

917 15TH STREET, N.W.
WASHINGTON, D.C. 20005

202 737-3000

Handwritten signature

Western Office
2345 YALE STREET
PALO ALTO, CALIF. 94306
415 327-1080

August 24, 1978

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10017
212 949-0049

Joseph M. Hendrie, Chairman
Victor Gilinsky
Richard T. Kennedy
Peter Bradford
John Ahearne
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Commissioners,

The purpose of this letter is to call your attention to a serious flaw in the Staff's analysis of our occupational exposure petition as presented at your briefing on August 17, 1978. This flaw derives from the failure of the Staff to consider an important aspect of our petition, namely that older workers could receive higher yearly exposures. The same applies to the comments and analyses of the industry. Both the Staff and the industry analyses considered only a blanket reduction to 0.5 rem/yr.

Our petition stated explicitly:

The objective of the proposed action is to reduce the genetic risk associated with radiation exposure at the current occupational exposure level by a factor of 10 and reduce the somatic risk by a factor of 6. To meet the objective relative to the genetic risk, it is proposed that the current regulations be amended as follows:

1. For individuals under the age of M, where M is not less than 45, the whole body radiation exposure limit shall not exceed 0.5 rem in any calendar year and 0.3 in any calendar quarter.

To meet the objective relative to the somatic risk, it is proposed, in addition to the above, that

7812210343

78122108

2. For individuals equal to or greater than M years of age, a licensee may permit an individual to receive up to 3 rem/quarter whole body dose as long as the dose to the whole body shall not exceed $0.5(M-18) - X(N-M)$ rem, where N equals the individual's age in years and X is calculated to reduce the cumulative somatic risk by a factor of 6 below the cumulative somatic risk associated with exposure at 5 rem/year from age 18. It is proposed that the value of X be calculated using the relative risk model as described more fully in the BEIR Report.

If the above formula is applied and M is set at 45 years, individuals above this age could receive some 2 rem/yr and if M is set at 55 years, the yearly exposure could be some 3 rem/yr. In both cases, the 3 rem/quarter limit would apply. We propose that the older members of the work force with their higher dose limit should supply the industry with the needed skilled workers to accomplish its maintenance and repair operations without increasing the total man-rem, particularly if AARA is enforced.

As we pointed out, the concept that the higher exposures be reserved for the older workers is not unique to us. The NAS/NRC BEAR Committee made this recommendation as early as 1956.

On page 21 of their analysis, the Staff refers to our recommendations as age discrimination. This is a rather crabbed interpretation of the petition. Clearly, a regulation that serves to protect the human gene pool from unnecessary damage cannot be considered as discriminatory. Here the Staff also states that our proposal "ignores the cancer risk for older workers." This is simply wrong as the above quotation of the proposed action indicates. In a subsequent discussion with the Staff, they acknowledged this error.

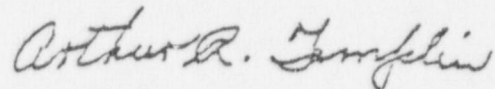
NRC Commissioners
August 24, 1978
page three

It is important to note that our original petition was based upon the 1972 BEIR Report. In our Supplement to the petition (dated Nov. 4, 1977) we indicated that new information had become available (the Bross and the Mancuso reports) which suggested that the BEIR Report had underestimated the cancer risk of low dose radiation. Clearly these reports serve to strengthen the justification of our petition. In the appendix to their analysis, the Staff (p. 26) performs some calculations wherein they assume that the cancer risk is 1.5 or 3 times greater at low doses. The basis for this choice is obscure since these latest reports suggest the cancer risk is 10 times greater at low doses. Nevertheless, here again they fail to consider allowing older workers to receive higher doses.

Finally, the Staff, in their analysis, did not address genetic effects. As we indicated in our petition, the latest data indicate that the 1972 BEIR Report may have underestimated the genetic effects by a factor of 8. An adequate analysis of our petition by the Staff requires a consideration of the genetic effects since it represents a major consideration in our proposed changes in the limits.

In conclusion, the Staff's analysis of our petition is seriously deficient. We strongly urge the Commission to direct the Staff to perform an appropriate analysis by taking into consideration the factors discussed in this letter.

Sincerely yours,

A handwritten signature in cursive script, reading "Arthur R. Tamplin".

Arthur R. Tamplin