



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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January 8, 1999

MEMORANDUM TO: Cheryl A. Trottier, Chief  
Radiation Protection and Health Effects Branch  
Division of Regulatory Applications, RES

FROM: Donald A. Cool, Director  
Division of Industrial and  
Medical Nuclear Safety, NMSS

A handwritten signature in black ink, appearing to read "D. Cool", written over the printed name of Donald A. Cool.

SUBJECT: REVIEW OF THE NATIONAL COUNCIL ON RADIATION PROTECTION  
AND MEASUREMENTS ( NCRP) DRAFT REPORT "EVALUATION OF  
THE LINEAR NON-THRESHOLD DOSE-RESPONSE MODEL"

My staff has reviewed the draft NCRP report on the linear non-threshold hypothesis, and has found it to be well written and provides a great deal of useful information on the subject. However, we recommend that the format in which the material is organized in the report be changed. Based on our assumption that the intended audience of the report are health physics practitioners and policy makers, we suggest that all of the material in Sections (3) through (11) of the report be included in a series of appendices, and a new main section or sections be added to the report. The material contained in Sections (3) to (11) is fairly detailed and technical, but is not in itself of immediate relevance to the report's line of reasoning. Only the conclusions that can be extracted from each of these sections are necessary for a discussion of the theory, its merits, its weaknesses, and the reasons for supporting it.

The readers, most of whom will probably be health physicists or people working in the field of radiation protection implementation or policy development, will find a significant part of the detailed discussions in the report beyond their technical capabilities and also beyond their range of interest. Such people will be interested mainly in what is now known and how this knowledge bears on the hypothesis. How that knowledge was acquired, by whom, and under what settings and constraints is certainly relevant, and may be of interest to some of the readers of the report. That is why we suggest that it be retained as appendices. However, having to consider this type of information while at the same time evaluating the level of factual support for the hypothesis, and the wisdom of its use in implementing policy, is a distraction that should be corrected. Readers interested in more detail on a particular point can read the relevant appendix to obtain this information, or go to one of the many listed references if the appendices do not provide that information.

In summary, we believe that, although the report contains a considerable amount of useful and relevant information, the current structure of the report weakens its logical flow and obscures the case it is making, because the reader is overwhelmed with detail and loses sight of the main thrust of the report. We also suggest that NCRP be asked to acknowledge in its published report that the NRC was the source of funding for this effort.

Please call the technical contact if you would like additional information or if you would like to discuss our comments.

CONTACT: Sami Sherbini, NMSS/IMNS  
(301) 415-7902

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