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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of	)	
	)	
Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation	)	ET Docket No. 93-62
	)	
	)	

REPLY COMMENTS OF THE NATIONAL ASSOCIATION OF BROADCASTERS

The National Association of Broadcasters ("NAB")[1] submits herewith its replies to comments filed in response to the above-captioned Notice of Proposed Rule Making ("Notice").[2] In the Notice, the FCC proposed to revise its guidelines for evaluating the environmental effects of human exposure to "nonionizing electromagnetic energy," or "RF radiation," by adopting The American National Standards Institute's ("ANSI") revised RF exposure standard, developed by the Institute of Electrical and Electronics Engineers ("IEEE"), denominated as: ANSI/IEEE C95.1-1992.[3]

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[1]NAB is a nonprofit, incorporated association of radio and television stations and networks which serves and represents the American broadcast industry.

[2]Notice of Proposed Rule Making ("Notice") in ET Docket No. 93-62, 8 FCC Rcd 2849 (1993).

[3]"ANSI/IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" ANSI/IEEE C95.1-1992.

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I. SUMMARY.

NAB reaffirms its support for the FCC's use of the revised ANSI standard in its program of regulating human exposure to nonionizing energy. However, such rules and policies should attempt to avoid, through all responsible methods, the imposition of excessive burdens on broadcasters or other Commission regulatees.

By continuing the "three-pronged" approach for certifying compliance, maintaining (and revising, as appropriate) a system of "categorical exclusion" and adopting a practical set of guidelines for complying with the "induced" and "contact" current provisions of ANSI/IEEE C95.1-1992, the Commission will adopt an acceptable and scientifically-based revision to its RF radiation exposure guidelines.

Also, the Commission must now begin to confront directly the need for it to adopt a policy of federal preemption against nonfederal authorities' imposition of unreasonable and unjustified restrictions on FCC regulatees operating in interstate commerce.

We again also urge a rational approach to the categorical exclusion of low power facilities in general and, in particular, vehicle-mounted two-way radios.

II. THERE IS CONSIDERABLE CONSENSUS AMONG COMMENTING PARTIES.

Virtually all commentors in this proceeding agree that the Commission should adopt ANSI/IEEE C95.1-1992. There is an overwhelming consensus that ANSI/IEEE C95.1-1992 represents the views of a large and diverse group of experts -- from all relevant disciplines -- working in government, academia and industry. Indeed, most parties agree that the new ANSI standard is the most scientifically up-to-date guideline available.

There is also consensus that the categorization of exposure into controlled and uncontrolled environments, contained in ANSI/IEEE C95.1-1992, is reasonable and provides a sound foundation for the evaluation of RF exposure at telecommunications facilities. Most parties believe that the FCC should not adopt the definitions of "Worker" and "General Public" exposure, as suggested by the United States Environmental Protection Agency ("EPA")and defined in the National Council on Radiation Protection and Measurements'("NCRP") radiation protection guidelines.

There is further consensus on the issue of compliance methodologies. General support has been expressed among commentors for the concept of using analytical tools, rather than actual measurements, to demonstrate compliance with the new ANSI guidelines. NAB reiterates its support of the "three-pronged" approach for broadcast facilities, as is currently used under the existing FCC guidelines.

NAB shares the concerns expressed by a number of commentors[4] regarding the exact methods to be used when field measurements are deemed necessary. It is clear that the Commission must specify the measurement procedure and type of instrumentation to be used to certify a broadcast site's compliance with ANSI/IEEE C95.1-1992, especially with respect to induced and contact body currents. There is considerable confusion surrounding the issue of measuring body currents;[5] NAB urges the FCC to resolve any ambiguity before it implements the new ANSI guidelines. While it is true that ANSI/IEEE C95.3-1992 does give general guidance on measurement procedures, the FCC must go a step further and spell out specifically what it would require to demonstrate compliance fully.

Consensus can also be found on the issue of federal preemption. CBS et al, the American Radio Relay League, Inc., Hammett & Edison, and Louis A. Williams & Associates, as just a few examples, all support the notion of federal preemption. Indeed, the comments of the New Jersey Broadcasters Association describes a typical scenario where federal preemption would avert unwarranted, duplicative and burdensome state regulations that, ultimately, will frustrate the telecommunications policies of the FCC. NAB urges the Commission to investigate fully the issue of

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[4] See comments of Hammett & Edison at 12; Hatfield & Dawson at 3-5; Silliman & Silliman at 1-2; and Louis A. Williams, Jr. & Associates at 2.

[5] See, e.g., comments of CBS, et al.

federal preemption with regard to state and local regulation of RF exposure.

III. THE FCC SHOULD BASE ITS REVISED RF EXPOSURE GUIDELINES SOLELY ON THE ANSI/IEEE STANDARD.

NAB disagrees strongly with the EPA's assertion that the Commission should base its revised RF exposure guidelines partially on NCRP's Report No. 86[6] and partially on ANSI/IEEE C95.1-1992. EPA argues that, with the exception of the body current requirements, they find the new ANSI standard to be flawed and not sufficiently protective.[7] EPA prefers the categorization of exposure environments in terms of the populations to be protected, and thus recommends the "worker"/"general public" scenario contained within NCRP Report No. 86. EPA asserts the definitions of "controlled" and "uncontrolled" environments contained in the ANSI standard are too vague and discretionary.[8]

NAB believes that EPA's rationale is flawed and that the designation of the two exposure tiers as "controlled" or

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[6] NCRP Report No. 86, Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields, National Council on Radiation Protection and Measurements, Bethesda MD (1986).

[7] See comments of the EPA at 1.

[8] EPA's comments also raise issues regarding the effectiveness the ANSI/IEEE standard at microwave frequencies. These issues are addressed more fully in the reply comments of The Electromagnetic Energy Policy Alliance ("EEPA"). NAB both concurs with and supports the reply comments of EEPA.

"uncontrolled" environments is less ambiguous than designation by type of population. Also, another standards organizations, the European Committee for Electrotechnical Standardization (CENELEC), has adopted the concept of "controlled" and "uncontrolled" environments in its most recent draft radiation protection guide.[9] NAB believes strongly that the definitions of controlled and uncontrolled environments, embodied in ANSI/IEEE C95.1-1992, provides a more realistic and practical tool for assessing exposure conditions.

Thus, NAB believes that the Commission should base its revised regulations solely on ANSI C95.1-1992. As pointed out in our comments, there is considerable agreement between NCRP and ANSI in the frequency range of 30 kHz to 300 MHz; thus there is no clear advantage to NCRP. In addition, ANSI C95.1-1992 was developed by a diverse committee representing a wide cross section of industries and disciplines, and thus represents a more accurate consensus of the scientific community.[10] There is no justification for the Commission to base its revised RF exposure guidelines partially on NCRP and partially on ANSI/IEEE C95.1-1992. To do so would create rules that would be difficult to implement and impossible to comply with. NAB believes that

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[9] See August 12 Draft of CENELEC Report CLC/SCIIIb, Human Exposure to Electromagnetic Fields: 10kHz to 300GHz.

[10] There were approximately 120 members of the ANSI committee at the time the standard was adopted as opposed to the 16 NCRP members. Nine of the 16 people shown by NCRP to have participated in the development of its standard were also active in the development of the ANSI/IEEE standard.

ANSI/IEEE C95.1-1992 reflects the most current thinking, theory and scientific findings and thus should be the sole basis for the FCC's revised RF exposure regulations.

IV. CATEGORICAL EXCLUSIONS ARE JUSTIFIED FOR 100-WATT VEHICLE-MOUNTED TWO-WAY RADIO STATIONS OPERATING IN THE 450 MHZ FREQUENCY BAND.

In NAB's comments we presented analysis indicating that the Commission would be justified in continuing the categorical exclusion for 100-watt vehicle-mounted two-way radio stations. This analysis showed that, at 450 MHz, the radius of exposure to comply with the uncontrolled environment is approximately 7 feet and the controlled environment is 3 feet[11]. Measurement data obtained by CBS Inc. confirms this analysis. The CBS data was taken using a standard sedan with a quarter-wave length whip-type antenna mounted in the center of the trunk area. One set of measurements was taken at the rear bumper (2 feet from the antenna)and another set was taken next at the left fender (3 feet from the antenna). The average whole body exposures measured were 62.2 V/M and 56.1 V/M, respectively, and are above the uncontrolled limit of 33.6 V/M, but below the 75.2 V/M controlled environment threshold. The data from the CBS measurement program is summarized in Appendix A.

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[11] See comment of the National Association of Broadcasters at 19.

Considering the transitory nature of the exposure to this type of facility and further considering the low "duty cycle"[12] of the transmissions from this type of radio, NAB believes that the categorical exclusion for 100-watt, 450 MHz radios, installed and operated into a vehicle-mounted quater-wave antenna, is justifed.

V. CONCLUSION.

The FCC should consider carefully all of the submissions in the record of this proceeding. There is considerable consensus among those that have submitted comments that ANSI/IEEE C95.1-1992 represents the most up-to-date RF exposure standard. NAB urges the Commission to proceed with the adoption of the ANSI/IEEE standard and to create an industry committee that will develop a technical bulletin which broadcasters and others would use to demonstrate compliance with the FCC revised guidelines. NAB also urges the Commission to address the issue of Federal preemption against nonfederal authorities' imposition of

[12] Duty Cycle, in this application, refers to the percent of time the radio is transmitting vs. the time that it is not. In typical broadcast station usage, the radio operator is likely to be listening (receiving) at least the same amount of time as transmitting; equating to a duty cycle of 50%.

unreasonable and unjustified restrictions on FCC regulatees operating in interstate commerce.

Respectfully submitted,

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April 25, 1994

APPENDIX A
MEASUREMENT OF VEHICLE-MOUNTED 2-WAY RADIO STATION

Measurement Height above ground (ft)	Elec. Field (V^2/M^2) At Left Bumper Distance = 3 ft.	Elec. Field (V^2/M^2) At Rear of car Distance = 2 ft.
0.5	600	600
1.0	1000	300
1.5	5000	1050
2.0	1200	1500
2.5	500	2500
3.0	1200	500
3.5	4500	9500
4.0	6600	10000
4.5	6200	8200
5.0	4700	4200
5.5	4000	2200
6.0	2300	1500
Average (E-Field)^2	**3150 V^2/M^2**	**3875 V^2/M^2**
E-field	**56.1 V/M**	**62.2 V/M**

Notes:

1. Measurements performed by Alan W. Parnau, P.E., CBS Radio Engineering, New York.

2. Test vehicle was a Ford Taurus.

3. Transmitter output power = 100 Watts; Antenna = 1/4 wavelength whip.

CERTIFICATE OF SERVICE

I, Sabrina Coleman, do hereby certify that a true and correct copy of the foregoing "Reply Comments of the National Association of Broadcasters" in ET Docket No. 93-62 was sent by first class mail, postage prepaid, on this date, April 25, 1994, to the following:

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