is too radical a step to take, then I would like to see the quarterly limits set as follows:

	Rems per calendar quarter
Whole body	3
Skin of the whole body	8
Forearms	15
Hands, feet and ankles	25

5) It makes even less sense to have quarterly limits for persons under 18 years of age, so I urge that the limits be set at 10% of the annual limits for adults during any calendar year. This would make occupational exposure for these younger workers the same as that permitted in unrestricted areas.

6) I would like to see the requirements for requiring personnel monitoring set at a percentage of the annual limit in a calendar year--10% seems reasonable, e. g., 500 mrems to the whole body. This limit is based on the recommended dose to the fetus of 500 mrem over a 9 month gestation period. Levels for requiring personnel monitoring could be increased for older workers, to say 25% of the annual limits in a calendar year.

7) I do not understand what makes a 17 year old worker any different from a 17 year old member of the general public. Members of the general public are not required to wear personnel monitoring devices, so workers should not be required to wear them, even when under 18, unless they are expected to exceed 10% of

the adult annual limits in a calendar year. If this concept is not acceptable, then perhaps 5% would be a good compromise. It might not be possible to measure neutron exposures at these levels with commercially supplied dosimetry systems, however, particularly if the dose to the whole body is highly fractionated. The question of requiring personnel dosimetry for neutrons deserves much more study and consideration at these low levels.

8) The requirement to determine prior doses during the current calendar year for persons being monitored appears to be excessive and a paperwork nightmare, at the dose levels specified in the proposal. There are situations in the nuclear power business where this would be appropriate, but it should not apply to the bulk of medical and research licensees where most exposures remain quite low, even with rapid turnover of personnel. I recommend that dose limitation with more than one employer be limited to calendar year accumulations, and that it only apply to those individuals who are realistically expected to exceed 50%, or perhaps 25%, of the annual limits in a calendar year.

The above comments are mine alone, and do not necessarily reflect the opinions of the Regents of the University of California or any of their senior management personnel. Your consideration of these comments is appreciated.

Very truly yours,

Frank E. Gallagher III

Frank E. Gallagher, III, CHP
Radiation Protection Officer

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