



**INTERNATIONAL
COMMITTEE *on*
ELECTROMAGNETIC
SAFETY**

**SUBCOMMITTEE 3
SAFETY LEVELS WITH RESPECT TO HUMAN EXPOSURE, 0 to 3 kHz**

**24th Meeting
Outrigger Wailea Resort Hotel & Conference Center
3700 Wailea Alanui
Wailea, Maui, Hawaii
Friday, June 20, 2003**

MEETING MINUTES

SUBJECT TO CONFIRMATION AT THE NEXT MEETING

Members Present

Eleanor Adair
Howard I. Bassen
Pascale Bellier
Ralf Bodemann
Aviva Brecher
Robert Curtis
John D'Andrea
Thanh Dovan
Ken Gettman

Kelly Gibney
Wayne Hammer
Roy Hubbard
Veronica Ivans
Dr. Sheila Johnston
Janet Lathrop
John Leonowich
Robert Needy

John Osepchuk
Ronald Peterson
J. Patrick Reilly
Asher Sheppard
Mays Swicord
Richard Tell
Arthur Varanelli
Marvin Ziskin

Members – Excused Absences

Dr. Franz Adlkofer
William H. Bailey
David Baron
Philip Chadwick
Kazuhiko Chikamoto

Jim Daly
Donald Haes, Jr.
Martin Hernandez
Louis Heynick
Kent Jaffa

Joe Koepfinger
Tom McManus
Steve Pittman
Dave Sawdon

Members Absent (consecutive unexcused absences)

John Bergeron (2)	Michael Herz (2)	Brad Roberts (1)
David Black (2)	Daniel Hicks (1)	Ervin Root (1)
Charles Boeggeman (2)	Niels Kuster (2)	Jon Sirugo (1)
Robert Carberry (1)	W. G. Lotz (1)	David Sliney (1)
Roger Coghill (3)	Patrick Mason (1)	Carl Sutton (1)
Steinar Dale (3)	Robert McCourt (2)	Art Thansdote (1)
John DeFrank (1)	Dr. James McNamee (1)	Eric van Rongen (1)
Linda de Jager (2)	James Merritt (2)	Femme-Michelle Wagner (1)
David Fichtenberg (1)	Dr. Michael Murphy (1)	Cleveland Watkins (3)
Om Gandhi (2)	William Paul (1)	Louis Williams, Jr. (2)
Georges Goldberg (2)	Robert Podhrasky (3)	Richard Woods (1)
Daniel Goulet (1)	Ken Proctor (1)	Donald Zipse (1)

Guests Present

Masateru Ikehata, Railway Technical Research Institute, Tokyo, Japan
Walter Rogers, AFRL/HEDR, Brooks AFB *
John Ziriaux, NHRC DEBL, Brooks AFB

* Requested membership on SC 3

1. CALL TO ORDER

The meeting was called to order at 1:20 PM by the new SC 3 Co-Chair, Thanh Dovan.

2. SELF INTRODUCTIONS & ATTENDANCE ROSTER

The Chair requested that all attendees introduce themselves and state their affiliation.

The SC 3 Membership Roster was circulated for members present to initial to indicate attendance at the meeting and to update their listing on the roster, particularly to make sure that their e-mail address was included and correct and to add their IEEE membership number and grade. Guests were requested to either provide a business card in the attached envelope or to provide mailing information on an attendance sheet that was circulated with the roster. Guests were also requested to indicate if they wanted to become members of SC 3.

3. OPENING REMARKS

The Chair provided some general information to the attendees.

Dr. Adair introduced Thanh Dovan as new co-chair of SC 3 and expressed appreciation for the work of Kent Jaffa and Pat Reilly in the development efforts for C95.6. It was noted that two appeals

were submitted to the IEEE Standards Board concerning publication of the standard, processed and both appeals were denied. Dr. Adair also introduced Phil Chadwick as the other co-chair for SC 3.

Dr Adair also reported that Kent Jaffa had suggested future tasks on the application guide; revisiting the topics identified in the appeals; establishment of mechanism for interpretation requests; and to write papers on the standard for publication in journals.

4. APPROVAL OF AGENDA

The Agenda was unanimously approved with the correction of the date in Item 5, see Attachment #1.

5. APPROVAL OF 12/14/02 MINUTES

The Minutes were unanimously approved with the following correction:

Ms. Femme-Michelle Wagenaar was mistakenly reported as an unexcused absence when, in fact, she attended the December meeting. A few additional corrections were made.

6. CHAIRMAN'S REPORT

The Chair reported that he had consulted with the other co-chair on the meeting agenda. He acknowledged the assistance given by Kent Jaffa and Pat Reilly for the current and future SC 3 tasks. He also pledged/asked members to participate in the next stages and activities of SC 3.

7. SECRETARY'S REPORT

The Secretary conveyed his appreciation to Ken Gettman for providing the secretarial services for this meeting since the Secretary could not attend.

The attendance policy for continued membership in SC 3 was restated. Members will be removed from the roster after missing two (2) consecutive meetings unless an excused absence is requested. The reason(s) for absences from SC 3 meetings will be accepted by e-mail, phone, or in writing to the Secretary or the Chair. Before removing members, the Secretary will contact the individual and request, either by e-mail or in writing, their intentions for continued membership. If no response is received, the individual will be removed from the membership roster.

Since the previous meeting, the following changes have occurred in the membership of SC 3:

1. New members:

Howard I. Bassen

Ken Proctor

Kazuhiko Chikamoto
Janet Lathrop

David H. Sliney

2. Resignations:

J. Robert Ashley

3. No members were removed from the roster for failing to comply with the attendance policy.

Fourteen members requested an excused absence for this meeting.

See Attachment #2 for the current SC 3 roster. Prior to this meeting there were 75 members of SC 3 plus 7 corresponding members.

The Secretary's report was accepted.

8. ICES SCC-28 EXCOM REPORT

Dr. Eleanor Adair, Chair of ICES SCC 28, reported that Bill Ash is the latest IEEE staff liaison. It was noted that he has been very helpful in his short tenure and would be grateful for his continued assistance. He has been eager to help with publicity of standards, activities, and fund raising. It was noted that a number of standards have been published by ICES SCC28, particularly C95.6.

A draft letter statement from SC 5 on the Use of Cell Phones in Proximity to Fueling Stations was submitted to IEEE for approval but IEEE legal indicated that it was not advisable to publish such a statement. Dr. Adair protested this position but the position was upheld at the IEEE board level. IEEE COMAR has indicated support for publication of the statement, which will be discussed in an upcoming meeting.

ICES is becoming known and is recognized for the development of standards on EMF Exposure. It was suggested that there is a need to develop a "rapid response" committee to address certain issues.

9. NRPB – ICNIRP VS IEEE C95.6

The chairman introduced the report "Proposals for Limiting Exposure to Electromagnetic Fields (0 – 300 GHz) from NRPB.

Pat Reilly reported there are significant differences between the basic restrictions in C95.6 and ICNIRP guidelines at the low frequencies (20 to 1000Hz) covered by C95.6. The brain was identified in C95.6 as the most sensitive organ or tissue of the body. Other organs/tissues had higher threshold and higher inflection frequency than 20 Hz for the brain. ICNIRP identifies a slightly higher threshold acceptable level but a significantly higher – 1 kHz – inflection point. This results in a 50 times higher allowance for C95.6 starting at the 1 kHz point and extending to higher frequencies. The C95.6 levels were determined based on experimental data recorded for the retina as a surrogate for the CNS.

Pat Reilly also explained progressing from the basic restrictions to environmental/MPEs. The ICNIRP induction model is larger covering the trunk and the head. ncludes the spinal cord and head but determining the induction would exceed the actual value The IEEE C95.6 induction model for the brain covers only the head, much smaller than the induction loop used by ICNIRP. This further increases the differences between the two documents.

10. TOPICS TO BE INCLUDED IN THE APPLICATION GUIDE

The Chair invited the SC 3 members to recommend topics that should be included in the Application Guide for C95.6. It was noted that a number of topics have been submitted for consideration. There is a need to consolidate these for further development.

Kent Jaffa had been in the process of establishing an Application Guide Working Group. Subsequent to the December 2002 meeting, Kent Jaffa advised that the following SC 3 members had volunteered to work on the Application Guide:

Dave Baron	Roy Hubbard
Howard Bassen	Kent Jaffa
Ralf Bodemann	Pat Reilly
Om Gandhi	Rick Tell
Ken Gettman	Art Varanelli

The Chair will contact Kent Jaffa to confirm his availability to continue chairing the Application Guide Working Group chair of committee and also contact the current members to see if still wish to be members. Art Varanelli volunteered to be the WG chair if Kent Jaffa or others will not be able to chair it..

11. Topics Raised During Appeals on IEEE C95.6

Thanh Doan reported although the appeals were denied, any unresolved technical issues should be addressed by the committee in future updates of the standard.

12. Interpretations Process

Thanh Doan reported the need to establish a working group that will be tasked with interpreting questions posed concerning the standard. A means of addressing this would be to identify a neutral and knowledgeable individual who can chair the group. Membership of the group should be established so that any requests from the IEEE Standards Board can be submitted to the SC 3 chair for determination of the suitability for forwarding to the WG chair and group. It was suggested that the co-chairs work together to identify a possible chair and members. Bob Curtis indicated his willingness to chair the C95.6 Interpretation Working Group.

13. Publish Papers and Make Presentations on IEEE C95.6

Thanh Doan reported that Kent Jaffa had suggested publicizing the document through various media. Pat Reilly indicated that he had published a paper in Health Physics and will make a few presentations in Australia in September/October of this year

Ralf Bodemann indicated that he will also be making a presentation to another group. It was suggested that consideration be given to development of a short-course on the standard and its applications – Ron Peterson can assist with the IEEE process.

14. TASK GROUP REPORT ON LONG TERM EFFECTS STATEMENT

Dr. Tom McManus had not been able to provide a report.

ACTION ITEM: Ralf Bodemann will follow-up with Dr. McManus to obtain information.

15. UPDATE ON INTERNATIONAL STANDARDS ACTIVITY

Dr. McManus was unable to provide a report. Ralf Bodemann provided information on European and German activities.

- in Europe, EMF considerations are part of the Physical-agent-directive. It was an adaptation of the requirements on vibrations without addressing differences between vibration and EMF. A number of errors were noted in the document. Protests led to proposed adoption of the ICNIRP philosophies. New draft limited to short-term effects and does not address long-term effects. Directive provides mandate to CENELEC to develop measurement and calculation standards.
- CENELEC had been developing a large number of mobile phone standards and is working on others. The CENELEC mandate is to develop product standards applicable to their own product and do not need to consider other sources of EMF.
- In the German pacemaker standard, EMF emitters are obliged to ensure protection of pacemaker wearers. These values are fairly severe. Objections to this document stress that the device used to establish the standard is a “worst-case” and not representative of actual products and it may cause free-trade restrictions. A revised standard was developed to cover 95% but it will migrate to CENELEC. Many more aspects of this activity are questionable and convoluted.

16. OTHER OLD BUSINESS

The SC 3 officers need to develop a PAR to undertake revision of C95.6 – discussed as part of item 11.

The Chair proposed that a more realistic division between the standards would be 100 kHz rather than 3 kHz. Alternatively, it was suggested that ICES should be working toward a single document in the future.

17. NEW BUSINESS

No new business

18. NEXT MEETING

The next meeting of SCC-28 and the subcommittees will be in San Antonio, TX during early December between 4 and 14. Next spring, ICES will meet with BEMS in June. There is a possible joint meeting with COST 281.

19. ADJOURNMENT – The Chair adjourned the meeting at 4:43 PM.

Respectfully submitted,

Jim Daly

Jim Daly, Secretary
Subcommittee 3 of IEEE/ICES SCC 28

Attachments No. 1 through 2