

NOV 12 1993

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of  
Guidelines for Evaluating the  
Environmental Effects of  
Radiofrequency Radiation

)  
)  
)  
)  
)

ET Docket No. 93-62

TO: The Commission

COMMENTS OF THE  
UTILITIES TELECOMMUNICATIONS COUNCIL

Pursuant to Section 1.415 of the Commission's Rules, the Utilities Telecommunications Council (UTC) hereby submits its comments in response to the Notice of Proposed Rule Making (NPRM), FCC 93-142, released April 8, 1993 in the above-captioned proceeding. By this NPRM, the Federal Communications Commission (FCC) proposes to adopt the 1992 standards of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE) on human exposure to radiofrequency (RF) electromagnetic fields in the bands between 3 kHz and 300 GHz.<sup>1/</sup> UTC supports the Commission's proposal to adopt this standard but recommends that the entire standard be adopted, including the provisions for exclusions of certain types of devices or services.

<sup>1/</sup> ANSI/IEEE C95.1-1992.

No. of Copies rec'd  
List ABCDE

244

I. Introduction

UTC is the national representative on communications matters for the nation's electric, gas, water and steam utilities, and natural gas pipelines. Approximately 2,000 utilities and pipelines are members of UTC, ranging in size from large combination electric-gas-water utilities serving millions of customers to small, rural electric cooperatives and water districts serving only a few thousand customers. UTC is also the FCC's certified frequency coordinator for the Power Radio Service. All utilities and pipelines depend upon reliable and secure communications facilities in carrying out their public service obligations. Because UTC's members are operators of private land mobile and private microwave systems which would be affected by the adoption of the 1992 RF exposure standard, UTC has an interest in this proceeding.

Section 1.1307(b) of the Commission's Rules currently references the 1982 ANSI standard<sup>2/</sup>, requiring applicants for certain licenses to prepare an Environmental Assessment if the facility would expose the general public or workers to RF levels in excess of this standard. In the NPRM, the Commission proposes to replace the 1982 ANSI standard with the 1992 ANSI/IEEE standard, which was adopted by ANSI on November 18, 1992.

---

<sup>2/</sup>ANSI C95.1-1982.

## II. Definition of Controlled and Uncontrolled Environment

The 1992 standard sets different exposure limits depending on the environment in which the exposure occurs. A higher RF exposure limit is set for controlled environments, which usually involve workers or those who are aware that they are being exposed to RF fields. A lower authorized RF exposure level is permitted for uncontrolled environments, which usually involve the general public. In the NPRM, the Commission proposes to take a "conservative approach" by applying the more stringent exposure levels for uncontrolled environments to cases "where there is any question of possible exposure to the general public."<sup>3/</sup>

UTC supports the application of different levels of exposure for controlled and uncontrolled environments. However, UTC urges the FCC not to be overly conservative in the application of these definitions. Virtually every situation involving RF transmitters/radiators provides some possibility, no matter how minute, of public exposure. The ANSI/IEEE standard acknowledges this, stating that "...controlled environments may involve exposure to the general public..."<sup>4/</sup> It is impractical to strictly apply the RF exposure limit for devices operating in uncontrolled environments to any situation where exposure of the

---

<sup>3/</sup> NPRM at 6.

<sup>4/</sup> "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1992), p. 23.

general public could possibly occur. An overly strict application of "uncontrolled" would frustrate the purpose of establishing two levels of permissible exposure as virtually all facilities would be deemed to exist in an uncontrolled environment.

Instead, a more practical standard, such as "reasonable possibility," should be applied. Under this approach, facilities should be considered to be operating in uncontrolled environments only when there is at least a reasonable possibility of RF exposure to the general public. Such an approach would better balance the desire to provide a higher level of protection for the general public with the need not to unduly burden licensees.

The Commission also proposes to apply the exposure levels for uncontrolled environments to transmitters and facilities located in areas where the proximity to the RF source may be unrestricted. UTC agrees. However, UTC opposes the rigid, "automatic" determination that all RF sources in residential areas be considered "uncontrolled," as proposed by the Commission. Instead, UTC proposes that, in situations where the proximity of the general public is restricted, the FCC should determine a minimum acceptable distance between RF sources and the "general public" as a benchmark for determining the classification of the environment. If an RF source meets this

minimum distance benchmark, the source should be considered to be operating in a controlled environment.

### III. Exclusions

#### A. Low Power Devices

The Commission proposes to adopt the exclusion for low power devices in the ANSI/IEEE standard. Under this exclusion, devices that operate below specific levels of radiated power are not required to demonstrate compliance with the RF standard. As with other aspects of the ANSI/IEEE standard, there are different requirements depending on whether the device is operating in a controlled or uncontrolled environment. However, the Commission proposes to require all low-power devices, regardless of where they are to be used, to meet the more stringent power levels, for devices operated in uncontrolled environments, in order to be excluded.

UTC agrees that low power devices should be excluded from demonstrating compliance with the RF standard. However, UTC opposes the Commission's proposal to require all devices to meet the exposure levels for uncontrolled environments in order to be excluded. The ANSI/IEEE standards include a wide margin of safety, even for devices in controlled environments. The exposure levels for devices in controlled environments contain a "safety factor" of ten, meaning that the exposure level is ten

times less powerful than the "threshold" hazardous level.<sup>5/</sup> Further, "[l]aboratory studies have shown that it is unlikely for [low power] devices... to expose the user in excess of the criterion for controlled environment... or other persons in the immediate vicinity of the user in excess of the criterion for the uncontrolled environment..."<sup>6/</sup> As the Commission itself notes, it "is not an expert agency for evaluating the effects of RF radiation on human health and safety".<sup>7/</sup> Therefore, the Commission should not "second-guess" ANSI and IEEE, organizations which are experts in this area.

B. Categorical Exclusions

Based on the 1982 ANSI standard, the Commission currently exempts a number of operations and facilities from the Environmental Assessment requirement, including private land mobile and private microwave facilities. These exclusions were based on data indicating that these operations and facilities would not exceed the 1982 standard under normal use.

UTC supports the granting of categorical exclusions for operations using equipment that would comply with the 1992 standard under normal use or be excluded from demonstrating

---

<sup>5/</sup> IEEE C95.1-1992.

<sup>6/</sup> Id. at 34.

<sup>7/</sup> NPRM at 4 (footnote omitted).

compliance.<sup>8/</sup> This exclusion would be especially valuable for operations for which compliance is very likely but demonstration of compliance is cumbersome or impractical. For example, in private land mobile radio operations, mobile radio units of different designs from many vendors are used in a variety of configurations (e.g., headsets, handhelds, vehicular). These low-power devices are also likely to comply with the 1992 standard. However, the demonstration of compliance of one particular type or model of radio at the time of application would be largely symbolic as other types, models or configurations of radios may be used in the future. It would also be impractical to require licensees to file modification applications each and every time a new piece of equipment is purchased. Therefore, these operations should be categorically excluded.

Alternatively, if a categorical exclusion is not adopted for operations which are likely to comply with the 1992 standard or satisfy an exclusion, the Commission should require applicants or licensees for these services only to file a certification that they: (1) are aware of the 1992 standard; (2) do not have any information that would indicate that their radio equipment would

---

<sup>8/</sup> However, UTC opposes the categorical exemption of any industry because it is doubtful that generalizations could be made about the likelihood of compliance of an entire industry. Inasmuch as the discrete operations of an industry use similar types of equipment, these operations may be eligible for categorical exclusions.

be operated in a manner that would cause exposure in excess of the 1992 standard; and (3) will engage in periodic training and adopt appropriate operating practices to minimize the possibility of exposures that would exceed the standard. This certification could also replace the simple "yes" or "no" question regarding environmental impacts on application forms.

#### IV. Implementation

UTC commends the Commission for its recognition that compliance with the 1992 standard could impose "new and significant burdens" on licensees<sup>2/</sup> and agrees with the Commission's proposal to require environmental impact evaluations only at the time of application for a construction permit, license renewal or other Commission authorization. Likewise, equipment manufacturers should be required to demonstrate compliance at the time of type-acceptance.

Although UTC opposes an indefinite "grandfathering" of existing facilities, UTC does propose that licensees with existing systems be given a reasonable period of time to amortize the equipment before replacement is required. Postponing enforcement for these systems would alleviate some of the financial burden associated with the adoption of the new standard, and would ensure that full compliance with the 1992 standard is attained at a definite time in the future.

---

<sup>2/</sup> NPRM at 12.

Additionally, to minimize any risk posed by the operation of these systems, licensees should be required to adopt appropriate operating procedures to limit unnecessary exposures until full compliance is achieved.

V. Measurement Procedures

UTC recommends that licensees be provided with the flexibility to use any one of a variety of methods to demonstrate compliance with the 1992 standard. For instance, licensees should be able to show compliance by surveying the facility or transmitter site with an applicable electric and magnetic field probe/RF field hazard meter. Licensees should also be permitted to verify compliance by performing calculations of RF field levels based on acceptable engineering standards or practices. Another method that should be available to show compliance is through the implementation of operating practices that would limit times of exposure or access to RF sources. Finally, licensees should be permitted to show compliance through the application of a recognized exclusion, such as the one proposed for low power devices.

VI. Conclusion

UTC supports the adoption of the 1992 ANSI/IEEE standard for RF field exposure and urges the Commission to apply these standards in a practical manner. UTC supports the adoption of the ANSI/IEEE exclusion for low power devices and recommends

categorical exclusions for specific operations that are likely to comply with the 1992 standard or fit within an exclusion. UTC also recommends that existing systems be grandfathered to allow sufficient time for equipment amortization. Finally, UTC urges the Commission to provide flexibility in demonstrating compliance with the standard.

**WHEREFORE, THE PREMISES CONSIDERED,** the Utilities Telecommunications Council respectfully requests the Commission to take actions consistent with the views expressed herein.

Respectfully submitted,

**UTILITIES TELECOMMUNICATIONS  
COUNCIL**

By: 

Jeffrey L. Sheldon  
General Counsel

By: 

Thomas E. Goode  
Staff Attorney

Utilities Telecommunications  
Council  
1140 Connecticut Ave., N.W.  
Suite 1140  
Washington, D.C. 20036  
(202) 872-0030

November 12, 1993