ANSI C95.2-1982
(Revision of ANSI C95.2-1966)

American National Standard Radio Frequency Radiation Hazard Warning Symbol

Sponsor
Co-Secretariats

Institute of Electrical and Electronics Engineers
US Department Navy (Naval Electronic Systems Command)

Approved August 5, 1981

American National Standards Institute

American National Standard

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Foreword

(This Foreword is not a part of ANSI C95.2-1982, American National Standard Radio Frequency Radiation Hazard Warning Symbol.)

In 1960, the American Standards Association approved the initiation of the Radiation Hazards Standards project C95 under the cosponsorship of the Department of the Navy and the Institute of Electrical and Electronics Engineers. The scope was defined as follows:

> Hazards to mankind, volatile materials and explosive devices which are created by man-made sources of electromagnetic radiation. The frequency range of interest extends presently from 10 kHz to 100 GHz. It is not intended to include infrared, X-rays, or other ionizing radiation.

Presently, the Co-Secretariats of the American National Standards Committee C95 are the Naval Electronic Systems Command of the Department of the Navy and the Institute of Electrical and Electronics Engineers. The committee has six subcommittes concerned with:

I	Techniques, Procedures, and Instrumentation
II, III	Terminology and Units of Measurements
IV	Safety Levels and/or Tolerances with Respect to Personnel
V	Safety Levels and/or Tolerances with Respect to Electro-Explosive Devices
VI	Safety Levels and/or Tolerances with Respect to Flammable Materials
VII	Medical Surveillance

To date, four publications of the C95 Committee have been issued. These are:

ANSI C95.1-1974, American National Standard Safety Level of Electromagnetic Radiation With Respect to Personnel

ANSI C95.3-1973, American National Standard Techniques and Instrumentation for the Measurement of Potentially Hazardous Electromagnetic Radiation at Microwave Frequencies

ANSI C95.4-1979, American National Standard Safety Guide for the Prevention of Radio Frequency Radiation Hazards in the Use of Electric Blasting Caps

ANSI C95.5-1981, American National Standard Recommended Practice for the Measurement of Hazardous Electromagnetic Fields — RF and Microwave

This standard defines the design and colors of a symbol which denotes the incidence of electromagnetic energy and application of the symbol in signs intended to warn workers or the public of the presence of potentially hazardous levels of nonionizing electromagnetic radiation.

The Standards Committee on Radio Frequency Radiation Hazards, C95, which reviewed and approved this recommended practice had the following membership at the time of approval:

Saul Rosenthal, *Chair*
Stephen Caine, *Secretary*

Organization Represented	*Name of Representative*
Alliance of American Insurers	W. Uber
American Industrial Hygiene Association	C.W. Bickerstaff
American Insurance Association	J. Philip Berggren
	F. Schadt (Alt)
American Petroleum Institute	L. R. Yoder
Armed Forces Institute of Pathology	James Zimmerly
Association of Home Appliance Manufacturers	John Osepchuk
	John Weizerorick (Alt)
DoD (Defense Nuclear Agency)	P. Tyler
Electronic Industries Association	H. Johnson
	A. Wilson (Alt)
Environmental Protection Agency	David E. Janes
	William A. Mills (Alt)
Health Physics Society	William Ham, Jr
	C. S. Parker (Alt)
Institute of Electrical and Electronics Engineers	R. Baird
	C. Frederick
	L. H. Montgomery
	S. Rosenthal
	N. H. Shepherd
International Microwave Power Institute	C. Burlier
Mine Safety Appliance Company	J. P. Lytle
National Council for Radiation Protection	Edwin Alpen
	J. A. Spahn (Alt)
Society of Automotive Engineers	D. Weber
Telephone Group	R. C. Petersen
	R. Patterson (Alt)
Underwriters Laboratories, Inc.	L. S. Homa
	J. Drengenberg
US Department of Commerce	R. C. Baird
US Department of Health and Human Services	H. J. Rechen
	Mays L. Swicord (Alt)
	M. R. Altman (Alt)

Organization Represented	*Name of Representative*
US Department of Labor	Silvio Patti
	J. Pitkin (Alt)
US Department of the Air Force School of Aerospace Medicine	J. Mitchell
US Department of the Air Force Office of the Surgeon General	D. Wood
US Department of the Air Force, Radiological Health Lab	W. Jones
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US Department of the Navy Bureau of Medicine and Surgery	E. Postow
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	E. Massengill (Alt)
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	T. Ely
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	S. Michaelson
	W. W. Mumford
	H. P. Schwan
	E. Swanson
	J. Thiel
	F. Janoski

Subcommittee II, III, Terminology and Units of Measurement, was directly responsible for this standard. A list of the members who contributed to this effort follows:

Glenn Heimer, *Chair*

A. L. Albin	A. W. Guy	J. Osepchuk
E. Aslan	G. Heimer	E. Postow
R. C. Baird	D. E. Janes	S. Rosenthal
L. Beuchler	H. Ho	A. Sliwon
F. Cain	D. Jansky	C. Solomon
S. Caine	F. LaMaster	J. Taylor
C. M. Cormack	E. Massengill	R. Wheezy
A. Grinoch	S. Michaelson	H. Youmans

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American National Standard Radio Frequency Radiation Hazard Warning Symbol

1. Scope

1.1

This standard defines the design and colors of a symbol denoting the incidence of electromagnetic energy in the frequency range from 0.3 MHz to 100 GHz and the application of this symbol in signs intended to warn workers or the public of the presence of potentially hazardous levels of nonionizing electromagnetic radiation.

1.2

It is not the intent of this design to conflict with or supersede in any fashion the ionizing radiation symbol as defined in ANSI Z35.1-1972 [2].[1]

2. Definitions

2.1 symbol: The word symbol as used in this standard refers to the overall design, shape and coloring shown in Fig 1.

2.2 sign: The word sign is used in this standard as defined by ANSI Z35.1-1972 [2].

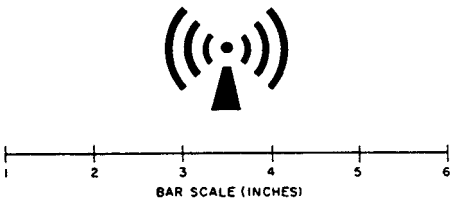

Figure 1—

[1]The numbers in brackets correspond to the references listed in Section 3 of this standard.

2.3 electromagnetic radiation: The term electromagnetic radiation is restricted to that part of the spectrum commonly defined as the radio frequency region, which for the purpose of this standard includes microwave frequencies.

2.4 hazardous levels of nonionizing electromagnetic radiation: The term hazardous levels of nonionizing electromagnetic radiation is used in this standard to describe incident electromagnetic energy that may be biologically detrimental or may directly or indirectly cause ignition of explosive materials or vapors.

3. References

When the following American National Standards referred to in this standard are superseded by a revision approved by the American National Standards Institute, the revision shall apply. The safety level of electromagnetic radiation with respect to personnel is contained in ANSI C95.1-1974[1].

[1] ANSI C95.1-1974, American National Standard Safety Level of Electromagnetic Radiation with Respect to Personnel[2].

[2] ANSI Z35.1-1972, American National Standard Specifications for Accident Prevention Signs.

[3] ANSI Z53.1-1979, American National Standard Safety Color Code for Marking Physical Hazards.

4. Warning Symbol

The warning symbol for identifying incident electromagnetic energy consists of black wavefronts radiating from a stylized point source antenna on a white background as shown in Fig 1. This symbol may be used as a part of safety signs that conform with Class I (Danger) and Class II (Caution) as specified in ANSI Z35.1-1972 [2]. When used separately the symbol shall be enclosed in a yellow triangle. The triangle may be either equilateral or isosceles. When the equilateral form is used it shall be placed as shown in Fig 2 on a rectangular white background. Figure 3 shows the isosceles form. In this form an inverted similarly shaped white isosceles triangle is provided for warning information. The use of descriptive wording or warning information on either form is at the user's option. Typical application of warning information is shown in Fig 4.

[2]ANSI documents are available from the American National Standards Institute, 1430 Broadway, New York, NY 10018.

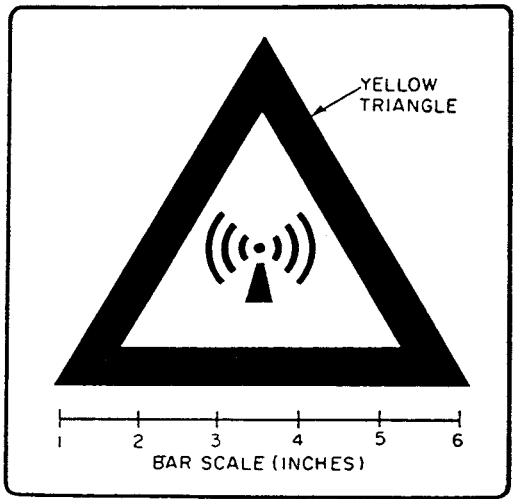

Figure 2—

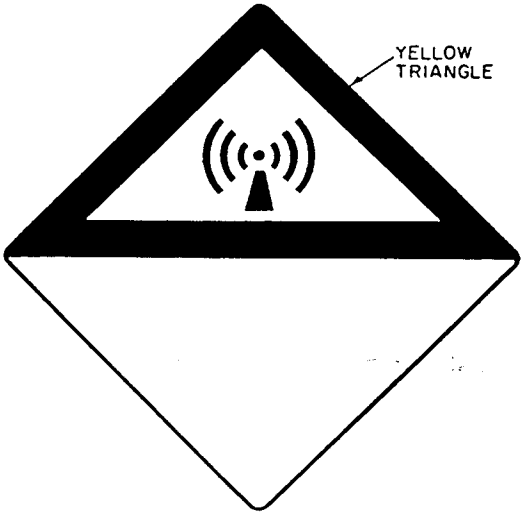

Figure 3—

Figure 4—

5. Symbol Dimensions and Lettering Size

5.1 Symbol Dimensions

No overall standard size is dictated. Overall size should be determined by use requirements and the degree of prominence desired.

5.2 Lettering

It is recommended that lettering dimensions conform with ANSI Z35.1-1972 [2].

6. Color

ANSI Z53.1-1979 [3] shall be used for color specification.

7. Sign Construction and Location

It is recommended that ANSI Z35.1-1972 [2] be consulted for guidance in the selection of finishes, illumination and placement for signs using this symbol.