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Accredited Standards Committee C63®

Electromagnetic Compatibility

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MESSAGE FROM THE CHAIR

**Daniel D. Hoolihan, Chairman ANSI-ASC
C63®**

The first meeting of 2013 of the ANSI-ASC C63® Committee on EMC was held at the IEEE Operations Center in Piscataway, New Jersey on Thursday, May 9th.



(All photos in this newsletter were taken by Jerry Ramie)

The Main Committee meeting was preceded by Working Group and Subcommittee meetings on Monday through Wednesday of the week of May 6 -10.

The IEEE, Secretariat of the Committee, was the overall host of the meeting. Ms. Patricia Roder was the IEEE's contact for the Secretariat. The meeting facilities were excellent and the Chair received many compliments on the quality and variety of the food and refreshments served at the breaks and

at lunch. Kudos to the IEEE catering group. It should also be noted that Ms. Janet O'Neil was responsible for arranging a very reasonable hotel rate at the Embassy Suites for the duration of the meeting – thanks, Janet!

Twenty-four members of the Committee were present; a clear quorum out of the 35 possible members. Industry Canada, a newly-approved organizational member of the Committee, was represented by Dan Sigouin. Two new Individual Members were present; Steve Berger and Donald Heirman.

An ad hoc committee had been formed by the Chair to reply to the United States Federal Communications Commission Notice of Proposed Rulemaking (FCC NO. 13-19) which was released on February 15th – 2013. The ad hoc committee is chaired by Andy Griffin of CISCO and has approximately 18 members. They have been actively working on the reply to the FCC which is due June 17th, 2013.

With respect to new standards, ANSI C63-2012 (American National Standard Guide for Electromagnetic Compatibility – Computations and Treatment of Measurement Uncertainty) was published on only NEW standard that was published since the last meeting of the Committee in October of 2012.

The second edition of C63.10 (Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices) is in the Board of Standards (BSR)-8 phase of approval. The 45-day public review period ends June 10, 2013. The BSR-9 process begins at that time. The BSR-9 is an American National Standard (ANS) Formal Submittal Checklist and it is used to transmit the final submittal of a candidate ANS to

ANSI. It is the final step in getting an American National Standard published.

An ad hoc committee was formed by the Chair to investigate revising Clause 11 of our Committee's Procedures to change our interpretations from "informative" to "normative." Mr. Dan Sigouin was selected and agreed to serve as Chair of the ad hoc committee. Members of the committee are Dennis Camell, John Hirvela, Rich Worley, Don Heirman, Adam Gouker, Werner Schaefer, Harry Hodes, Bob DeLisi, Andy Griffin, Ed Hare, Dean Ghizzone, Greg Kiemel, and Jeff Klinger.

A second Task Force was formed with Harry Hodes as Chair to investigate revising the rest of the Committee's Procedures. Members of that Task Force include Beth Hackett, Adam Gouker, Dan Sigouin, Andy Griffin, and Dan Hoolihan.

Committee Outstanding Contributor Awards were given to:

Dennis Camell



And

Victor Kuczynski



for leading their respective subcommittees, SC1 and SC6, for the past three years.

The Outstanding Contributor Awards include a Certificate and \$75 cash.

A **Certificate of Appreciation** was given to

Patricia Roder



of the IEEE Secretariat for completing her first year of support to the C63 Committee activities. I would like to offer my personal thanks to Pat for her support the past year!

(An Awards History Summary Table is on page 9)

Two seminars will be offered the week before the 2013 IEEE International Symposium on EMC which will be held in Denver, Colorado. The seminars will be held on Friday and Saturday, August 2nd and 3rd, and they will cover C63.10 and C63.23.

The next meeting of the Main Committee will be held on Thursday, November 14th at UL LLC in Northbrook, Illinois. Additional details on the next meeting and other activities of the Committee can be found at www.c63.org.

Subcommittee 1 Techniques and Development

Zhong Chen, Chair

Previous Chair Dennis Camell's term expired, and Zhong Chen was appointed as the new chair for subcommittee (SC1) starting in 2013 - many thanks for Dennis' outstanding services.



May 7th Meeting

SC 1 consists of technical members in the EMC field and has a total of twenty-nine members. Membership counts stay at 29, due to one addition and one removal since the last meeting.

Below is the status of the current working groups. Any interested parties wishing to join a working group are encouraged to contact the SC1 chair or the appropriate working group chair as shown below.

Project on Emissions Measurements, C63.4

Chair: Don Heirman

This is an active standard that was published in 2009. There is a working group that has prepared a draft for a recirculation ballot. Below is a brief history of the balloting for the 2013 draft version:

- Initial ballot closed in June 2012 – approved
- First recirculation ballot opened in September 2012
- First recirculation closed in November 2012 – approved
- Second recirculation opened in March 2013
- Second recirculation closed in April 2013 – approved

The working group met in Piscataway in May 6th, 2013 during the week of the C63 meetings. The working group continues to resolve comments from the 6 negative ballots (which did not cause a failed ballot). Resolution of the comments was by consensus. There are also 36 comments

(18 technical; and the rest are editorial/general). It was decided that one last recirculation will be conducted. The resolutions from the working group meeting are:

- Clarifies there is no need for preselector for most measurements
- Interpretations are not normative per ANSI operating procedures, and the statement about interpretations is removed.
- Annex N on use of hybrid antennas is amended. The test to qualify hybrid antennas will be limited to 200 MHz (a change from 300 MHz), and the measurement can be performed using a biconical antenna as the reference, instead of needing both a biconical antenna and a log periodic dipole array.
- Several other changes includes texts on table top material, revised text on rack mounted EUT, and clarification on cable manipulation in prescan and final emissions measurement.

Several comments were on matters not in the recirculation document. The changes are not accepted. However, they are placed on the agenda for considerations to include in the next edition. The planned next steps are to complete the comment resolution by the end of June, 2013, and finish the revised text for the third recirculation by August 5, 2013 (at the IEEE EMC Symposium in Denver). The recirculation period is expected for 3 weeks.

Project on Antenna Calibration, C63.5

Chair: Dennis Camell

This is an active standard that was published in 2006. A new draft document is circulated within the working group. The requirements on hybrid antennas will be synchronized with C63.4. The frequency range is considered to be reduced from 300 MHz to 200 MHz. There was a requirement in Annex N which would trigger a new qualification tests for hybrid antennas if a change of more than +/- 1 dB in NSA occurred from year to year. This requirement is to be removed, as the uncertainty of NSA measurements can be on the same order of magnitude.

It is also agreed to clarify that antennas used for site validations are to be calibrated as a pair. This will be explicitly stated in Annex G.

Hybrid antennas will be added in Table 1 for NSA measurements under Annex J (which is the measurement method for determining Geometry-Specific Correction Factors).

At the working group meeting in May 2013 in Piscataway, Mr. Mits Samoto presented a substitution method for antenna calibrations in semi-anechoic chambers. This method is based on comparing results obtained on an open area test site to those in a chamber, so antenna calibrations on similar antennas can be performed in the chamber. This will be considered for the next revision of the standard.

It is planned to have the new draft sent to SC1 in June/July for approval, and subsequently a month later to the C63 main committee for ballot.

Project on Standard for Testing Wireless Devices, C63.10/26 Chair: Art Wall

The WG meets with the bi-annual C63® meeting with very active participations. The meeting in May had 30 members present with 9 more participating via Webinar online.

C63.10 is “compliance testing of unlicensed transmitters”. The ballot was approved, and all comments are resolved. ANSI public review ends in June 2013. The publication of the standard is expected in the coming months.

C63.26 is “compliance testing of licensed transmitters”. A 5th draft was reviewed in some detail. The standard is still in early stages of development. Some major issues discussed at the meeting are:

- Clarified scope
- New procedures for consumer booter (FCC 13-21)
- New TG for conducted spurious emissions established
- Both direct radiated and signal substitution methods to be allowed
- Conducted RF power measurements discussed
- A spreadsheet of rules versus test procedures developed

The goal is to have an initial ballot in late 2014.

Project on Guide for EMC - Computations and Treatment of Measurement Uncertainty, C63.23 Chair: Bob DeLisi

C63 approval was received on December 3, 2012. The standard was published on March 15, 2013. Congratulations on the whole work group!

Project on Validation Methods for EMC Radiated Emissions Test Sites, C63.25 Chair: Dennis Camell

This is a draft standard with an active PINS. This project was approved for the development of site requirements for both above and below 1 GHz. Measurements are in process to correlate the time domain method to the sVSWR method up to 18 GHz. A draft to SC1 is being developed. A test plan is circulated in the working group, and several test labs are to participate on collecting measurement data to compare the two methods. The measurement efforts are starting in June, 2013.

Project on Guide for Construction of Open-Area Test Sites for Performing Radiated Emission Measurements (Free Space OATS), C63.7

New PINS were approved at the C63 meeting in May 2013. A working group is formed to start this project.

Subcommittee 2 – E3 Terms and Definitions

Marcus Shellman, Chair.



May 7th Meeting

ASC C63R Subcommittee 2 (SC2), "E3 Terminology Definitions," continued its work developing, harmonizing, and documenting new and emerging definitions and terminology referenced in ASC C63R, U.S. Department of Defense, and International E3/EMC standardization documents. The ASC C63 SC2 Working Group (WG) 1, operating under an approved PINS, continued its update of ANSI C63.14-20XX, "American National Standard, Dictionary of EMC including E3." The WG is adjudicating definitions from other C63 standards, reviewing definitions from military standards, and developing definitions in response to emerging requirements. The publication schedule for the ANSI C63.14- 20XX was agreed to by the subcommittee. No new definitions will be accepted for inclusion into the draft after August 2013. The update and maintenance of ANSI C63.14 is on schedule to meet its 5-year review cycle and publication in August 2014."

Subcommittee 3 International Standardization

Poul Andersen, Chair



May 7 Meeting

The Scope of SC3 as posted on the website was reaffirmed. Zhon Chen and Adam Gouker, as new Chairmen of SC1 and SC6 respectively, were welcomed as new members to SC3. The revised committee membership was approved in the meeting and will be posted on the website in the near future. As a result of the assignment of C63.12 to SC3, WG1 has been formed. At the first WG1 meeting, it was decided that revision was more appropriate than cancellation of the document. A PINS to revise C63.12 was approved in the Main Committee meeting. Several assignments have been made to revise various sections of the document with a Webex meeting scheduled for June 12, 2013. Persons that might be interested in assisting in the updating of the document should contact the Chairman, Poul Andersen. (anderpoul@comcast.net)

Subcommittee 5 Immunity Testing

Steve Whitesell, Chair

Subcommittee 5 met on May 7th with 11 of its 16 members in attendance along with 2 observers. During review of the list of subcommittee members, it was noted that three of them have missed three or more consecutive meetings. All three members were subsequently contacted and indicated their intention to participate going forward.

A proposed restatement of the SC5 scope was discussed. The intent was not to change the scope but to state it more clearly. The revised scope is as follows:

Subcommittee 5 is responsible for developing and maintaining new and

existing standards for immunity testing techniques and associated instrumentation as requested by the Main Committee ANSI ASC C63[®].

The 5-year review of the C63.9 standard on immunity of audio office equipment indicated that it is still a useful document. As a result, SC5 voted to recommend to the main committee that it be reaffirmed.

The Working Group Chair for the C63.16 ESD testing guide has indicated he will not be able to continue in that role. SC5 Chair Steve Whitesell will take over take the leadership until a new Chair can be found. He will attempt to jump start the revision project by scheduling a series of web conferences. The main effort will be directed towards the original intent of identifying and retaining unique material from the withdrawn 1993 version of the Guide that is not found in IEC 61000-4-2 or elsewhere. Written submissions for the addition of new unique material will also be considered. Don Heirman has contacted a couple of ESD experts to see if they would be willing to participate.

The lack of participants from the nuclear power industry for the work on C63.20, Immunity of Equipment for Use in Nuclear Power Stations, has resulted in a recommendation to the main committee that the project be dropped and ANSI notified that we wish to cancel the PINS.

Dave Schaeffer has provided extensive comments on the draft C63.24 In Situ Immunity Evaluation standard. This document will provide recommended practices for EMC immunity qualification testing of products, instrumentation, and control systems in their installed environment. Its focus is on systems that require a very high degree of reliability over their operational life. Working Group Chair Stephen Berger has appointed Mr. Schaeffer as Vice Chair and has noted that substantial restructuring of the document will be necessary to resolve the comments.

Don Heirman presented information on C63[®] standards that are applicable to the Smart Grid. He will prepare a draft report listing these standards for inclusion in the Smart Grid Catalog of Standards.

Jerry Ramie presented information on the C12.1 standard for testing electric meters being proposed for ANSI reaffirmation. SC5 formed a task group chaired by Mr. Ramie to assess immunity testing shortcomings in the document and communicate that information to the C12.1 writing group and the Smart Grid Interoperability Panel.

At the request of SC3, SC5 will review the immunity limits table in C63.12 and provide input on possible new immunity tests.

Subcommittee 6 Laboratory Accreditation/ Conformity Assessment

Adam Gouker, Chair



ANSI ASC C63R Subcommittee 6 (SC6) on “Accreditation/Conformity Assessment” met on the morning of Wednesday, May 8, 2013 from 8:00 am to 10:00am, at IEEE Headquarters in Piscataway, NJ. The meeting was led by new subcommittee chair Mr. Adam Gouker, with appreciation given to outgoing chair Mr. Victor Kuczynski. No new members have applied to SC6 since the last face to face meeting in the fall of 2012. Presentations were provided by accreditation body members, A2LA, ACLASS, L-A-B, and NVLAP regarding the current status of their respective conformity assessment programs related to the electrical testing field. Discussion also focused around the impact that the FCC’s NPRM 13-44 may have on accreditation bodies and the laboratories that they accredit to C63 standards. SC6 members were reminded that comments on the NPRM will be due within 45 days of publication in the Federal Register. In addition to the accreditation body representatives, NACLA was also invited to give an update on the status of their program and related training activities.

The status of working groups 3 and 4 was also presented by the respective working group chairmen. It was agreed to set a target date for the draft standards to be published no later than the next SC6 face to face meeting in November 2013. These draft publications will address Inter-laboratory Comparison of EMC testing (ANSI C63.11) and Guidance for the Calibration of EMC Test Equipment (ANSI C63.8). SC6 looks forward to the pending draft standards later in 2013.

Subcommittee 7 Unlicensed Personal Communications Services Devices

Stephen Berger, Chair

ANSI C63 Subcommittee 7 (SC7) continues its efforts addressing spectrum etiquettes and wireless coexistence.

ANSI C63.17 has been revised and closed a recirculation ballot on April 29, 2013. The recirculation had a response from 18 of the 23 members of the balloting pool and all votes were positive, with some editorial comments provided. The draft has now been forwarded to ANSI for public review and ANSI approval.

The project addressing Wireless Interference and Coexistence Evaluation continues to develop with the WG holding telecons approximately once a month. In a related effort AAMI (Association for the Advancement of Medical Instrumentation) has launched a companion to develop a technical information report. The AAMI committee, SM-WG 06, proposes to develop a protocol for performing the wireless reliability aspect of a risk assessment. The project is intended to rely on ANSI C63.27 for evaluation methods. In the new work item proposal it states:

This TIR will provide protocol acceptable when doing the wireless reliability aspect of a risk assessment.

This is a companion project to ANSI C63.27, American National Standard on Evaluation of Wireless Coexistence. It will tailor the evaluation process of ANSI C63.27 for specific application to a medical device risk assessment. Once developed the tests and protocol need to be transferrable to any commercial labs that care to provide the service and evaluable by any assessment body that will be accrediting these laboratories. The laboratory assessment bodies are the primary control mechanism for insuring a consistent level of quality among any labs providing this service.

Subcommittee 8 Medical Equipment Testing

Bob DeLisi, Chair



Subcommittee 8 met on Wednesday May 8, 2013 in Piscataway NJ. Subcommittee 8 currently has 23 members. At the current time SC8 is responsible for C63.18, On-site Immunity Testing of Medical Equipment, and C63.19, Hearing Aid Compatibility.

The SC8 membership was approved for 2013. The membership is as follows:

<u>Name</u>	<u>Role within Subcommittee 8</u>
<u>Andersen, Poul</u>	Member
<u>Attayi, Daoud</u>	Member
<u>Berger, Stephen</u>	Vice Chair
<u>Case, David</u>	Member
<u>Coston, Steve</u>	Member
<u>DeLisi, Bob</u>	Chair
<u>Green, Kendra</u>	Member
<u>Griffin, Andy</u>	Member
<u>Hare, Ed</u>	Member
<u>Hazem, Refai</u>	Member
<u>Heirman, Don</u>	Member
<u>Hofmann, HR (Bob)</u>	Member
<u>Hoolihan, Dan</u>	Member
<u>Hurst, Bill</u>	Member
<u>Julstrom, Steve</u>	Member
<u>Knipple, Tom</u>	Member
<u>Kozma-Spytek, Linda</u>	Member
<u>Kuczynski, Victor</u>	Member
<u>Liu, Steve</u>	Member
<u>Moongilan, Dheena</u>	Member

<u>Showers, Ralph</u>	Member
<u>Silberberg, Jeffrey L</u>	Member
<u>Stumpf, Bill</u>	Member
<u>Whitesell, Steve</u>	Member
<u>Witters, Don</u>	Member
<u>Zimmerman, Dave</u>	Secretary

The scope of SC8 has remained unchanged and is shown below:

Subcommittee 8 is responsible for writing and maintaining existing and proposed C63[®] standards for medical devices, as assigned by the Main Committee ASC C63[®].

Currently C63.18 is undergoing editorial review after the ballot. The recirculation ballot is targeted for before October 2013 and publication is planned for late 2013 early 2014.

Some C63.19 working group members participated in a meeting at the Audiologist convention (AAA) which included HIA, HLAA and others. The chair of the IEC WG was in attendance. A new revision of The IEC standard on hearing aid RF immunity is in the ballot process and harmonization work will follow completion of the revision to the IEC standard, but it would most likely not happen until after the next 2013 SC8 fall meeting.

An HLAA survey of hearing aid users reported more problems with HAC than anticipated. New technology devices (i.e. large tablet types) seem to be having issues with respect to HAC. The size of the geometric size of the T-coil field may be a problem. HLAA and Gallaudet University are conducting further user surveys to understand the issues.

A Liaison report was provided by the working group Chair for c63.19. Some C63.19 working group members participated in the 2012 Association for the Advancement of Medical Instrumentation (AAMI) Wireless Workshop Hospitals are reporting a variety of problems with wireless in hospitals. A task group has been organized to understand the issues involved. Several C63 members are on the task group and will facilitate liaison as appropriate.

A Liaison report was provided by the FDA. The FDA is working on some of the following items; IEC 60601-1-2 Edition 4, C63.18, SC7 C63.27 WG on wireless interference and coexistence. It was noted that there has been a significant increase in EMC reviews over the past 5 years. There is continued work with the Association for Automatic Identification and Mobility (AIM Global) RFID Experts Group (REG) to draft and validate protocols for testing immunity of medical devices to RFID systems. The FDA is also developing a guidance document on RF wireless technology in medical devices with a target of 2013 for

posting date. The FDA is asking medical device manufacturers to explicitly specify the intended use environments and asking for higher test levels for environments where they are warranted. The Liaison report for IEC SC62A MT 23 included an updated on the draft of IEC 60601-1-2 4th Edition. Voting on 62A/801A/CDV closed 17 August 2012. There was an affirmative vote (78 %) and 475 comments were received. The draft FDIS and response to comments will be completed in the next few weeks and estimated publication is the Fall 2013.

Subcommittee 8 currently has 28 members. At the current time SC8 is responsible for C63.18, On-site Immunity Testing of Medical Equipment, and C63.19, Hearing Aid Compatibility. In addition the Subcommittee also voted to have the current Subcommittee Chair serve for a 2nd three year term. This was approved by the Parent Committee.

Currently C63.18 is undergoing editorial review after the ballot. In addition one negative comment from 2008 needed to be resolved. The current timeline includes a recirculation ballot in at the end of the first quarter of 2013 and publication later in the year.

The second edition of C63.19 was published in 2011. On April 9, 2012, the FCC issued a 3rd Report and Order that adopted the 2011 edition. The Report and Order can be found at

http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0409/DA-12-550A1.pdf.

As a result 4 interpretation requests were received and addressed. A summary of the interpretation requests are as follows:

1. MIF and operating mode for LTE

Explains that worst case mode to be determined from specified call states and modulations from the 3GPP standard and the MIF (Modulation Interference Factor)

2. T coil audio levels for LTE

Audio signal levels defined in 3GPP and ITU-T Recommendation P.50, P.501 and P.79 are used to apply the applicable levels.

3. Concurrent transmitters

Process for evaluation per ANSI C63.19 to determine worst case operation mode to be used.

4. Simultaneous transmitters

Current standard calls for transmitters to be evaluated individually

The complete interpretations can be found at
http://www.c63.org/documents/misc/posting/new_interpretations.htm.

Liaison reports were provided by AAMI, Association for the Advancement of Medical Instrumentation, The FDA, Food and Drug Administration, and IEC SC62A MT23. All three parties are heavily involved in the 4th Edition revision to IEC 60601-1-2. The FDA is also working with the Association for Automatic Identification and Mobility (AIM Global) RFID Experts Group (REG) to draft and validate protocols for testing immunity of medical devices to RFID systems. The FDA is also holding discussions with the FCC related to takeback of the lower WMTS (Wireless Medical Telemetry Service) band (Channel 37) and Human body communication (HBC).

Second 2013 ANSI ASC C63[®] **MEETING SERIES**

The second 2013 meeting series is planned to be held at the UL LLC in Northbrook, Illinois on November 11-14, 2013. The Main Committee meeting is on Thursday November 14th. Please check schedule and logistics on C63[®]'s website: www.c63.org "C63[®] main committee", "Upcoming meeting schedule & logistics"

ANSI ASC C63[®] AWARDS HISTORY SUMMARY

Date	Award	Recipient	Reason
10/28/2010	Outstanding Contribution	Ed Hare	Pioneering work organizing the website
10/28/2010	Outstanding Contribution	Warren Kesselman	Editing our newsletter
10/6/2011	Outstanding Contribution	Art Wall	Standardization of measurements of unlicensed Transmitter emissions
10/6/2011	Outstanding Contribution	Stephen Berger	Technical leadership towards standardizing EMC measurements for hearing aids
5/9/2013	Outstanding Contribution	Dennis Camell	SC1 Chair from 2011-2013
5/9/2013	Outstanding Contribution	Victor Kuczynski	SC6 Chair from 2011-2013
5/9/2013	Certificate of Appreciation	Pat Roder	Successful transition to new Secretariat and a job well-done

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ANSI ASC C63[®] ELECTROMAGNETIC COMPATIBILITY, NEWSLETTER is published approximately forty-five days after Committee meetings and is available on the web site www.c63.org. That site also contains much information about ANSI ASC C63[®] and its Subcommittees. Warren Kesselman, Editor (w.kesselman@ieee.org)

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