



# ICES

International Committee on Electromagnetic Safety

## *APPROVED MINUTES*

**IEEE/ICES TC95 Subcommittee 2**  
**Terminology, Units of Measurements, and Hazard Communications**  
**1300 – 1700 h**  
**Wednesday, 23 January 2019**  
**Motorola Solutions**  
**8000 W Sunrise Blvd**  
**Plantation, Florida**

1. Call to Order  
The meeting was called to order at 1312 by R. Tell. D. Haes recorded the minutes.
2. Welcome and Introduction; (See **Appendix A** for sign-in sheets).
  - a. IEEE/SA liaison member Jennifer Santulli has been transferred to a different IEEE committee and liaison member Patricia Roder will take her place.
3. The *DRAFT REVISED AGENDA* circulated via e-mail by R. Tell to the members before the meeting was reviewed and approved (M. Wessel/ M. Ziskin) (See **Appendix B**).
4. The Minutes from August 13, 2018 meeting in Eureka Springs, AR previously distributed via e-mail were reviewed and approved (M. Ziskin/F. Colville) (APPROVED MINUTES are posted on the ICES/SC2 website; See **Appendix C**).
5. R. Tell asked for a “call for patents” regarding the work performed by the SC in developing standards. Any patent which may affect the use or conformance with the standard must be declared. There was none.



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### 6. Meeting topics:

#### - Publication of C95.2-2018

- R. Tell announced that the C95.2 standard recently balloted was APPROVED at the October 2018 IEEE/SA meeting. **IEEE C95.2-2018 is out for publication.** As of the meeting date, the 2018 version had not been posted to the IEEE Get site where it can be downloaded for free.

#### - Need for revision of C95.7-2014 (Recommended Practice for RF Safety Programs) in view of revisions in C95.1, specifically in regard to Category 2 exposure environments, including:

- definition of general public
- definition of restricted environments
- definition of hazard threshold
- defining accessible/readily accessible
- D. Haes presented slides about the “C95.7-2014 RF Exposure Environments; The Chairs’ Concerns with RFSP Category 2”. See **Appendix D**. The premise of the presentation was that other non-ionizing radiation safety standards (e.g., ANSI Z1365.1-2014; *For the Safe Use of Lasers*) have similar gradations of hazard class based on risk of injury. Although lasers are classified by the manufacturer, the Laser Safety Officer (LSO) has the authority to reclassify the laser based on the potential exposure scenario. Parallels can be drawn between the ways untrained (i.e., “general public”) vs. trained (workers) personnel are treated with regards to access to the potentially harmful energy.
- D. Haes introduced Bob Curtis’ slides about the “Minimum RF Safety Program for Sites where Upper Tier cannot be exceeded”. See **Appendix E**. B. Curtis has expressed concern about the general public being exposed to RF fields without being provided awareness of the fact and that appropriate RF safety signage could accomplish this.
- P. Reilly pointed out that exposures below the Upper Tier but above the Lower Tier at low frequencies may produce effects considered “adverse” (i.e., pain, discomfort, tingling, etc.) depending on the perception of the exposed person. The values listed as ERL/DRL are based on probability functions within the exposed population, and some levels not perceptible by some may be perceived as “uncomfortable” to others. He agreed that the prevailing discussions are appropriate for the RF range but may not work at low



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frequencies. For example, with CW fields < 100 kHz, electrostimulation dominates the exposure consequence and not a thermal load as in RF fields.

- B. Johnson pointed out that most “RF training” consists of informing the audience what WON’T happen.
  - B. Weller asked about protection for users of implanted medical devices, while D. Maxson pointed out these devices are not covered by the standard.
  - D. Sliney gave a brief but in-depth discussion of the basic philosophies of using “Shalls” (i.e. mandatory) and “Shoulds” (i.e., recommended) in describing control measures.
  - B. Weller pointed out in C95.7-2014 there are references to posting signs without training (e.g., page 24). B. Weller agreed that signs could be posted without training.
- R. Tell asked for a motion to form a WG to begin looking at the current version of C95.7-2014 (Recommended Practice for RF Safety Programs) in view of revisions in C95.1. (D. Maxon/K. Fisher). **Motion unanimously approved.** R. Tell is hoping this revision will be ready by the August 2019 meetings.
- A. Farone noted that this document should be used for non-devices only.
- R. Tell asked for all SC members to read and fully understand what is written in the “new” C95.1 and be ready to review suggested revisions to C95.7 by the August 2019 meetings. This is ESPECIALLY important in regard to definitions of general public and restricted environments. As it is now, there are only two things needed to enter the RF restricted area: (1) Awareness and (2) Being subject to an RF safety Program.
- D. Haes presented an extra slide regarding C95.1-201X Definition of “adverse health effect” to aid the discussion. See **Appendix F**.
- R. Cleveland suggested we begin to include low frequency information, as C95.1 is 0-300 GHz.
- P. Reilly thinks it may be possible.



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R. Tell pointed out some differences between semantical interpretations of “normally accessible” vs. “readily accessible”. He asked D. Maxson to prepare a brief description in a paper about “normally accessible” vs. “readily accessible in order to help prepare the revisions to C95.7.

**\*\* ACTION ITEM: D. Maxson to prepare a brief description in a paper about “normally accessible” vs. “readily accessible in order to help prepare the revisions to C95.7.**

### 7. New Business

There was no new business.

### 8. Time and Place of Next Meeting – August 6-8, 2019 in Sonoma, CA.

### 9. Adjourn at 16:25.