



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D. C. 20460

19 JUL 1988

Honorable Lee M. Thomas
Administrator
U. S. Environmental Protection Agency
401 M Street, NW
Washington, DC 20460

SAB-RAC-88-031

OFFICE OF
THE ADMINISTRATOR

Dear Mr. Thomas:

The Science Advisory Board's Radiation Advisory Committee has been apprised of the Office of Radiation Programs' proposal to "defer" all Agency involvement in nonionizing radiation after the Guidance to limit exposure (now being developed) is issued. The intent is to phase out such smaller programs and focus on larger tasks with perceived higher priorities.

In its report on nonionizing radiation of January 31, 1984 (copy attached) Science Advisory Board recommended periodic review and evaluation of new research, a strengthening of in-house and extramural research, and a continuation of the Agency's monitoring of ambient levels and its technical support to other government agencies to assure compliance with its Guidance.

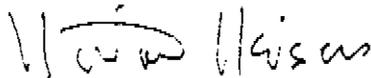
Apart from one periodic review, the Agency has not found it possible to carry out any of these recommendations, nor is it likely to do so now, despite renewed nationwide interest in the effects of nonionizing radiation as a possible cancer promoter and the imminent issuance of a Guidance that is to be implemented by other Federal agencies.

At its July 19 meeting, the Executive Committee of the Science Advisory Board joined with the Radiation Advisory Committee in the recommendation that the Agency must not totally abandon its work in the area of nonionizing radiation. This recommendation is particularly relevant in the light of two studies dealing with non-ionizing radiation reported in the current issue of the American Journal of Epidemiology, which evidence both the continuing interest in this field and the ambiguous nature of most current data.

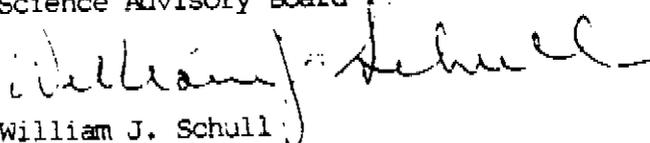
At a minimum, the Agency must continue to monitor research in this field and provide technical support and assistance (including measurement capabilities) to other government agencies, as foreseen in EPA's Notice of Proposed Recommendations, Federal Register 27318, July 30, 1986. Some agencies have already expressed a need for such assistance in their implementation of and compliance with the forthcoming Guidance. It is imperative that a viable Federal presence be maintained in the area of non-ionizing radiation and the support activity by the Agency will provide an inestimable service in the public interest at a relatively small cost in budget and personnel.

In order to clarify these issues, the Board requests additional information on the Agency's near-term and long-term plans for its own non-ionizing radiation program and specific information about the current and planned levels of support for non-ionizing radiation activities elsewhere in the Federal government.

Sincerely,



Norton Nelson
Chairman
Executive Committee
Science Advisory Board



William J. Schull
Chairman
Radiation Advisory Committee
Science Advisory Board

cc: R. Guimond
D. James
D. Barnes



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460
APRIL 25, 1984

OFFICE OF
THE ADMINISTRATOR

Mr. William D. Ruckelshaus
Administrator
Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ruckelshaus:

The Science Advisory Board (SAB) has completed its review of the Office of Research and Development's assessment document entitled Biological Effects of Radiofrequency Radiation and is pleased to transmit its report to you. An SAB Subcommittee, chaired by Dr. Charles Susskind of the University of California at Berkeley, twice reviewed the draft document and unanimously concluded that it represents an adequate statement of the current scientific literature and can serve as a scientifically defensible basis for the Agency's development of radiation protection guidance for use by Federal agencies to limit exposure of the general public to radiofrequency radiation.

The enclosed report summarizes the Subcommittee's review process and presents its major findings and recommendations. The SAB Executive Committee, at its recent meeting of April 11-12, fully endorsed the Subcommittee's report and authorized its transmittal to you. Should you wish any further SAB review of the radiofrequency issue, I am sure that the Board would be pleased to address your request.

Sincerely,

A handwritten signature in dark ink, appearing to read "Norton Nelson".

Norton Nelson, Chairman
Executive Committee
Science Advisory Board

Enclosure

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PROF. CHARLES SÜSSKIND
U.C. COLLEGE OF ENGINEERING
BERKELEY, CA 94720

31. January 1984

Dr. Norton Nelson, Chairman, SAB
Environmental Protection Agency
WASHINGTON DC 20460

Dear Dr. Nelson:

The SAB Subcommittee on the Biological Effects of Radiofrequency Radiation met on 22-23 September 1983 and on 24-25 January 1984 to review the report on Biological Effects of Radiofrequency Radiation produced by a team led by J. A. Elder and D. F. Cahill at EPA's Health Effects Research Laboratory in Research Triangle Park, N.C. The Subcommittee asked for changes in the organization and wording of the report, virtually all of which have been accommodated in the final version. Accordingly, the Subcommittee concludes that the report is an adequate review of the scientific literature and can serve as the basis for the development of radiation protection guidance for use by Federal agencies to limit exposure of the general public to radiofrequency radiation. The Subcommittee also concludes that the EPA team has done a splendid job in producing the report and in responding to the Subcommittee's requests for amendments; its members, and especially team leader Joe A. Elder, are to be commended.

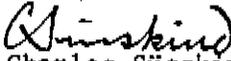
The Subcommittee has asked me to make clear that its conclusion is limited to the review of the scientific literature; it does not extend to prior approval of any standards EPA may base on this material. In addition, the Subcommittee wishes to make the following recommendations.

1. The process of reviewing the scientific literature should go on within EPA, so that there is at least one government agency that uses its own professional staff to keep abreast of developments in this field. That is not to say that the agency should not avail itself of outside advice from time to time, for instance by periodically constituting a review committee to monitor its own efforts.
2. If significant new results appear between such periodic reviews (which could be scheduled, say, every two years), they should be evaluated for pertinence and used for revision of exposure standards as appropriate. It is most unlikely that any standard based on the present effort will remain appropriate for all time; a standard is inherently dynamic, since it reflects knowledge at the time of promulgation.
3. EPA should continue and strengthen its program of extramural research, and also its in-house research on the health effects of radiofrequency radiation, not only to keep abreast of the field (Item 1 above) but also because the research itself is invaluable to the nation, as attested by the fact that a considerable part of the scientific results reported in the present review derives from work done at EPA's own laboratories.
4. The agency should provide technical support to other government agencies to help them in assuring compliance with EPA standards.
5. The agency should continue its unique and valuable service in monitoring ambient levels (and studying population exposures) throughout the USA, and in characterizing the environment, including such problems as may arise from modes of modulation imposed on radiofrequency sources; the rapidly changing picture in telecommunications and data transmission alone would warrant continuation of this service.
6. The Subcommittee draws special attention to certain research topics that may not have progressed far enough to be of use in rule making at present but may become significant in the near future. Among them are the following.

Süsskind to Nelson, 31 Jan 84, p. 2

- a. Effects of modulation imposed on radiofrequency carriers, particularly modulation at very low frequencies, on biological specimens exposed to very low power densities.
- b. Effects of chronic vs acute exposures, and of partial-body vs whole-body exposures.
- c. Effects of exposure to pulsed sources of very high peak power vs sources that are adequately characterized by average power.
- d. Synergistic effects of radiofrequency energy with other physical and chemical agents.
- e. Validation of recent results with regard to mutagenic and similar effects observed at low power densities.
- f. Evaluation of the thermoregulatory capability and concomitant physiological processes of various populations exposed under extreme environmental conditions.

Sincerely,


Charles Süsskind, Chairman
SAB Subcommittee on the
Biological Effects of RF Radiation

cc: Subcommittee members
Drs. Elder, Seba, Yosie
Mr. Janes

CS:t