

PROPOSED RULE 20
(59FR 4868)

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February 28, 1994

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

Attn: Docketing and Service Branch

Re: Draft Radiological Criteria for Decommissioning (1/26/94)

Dear Mr. Secretary :

Thank you for the opportunity to comment on the above draft. I have worked over 30 years at a national laboratory and for Dept. of Energy contractors in research related to risk assessment , radiological health, and radioactive waste management. Last year, I participated in your San Francisco rulemaking workshop on decommissioning as a representative of the American Nuclear Society. I am now retired and wish to express my personal views on the draft criteria, as a private citizen. These views may be unpopular; nevertheless, I believe they deserve serious consideration.

At the San Francisco workshop I suggested that the NRC be frank with the public on whether their decisions are based primarily on technical or political considerations. All too often, limited public funds and other resources have been squandered on scientific studies intended to support regulatory decisions with the results having little or no impact on the decision process. This has particularly been the case when the research results conflicted with political considerations. An example of this phenomenon is the recent effort by the NRC to develop BRC (below regulatory concern) regulations. After extensive NRC-sponsored research on the subject, a technologically reasonable regulation was proposed, only to be withdrawn subsequently in response to political pressures.

The NRC can, of course, develop regulations on any basis they choose. However, if regulatory decisions are to be based upon political rational, it would certainly be more efficient to allocate limited research funds toward areas that more directly support the process such as public opinion surveys and political studies. Secondly, when extensive scientific research is sponsored by the NRC, it may give the deceptive impression that technologically-based decisions are being made. If decisions are to be primarily based on political considerations (i.e. to reflect public opinion and/or

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political pressures), the public should, at least, be made aware that this is the case. If technological considerations are to be disregarded in favor of "political realities", it might even be more effective to simply bypass NRC procedures and hold a public plebiscite on all regulatory actions.

Unfortunately, it appears from the draft radiological criteria for decommissioning that a process similar to that in development of BRC regulations is occurring. Many of the arguments presented in the "Basis for Radiological Criteria" (pp.15-18) are largely arbitrary, technologically unfounded, and appear to be primarily motivated by a desire for political correctness.

The stated basis for the radiological criteria includes the assumptions that: (1) there is no radiological dose threshold below which biological effects are non-existent or possibly beneficial, and (2) in the low-dose range (<100 mrem/yr) there is a linear relationship between dose and probability for adverse effect. These assumptions have been used as a basis for regulatory decisions for so long now that they have come to be regarded by the public as immutable truths. In fact, there is a considerable body of evidence in the scientific literature indicating that these assumptions may be false. This evidence has been largely ignored in the regulatory decision-making process, as stated in the draft, is the "absence of convincing evidence". Since, at very low doses, it would be impossible to absolutely prove the existence of any effects (either harmful or beneficial), it might be reasonable to ask what it would take to "convince" the NRC. The preponderance of direct low-dose (<100 mrem/yr) evidence that does exist, indicates that beneficial effects would be more likely. If requested, I would be happy to submit a compilation of supporting references. If the NRC or its staff knows of any convincing direct evidence of harmful effects in this very low dose range (i.e. other than that derived by extrapolation from observed effects at high doses), I would certainly like to be made aware of it.

The argument may be made that even if the no-threshold and linear assumptions are wrong, they still can provide a "prudent" basis for regulatory decisions. If, in fact, low-dose radiation exposure produces no adverse effects, then accepting these assumptions as a basis for regulatory decisions is certainly **not prudent**. The resulting policies can and have caused the expenditure of vast amounts of our limited resources toward meeting requirements which produce no public benefit. These resources then become unavailable for other areas of public health and safety where they might actually do some good.

As discussed in the draft, the NRC has relied on the NCRP and ICRP for guidance in the area of radiological protection. Although these organizations may be well-intended, I believe their recommendations should be viewed with some degree of caution. Both organizations are comprised largely of radiation biologists, health physicists, and other specialists who derive income from investigating radiation effects. Without the general perception that low-dose radiation exposures are harmful, continued research funding would become increasingly difficult to obtain. The linear and no-threshold assumptions are also the basis for ALARA guidance pursuant to which a substantial fraction of all radiation protection specialists gain employment. Given this situation, one might question the extent to which the presumption of harmful effects at very low doses is self-serving and not necessarily in the best interests of public health and well-being.

Another problem with the draft involves application of the ALARA (as low as reasonably achievable) concept. Rather than accept the relatively straight-forward ICRP recommendations on ALARA (involving cost-benefit analysis and considering collective dose), the NRC has apparently chosen to implement a complex process involving considerable public and political input. It would seem that the NRC prefers an approach that might be more appropriately termed ALAPA (as low as politically acceptable) whose implementation requires an extensive bureaucracy. The process would likely require a prolonged, if not endless, period of study and review for each decontamination project and would consume inordinate costs. The extent to which public health would be enhanced by this process is highly questionable.

The comments I have offered could, of course, also apply to areas of radiation protection well beyond decommissioning. To summarize the major points:

(1) The NRC should be frank and open with the public as to whether their decisions are primarily based upon technical or political considerations. If they are to be politically based, please stop wasting millions of dollars on needless technical research which has little, if any, bearing on the decision process and amounts to little more than a sham.

(2) I believe it is high time to have an honest and unbiased reappraisal of all scientific information on the complete spectrum of effects (both harmful and beneficial) of low dose radiation exposure. Although highly restrictive regulation may be intended to reflect public fears toward radiation, a case could be made that it is a major cause for those fears. I strongly believe that the public interest would be well served by reflecting the best scientific

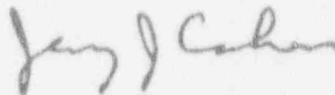
information on the subject. At least, it might be worth a try.

(3) The NRC should consider applying the ALARA concept according to the recommendations of the ICRP , and

(4) Please make a greater effort to implement policies that minimize rather than expand the need for bureaucratic procedures. The criteria for decommissioning might be a good place to start.

If you would like any further information to support these comments, I would be happy to submit it for your consideration.

Sincerely yours,

A handwritten signature in cursive script that reads "Jerry J. Cohen".

Jerry J. Cohen BS, MPH, CIH(Ret)

cc: William P. Baker
U.S. House of Representatives