



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

JUL 25 1996

THE ADMINISTRATOR

Honorable Reed E. Hundt  
Chairman  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, DC 20554

Dear Mr. Hundt:

Thank you for your letter of July 1, 1996, advising me that the Federal Communications Commission (FCC) is completing the process of updating its radio frequency (RF) exposure guidelines, and asking that the Environmental Protection Agency (EPA) review the FCC's approach to developing new guidelines.

As you point out in your letter, EPA commented on a 1993 proposed rule on RF exposure guidelines and recommended that the FCC consider adopting certain features of the National Council on Radiation Protection and Measurements (NCRP) guidelines along with others recommended by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers, Inc. (IEEE). The National Institute for Occupational Safety and Health (NIOSH), the Food and Drug Administration (FDA), and the Occupational Safety and Health Administration (OSHA) also commented on this proposal and proposed additional changes.

As a result of these comments, you indicated that you are considering an approach that responds to the recommendations made by the EPA and by the other federal health and safety agencies, incorporates elements from both ANSI/IEEE and NCRP, and includes: 1) adoption of limits for field strength and power density limits based on NCRP recommendations (the ANSI/IEEE and NCRP limits are similar up to 1500 MHz, above which NCRP has different MPE limits); 2) adoption of ANSI/IEEE limits for localized specific absorption rate (SAR) (again, similar to NCRP); 3) deferring adoption of the ANSI/IEEE radiated power exclusion clause pending possible future consideration of a modified version; 4) a categorical exclusion policy for certain transmitters; and 5) endorsement of measurement procedures described in ANSI/IEEE C95.3 and NCRP Report No. 119.



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We have reviewed this proposal and the document provided to us through the Interdepartment Radio Advisory Committee, "FCC Draft of July 2, 1996, in the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation". This new approach is consistent with our comments made in 1993 and addresses our concerns about adequate protection of public health. I commend you for taking this action. If there are any questions please refer them to Mary T. Smith, Director, Indoor Environments Division, Office of Radiation and Indoor Air, 202-233-9370.

I appreciate the opportunity to express EPA's support for the FCC proposed plans, and look forward to continuing cooperation between our agencies.

Sincerely,

  
Carol M. Browner



## DEPARTMENT OF HEALTH &amp; HUMAN SERVICES

Public Health Service

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

JUL 17 1996

Mr. Richard M. Smith  
Chief, Office of Engineering and Technology  
Federal Communications Commission  
Washington, D.C. 20554

Dear Mr. Smith:

Thank you for your letter of July 2, 1996 to Dr. Burlington requesting that we review and comment on your proposed guidelines for limits on exposure to radiofrequency (RF) radiation. We agree that it is important for the federal health agencies to develop a consensus with respect to the final guidelines adopted by your agency.

We would first like to point out that your proposed guidelines for evaluating the environmental effects of radio frequency radiation do not address the indirect, but potentially harmful effects of electromagnetic interference with medical devices. These environmental effects can induce failures in medical devices that can cause injury or death. We would encourage you to continue to work with our agency to address separately this issue.

As we stated in our letter of November 10, 1993 commenting on the Notice of Proposed Rulemaking FCC 93-142, we believe that the FCC should replace its present guidelines with most, but not all, of the material contained in the ANSI/IEEE C95.1-1992 standard. We also stated that we did not believe that C95.1-1992 addresses the issue of long-term, chronic exposures to RF fields, and that the relevance of such questions would only increase as the use of portable and hand-held devices grows. For these reasons we believe that it is appropriate to adopt a hybrid standard which incorporates the more protective limits of the National Council for Radiation Protection and Measurement (NCRP) at frequencies above 1.5 GHz, as you have proposed. Since the National Institute of Occupational Safety and Health and the Environmental Protection Agency have previously supported the adoption of the more protective NCRP guidelines (in their comments on the Notice of Proposed Rulemaking), we believe that your approach of a hybrid guideline is supported by a consensus of opinion within the federal health agencies.

Page 2 - Mr. Richard M. Smith

We also stated in our 1993 letter that we disagreed with, and recommended against, the adoption of the "low power exclusion clause" that exempts certain devices from the provisions of the standard only because they emit less than a specified amount of power. We noted that some devices that meet the requirements of the low power exclusion clause can induce energy depositions that exceed those limits specified elsewhere in the C95.1-1992 guidelines. We therefore support your current proposal to apply the energy deposition guidelines to specific classes of low-power devices that are designed to be used in the immediate vicinity of a user, including hand-held cellular telephones. We also agree with your decision to apply the uncontrolled or general population exposure criteria to devices used primarily by consumers.

Finally, our 1993 comments on the Notice of Proposed Rulemaking supported the FCC proposal to endorse the RF exposure and power deposition measurement procedures specified in the "IEEE Recommended Practices for the Measurements of Potentially Hazardous Electromagnetic Fields - RF and Microwave", designated ANSI C95.3-1992. Your current proposed guidelines endorse ANSI C95.3-1992 and in addition note that NCRP has recently published Report 119, "A Practical Guide to the Determination of Human Exposure to Radiofrequency Fields", which you also endorse. We believe that both documents are useful and support their use for determining compliance with the RF exposure guidelines.

In summary, we believe that the RF exposure guidelines currently proposed by the FCC are responsive to our earlier comments on the 1993 Notice of Proposed Rulemaking. The current FCC proposal represents a significant step toward achieving a consensus guideline on RF exposure which will have the support of the federal agencies responsible for protecting the public from nonionizing radiation injury. We appreciate this opportunity to offer our comments and support.

Sincerely yours,



Elizabeth D. Jacobson, Ph.D.  
Deputy Director for Science  
Center for Devices and  
Radiological Health

## U.S. Department of Labor

Occupational Safety and Health Administration  
Washington, D.C. 20210

Reply to the Attention of:

DTS  
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AUG 2 1996

Mr. Richard M. Smith  
Chief Engineer  
Office of Engineering and Technology  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

Dear Mr. Smith:

I am pleased to submit reply comments to the Federal Communications Commission (FCC) regarding the latest proposed Guidelines for Evaluating the Environmental Effects of Radiofrequency (RF) Radiation (ET Docket No. 93-62) on behalf of the Occupational Safety and Health Administration (OSHA). In our initial comments of February 22, 1994, we generally endorsed FCC's proposal to update its maximum RF exposure guidelines by adopting the IEEE/ANSI C95.1-1991 RF hazard limits to replace the currently referenced ANSI C95.1-1982 criteria. Based on comments you received, particularly from the Environmental Protection Agency (EPA), you are now considering guidelines which include: 1) the adoption of limits for field strength and power density based on National Council on Radiation Protection (NCRP) recommendations instead of ANSI/IEEE; 2) adoption of ANSI/IEEE limits for localized specific absorption rate (SAR); and 3) the endorsement of measurement procedures described in ANSI/IEEE C95.3 and NCRP Report No. 119.

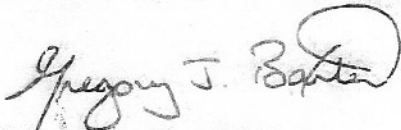
I am aware that technical personnel from the various federal safety and health agencies, including OSHA, have deliberated the merits of adopting the ANSI/IEEE or NCRP recommendations as a basis for your guidelines. We support FCC's decision to adopt its own guidelines based on, among other things, selected sections of both of these standards. The resulting limits for maximum RF field strength, power density and localized SAR would be appropriate elements in a comprehensive RF protection program, and part of an employer's overall safety and health program.

Absent from your proposed approach is the adoption of limits for RF induced foot and contact currents, such as those presented in the ANSI/IEEE and ACGIH standards. Where applicable, measuring induced foot and contact currents is more direct and accurate than measuring field strengths for demonstrating compliance with SAR limits, the bases for both the ANSI/IEEE and NCRP standards. We have also found that reliance on field strength measurements alone may be unnecessarily restrictive for exposure locations slightly above the field strength limits. In many of these

field strength limits are exceeded. In order to complete your criteria for maximum RF exposures, we strongly recommend that FCC adopt induced foot and contact current limits published by ANSI/IEEE and ACGIH.

If you have any questions regarding this response, please contact Robert Curtis at (801) 487-0521, ext. 243.

Sincerely,



Gregory J. Baxter  
Acting Director  
Directorate of Technical Support



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institute for Occupational  
Safety and Health  
Robert A. Taft Laboratories  
4676 Columbia Parkway  
Cincinnati OH 45226-1998  
July 25, 1996

Mr. Richard M. Smith  
Chief  
Office of Engineering and Technology  
Federal Communications Commission  
Washington, D.C. 20554

Dear Mr. Smith:

Dr. Linda Rosenstock asked me to reply to your letter of July 2, 1996, to the National Institute for Occupational Safety and Health (NIOSH) regarding the proposed FCC rule for evaluating human exposure to radiofrequency energy emitted by FCC-regulated transmitters. NIOSH appreciates the opportunity to reaffirm the comments submitted January 11, 1994 (enclosed) in response to the FCC NPRM (ET Docket 93-62) on this topic. In general, we concur with the approach outlined in your letter in developing the revised rule.

NIOSH agrees with the plan to utilize an approach that incorporates elements from two different documents, the NCRP Report 86, and the IEEE/ANSI C95.1-1992. Combining the limits for field strength and power density from the NCRP report, along with the ANSI/IEEE limits for localized specific absorption rate (SAR), provides an improved rule over the original NPRM in protecting workers involved with FCC-licensed sources from potential overexposure.

We continue to be concerned about exposure for those who must work very close to FCC-regulated transmitters, as noted in our 1994 comments. While we recognize practical concerns that have led the FCC to defer rulemaking on induced and contact current limits, NIOSH urges the FCC to develop an additional component to the rule in the near future to address these important aspects of RF exposure.

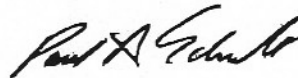
Finally, NIOSH supports the FCC endorsement of measurement procedures described in ANSI/IEEE C95.3 and NCRP Report No. 119. Both of these documents provide excellent guidance for measurement of RF exposures.

NIOSH appreciates the efforts of the FCC to note and respond to our earlier comments and those of other health agencies in revising the rule to improve the health and safety guidelines for workers who are at risk of RF exposure. If you

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have any questions regarding our comments, please contact Dr. Gregory Lotz,  
Division of Biomedical and Behavioral Science, at (513) 533-8482.

Sincerely yours,



Paul A. Schulte, Ph.D.  
Director  
Education and Information Division

Enclosure