

Minutes
Technical Standards Committee
Wednesday, November 17, 1999
Peabody Hotel
Orlando, FL

Chair: Bill Groener; Production Arts (PRG)

Recording secretary: Karl G. Ruling

Members attending: Mike Wood; High End Systems
Larry Schoeneman; Interesting Products, Inc.
Rodney F. Kaiser; J.R. Clancy Inc., representing USITT (alternate)
Mike Garl; James Thomas Engineering, Inc.
Jay O. Glerum; Jay O. Glerum & Associates, Inc., representing USITT (principal)
Ken Vannice; NSI Corporation; Leviton Manufacturing Co., Inc.
Tim Cox; PLASA (principal)
Steve Carlson; Rosco/Entertainment Technology
Mitch Hefter; Rosco/Entertainment Technology
Eckart Steffens; SOUNDLIGHT, representing VPLT (alternate)
Frank Stewart; Specialty Tech Services
Lori Rubinstein; ESTA (ex officio)

Visitors: Eddie Kramer; IATSE Local 1
Roger Lattin; IATSE Local 728
Peter Brooks; Zero 88
Peter Willis; Andera Ltd.
David Saltiel; Bell Boyd & Lloyd
Scott Blair; High End Systems
Steve Terry; PRG (arrived at 3:28 p.m.)

1 Opening remarks

Bill Groener called the meeting to order at 1:07 p.m.

2 Attendance and membership

Bill Groener announced that we have a quorum.

2.1 Attendance

A screaming pink attendance sheet was circulated and members and visitors were instructed to sign in.

2.2 Welcome to visitors

Bill Groener welcomed Peter Willis, Peter Brooks, Scott Blair, Eddie Kramer, Roger Lattin, and David Saltiel.

2.3 Recent Resignations; Current Membership; Look to the Future

Bill Groener explained that Steve Terry and Ann Valentino have resigned from the TSC. This has removed the potential problem of there being the perception of too much PRG representation on the TSC. This has also opened these positions, and we might want to fill them.

Rodney Kaiser moved that people at leisure submit proposed candidates and that we consider these candidates at a future time. Frank Stewart seconded motion. In discussion it was noted by several TSC members that the TSC is actually appointed by the ESTA Board, and that our "filling the slots" would technically be to make a recommendation to the Board. The motion was accepted unanimously with a show of hands.

Colin Waters moved that the TSC thank Steve Terry and Ann Valentino for their valuable contributions and effort. Mike Garl seconded the motion. Motion accepted unanimously by a show of hands.

Bill Groener and Mike Wood volunteered to write the letter of thanks.

3 Approval of minutes from the previous meeting

Mike Wood moved to accept the minutes as written. Ken Vannice seconded the motion. Unanimous by show of hands.

4 Call for patents and anti-trust statement

Bill Groener read aloud the following:

ESTA intends to publish no standard that contains protected intellectual property, unless that property can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent disclosures to implement this intent. ESTA does not conduct patent searches and does not warrant that its standards contain no protected intellectual property.

In keeping with the open disclosure policy, I ask if anyone present wishes to notify the Technical Standards Committee of the existence of a patent or copyright that might protect material in a standard being developed by a working group. You need not be the holder of the patent or copyright in order to notify the TSC of its existence.

Groener also read aloud the following:

The ESTA Board of Directors and the leadership of this Technical Standards Committee will reject or nullify any actions that restrain trade. Anyone who feels that an action restraining trade is being or has been taken is requested to bring the matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately.

ESTA legal counsel has informed us that any member of this committee may be found individually liable for any action that restrains trade taken by this committee. An individual convicted of a violation of the Sherman Act may be fined as much as \$100,000 and be imprisoned for up to three years. An easy to read pamphlet describing restraint of trade is available from the Technical Standards Committee.

Steve Carlson said that ACN has some concepts that may be covered by Vari-Lite patents if they are applied to moving lights. David Saltiel recommended that a copy of the Vari-Lite patent be submitted to the working group chair so it can be part of the record.

5 Approval of agenda

Bill Groener suggested that item 6 should be covered at the end of the meeting. Steve Terry had asked to speak about this, but his flight has been delayed. Mike Garl moved that the agenda be accepted, with item 6 being taken up after Steve Terry arrives. Jay Glerum seconded the motion. Motion accepted unanimously with a show of hands.

7 Old business

7.1 Financial reports

7.1.1 Treasurer's report

Frank Stewart presented the TSP Operations report (attached) and the Financial Report by Month. We are within budget this year. However, Frank Stewart reported that we will have a negative budget next year, with expenses exceeding projected income by \$44,000. Mike Garl said that the Rigging Working Group anticipates needing no money, so that reduced the projected deficit from \$44,000 to \$41,000.

Groener said that we need a person or group to spearhead planning for money solicitation and to carry out the plan. No volunteers from the TSC were immediately forthcoming, so Groener said that he and Mike Wood would confer on how to proceed.

The TSC agreed to have a meeting 9:00 Sunday morning (11/21) in the ESTA suite, room 609, to discuss fundraising strategy.

By consensus, the following action items were identified:

- WG chairs will bring up fundraising at the working group meetings
- Fundraising will be mentioned on Saturday morning at the LDI Industry Standards Update session.
- We will have a strategy session Sunday morning in the ESTA suite.

7.1.2 Status of contributions and pledges

Lori Rubinstein presented a report on which companies had honored their pledges and which had not yet.

Vannice says NSI needs an invoice to pay its pledge.

7.1.3 Accounting of TSP documents sold and on-hand

Lori Rubinstein gave an accounting of the TSP documents inventory.

7.2 Working group reports

7.2.1 Photometrics

7.2.1.1 E1.9, nutrition label

Ruling reported that some of the comments from the last public review had been resolved. He expected the working group to agree on the resolutions to the rest at the Saturday meeting.

7.2.1.2 Revamp/renew IES procedures

Ruling reported that there is a task group within the IES that is working on drafting testing procedures for stage and studio luminaires.

7.2.1.3 Public information project

Ruling reported that there are two projects going on. One, to explain the new standard, is largely on hold until the standard is drafted. The other, to explain conventional photometric testing and reporting practices, is being worked on. Tom Pincu and Daniel Haydt have a presentation prepared on this for the Saturday working group meeting.

7.2.2 Control Protocols

7.2.2.1 E1.3

Steve Carlson reported that another review will be needed.

7.2.2.2 E1.11

Mitch Hefter reported on the IEC62136 project (DMX) The subcommittee is under SC 34C. Hefter outlined the procedure used in the IEC. Mike Stein is the US expert on the committee, but Hefter is the task group head.

Ruling reported that the recirculated ballot on sending BSR E1.11 to public review will close at the CPWG meeting on Thursday.

7.2.2.3 Report of ACN Task Group

Steve Carlson reported that the task group had a second interim meeting in July. The task group investigated JINI but rejected it. The concept is elegant and useful, therefore some concepts for ACN will be borrowed from JINI.

Reliable multicasting has been an issue. None of the methods that now exist work. They are either too big, or are for streaming media where errors are not a show-stopper. Carlson reported that Greg Heinzle has come up with an elegant solution called STD (session data transport). It provides both reliable and unreliable data transport.

The group has also been developing a Device Description Language. XML is the model. Philip Nye has been working on this heavily.

Carlson reported that Michael Karagosian of AES24 is now working with the ACN group, so there is coupling between them. IEEE1394 (Fire Wire) is supported by lots of AES people, so the ACN task group has been asked to look into it and how ACN might work on it.

Heinzle has also been working on a DMP (Device Management Protocol). A draft of that should be ready for the July meetings.

Carlson expects stable ACN documents in July 2000.

Carlson briefly gave a report on his involvement in IEEE 802.3 committee.

7.2.3 Fog and Smoke

7.2.3.1 E1.5, glycol/glycerin fog - The Stink Test

Larry Schoeneman reported that Ken Wilmarth and Larisa Rudenko, our consultants from Life Sciences Consultancy have effectively disappeared. They do not return calls, mail, or e-mail.

The data acquisition project has not made any progress yet, but is expected to do so.

7.2.3.2 Fog book, third edition

Schoeneman reported that the final editing should be should be done this week and forwarded to TSC for approval shortly.

7.2.3.3 Standard for fog machine manuals

This standard has been approved to go to public review. Schoeneman said he expects lots of comments from the public review.

Colin Waters asked about the Equity Letter of Agreement. He suggested that we should contact LOA theatres and offer advice. David Saltiel, our legal counsel, said we should wait for the results of the Equity/League Study before committing ourselves to any plan of action.

Ruling was directed to contact the Hippodrome Theatre to find out what happened there last year when an actor refused to perform on stage and Equity backed him, although there was no language in the contract banning fog.

7.2.4 Rigging

7.2.4.1 E1.1 – Wire Rope Ladder Standard

Mike Garl reported that E1.1 is now an ANSI standard.

Garl asked if the task group should be disbanded. Carlson suggested that task group should not be disbanded, but should become dormant.

Mike Garl moved that the "ESTA Standard for Construction and Use of Wire Rope Ladders" (Rig/95-2050r8) shall be withdrawn. Ken Vannice seconded the motion. The following TSC members voted "Accept":

- Bill Groener
- Mike Wood
- Larry Schoeneman
- Mike Garl
- Jay O. Glerum, representing USITT
- Ken Vannice
- Tim Cox representing PLASA

Steve Carlson
Mitch Heffer
Eckart Steffens, representing VPLT
Frank Stewart

There were no dissenting votes. The motion passed with a supermajority.

7.2.4.2 E1.2 – Aluminum Truss Standard

Garl reported that the task group will meet that evening after the Rigging Working Group meeting to resolve the few comments that were received during the last public review.

7.2.4.3 E1.4 – Manual Counterweight Flying Systems Standard

Rodney Kaiser reported that the revised document and the comment resolutions are finished, but that they have not been distributed. They will try to move them forward by letter ballot.

7.2.4.4 E1.6 – Powered Flying Systems

Kaiser said that the document is now called "Powered Rigging Systems." It covers heavy rigging now, too.

7.2.4.5 E1.7 – Recommended Practice for Flying Performers

Ruling reported that it is in public review.

7.2.4.6 E1.8 – Speaker Enclosures Rigging Standard

Ruling reported that the resolutions to the comments had been sent to him less than 24 hours before he was supposed to leave to come to Orlando, so the documents did not meet the 2-week deadline. Action on them will be done by letter ballot.

7.2.4.7 E1.10 – Building Structural Requirements Standard

Garl said that they had received many comments during the last public review which needed to be resolved.

7.2.4.8 British Standards – update

Tim Cox reported that BS7905 and 6 have gone to public review and are now being revised.

Cox noted that PLASA had become aware that a Russian translation of Adam Bennette's Recommended Practice for DMX was in circulation. He advised the committee that, despite the copyright notices in the front of the translated document, this translation had not been authorized by PLASA and therefore PLASA could not verify the accuracy of the document.

7.2.4.9 E1.13 – Arena Scoreboards and Speakers

Ruling reported that the vote to send it to the document to public review had passed in the working group with a clear supermajority, but some negative comments need to be addressed.

7.2.5 Camera Cranes

7.2.5.1 E1.12, American National Standard Crane task group

Ruling reported that all the effort in the working group is focused on writing the operators handbook.

7.2.5.2 Operators handbook task group

Task group meetings have been held, reported Ruling, and a draft document was discussed at the June working group meeting. Another version is expected soon.

7.2.5.3 Tabled projects

The projects to draft a guideline for a manufacturer's assembly manuals and a standardized camera crane chart have been tabled indefinitely, reported Ruling.

7.2.6 Power

7.2.6.1 Status Report on Formation of Working Group

Ken Vannice reported on the successful first meeting of the working group. The group will decide on particular cabling projects at this upcoming meeting.

7.2.6.2 Report on EMC Issues

Vannice summarized his report. [The report is appended to these minutes.]

7.3 Public relations/marketing [Lori Rubinstein/Karl Ruling/Bill Groener]

No report.

6.1 ESTA TSC P&P

6.2 Robert's Rules of Order

6.3 Question: Difference between Public Review and Public Comment

6.4 Public Review of E1.11

There was a long discussion of the differences between a public review and a public comment, and over the criteria a working group should use when deciding to send something for a public review. There were clearly different opinions on these things, and no consensus was reached, other than that the different working groups may operate with different criteria, as long as they do not conflict with the P&P. The P&P is not specific as to the criteria, so the working groups have a lot of discretion.

8 Old Business

8.1 Report on Liaisons to Other Industry Groups – NFPA/EMC Workshop

Schoeneman reported that the NFPA's pyrotechnic standard, 1126 is being reviewed to make the language more common with flame effects standard NFPA 160.

Schoeneman also reported that Monona Rossol had offered proposals to NFPA to make 1126 deal with air quality. Most of these proposals were rejected by the committee.

[Vannice's EMC report was given as part of the Electrical Power Working Group report.]

8.2 Action Items from July, 1999

8.2.1 Stage Directions Magazine Proposal

Lori Rubinstein reported that the proposal had to be turned down. It would have required us to provide too much content, more than we can easily do.

8.2.2 VPLT

Eckart Steffens noted that VPLT's having a seat on the TSC was noted in the IESNA's publication, Lighting Design and Application. Steffens also reported that VPLT has changed its constitution, so our trade associations can now exchange memberships.

8.2.3 Copyright issues

Done.

9 New Business

Suggested wording for indicating compliance with ESTA or E1 standards, particularly draft standards.

ESTA legal counsel suggests:

"This product conforms to the specifications appearing in ESTA draft standards E1.xxx, revision #yyy." In specifications the wording might be: "Must conform to..."

There was discussion and disagreement on the above wording, and Mitch Hefter was directed to come up with some suggested wording to send to David Saltiel for approval.

10 Other business

Colin Waters suggested we should come up with standard definitions for qualified and competent people. Ruling said that a recommendation for particular definitions had been proposed to the TSC by the Rigging Working Group more than a year ago, but that the proposal was never brought before the TSC. Rodney Kaiser moved that the qualified/competent discussion be tabled until the next meeting. Larry Schoeneman seconded the motion. Unanimous.

11 Schedule for future meetings

Lori Rubinstein announced the schedule for the January meetings and for the events scheduled the rest of this day.

The following working group and Technical Standards Committee meetings will be held January 21-24 in Irving, TX, at the Dallas/Ft. Worth Airport Marriott:

Control Protocols
Saturday, January 22, 9am - 6pm

DMX Task Group
Friday, January 21, 7pm - 11pm
Saturday, January 22, 1pm - 11pm
Sunday, January 23, 8am - 1pm

Electrical Power
Friday, January 21, 8 am - 12pm

Fog and Smoke
Saturday, January 22, 7pm - 11pm

Photometrics
Saturday, January 22, 1pm - 5pm

Rigging
Friday, January 21, 7pm - 11pm

Technical Standards Committee
Friday, January 21, 1pm - 5pm

The March meetings will be held in conjunction with the USITT Conference and Stage Expo.

Control Protocols
Thursday, March 23, 9am - 6pm

DMX Task Group
Thursday, March 23, 1pm - 11pm

Electrical Power
TBD

Fog and Smoke
Friday, March 24, 7pm - 11pm

Photometrics
TBD

Rigging
Wednesday, March 22, 7pm - 11pm

Technical Standards Committee
Wednesday, March 22, 1pm - 5pm

The July meetings will be from July 14 through 16 in Irving, Texas.

12 Adjournment

Mitch Hefter moved the meeting adjourn. The motion was seconded. The motion was accepted unanimously by a show of hands. Bill Groener declared the meeting adjourned at 5:37 p.m.

Report to ESTA on Harmonics
by
Ken Vannice
November 1999

I attended the third Powerline Harmonics Workshop sponsored by the USCCEMC held at the Sheraton BWI on Oct. 14 – 15, 1999. Forty-one were in attendance. Previous to this workshop was a workshop on the IEC EMC standardization process presented with the help of IEC personnel. Complete workbooks from that workshop are available for \$100 plus shipping.

The first session was devoted to a summary of the state of the situation. It was noted that the USCCEMC 99-01 philosophy paper has been endorsed by:

- Mexican IEC National Committee
- American Electronics Assoc. (Europe)
- UNISYS
- Carrier European Transcontinental Ops.
- Daikin Europe (Air Conditioners)
- ECS Lighting Controls (UK)
- Oce-Technologies (Netherlands)

This list is not a complete one. ESTA was not on it but is now. The Canadian IEC National Committee is still considering it. PLASA has chosen not to endorse it.

IEC SC77A and its various working groups have had various meetings. Most of the proposals the US opposes failed. Some of the meetings were acrimonious. The SC77A is still dominated by European utilities but manufacturer participation is increasing. Agenda and content of work is now being influenced by objective data brought to the table by manufacturers. Having been schooled in the US way of standards making, it is personally disconcerting that the IEC process is more like being in the US Congress than in an ESTA or NFPA meeting.

The US has received complaints about making waves so late in the process. This has caused the US delegation to research the history of the process. The US has continually asked for detailed technical rationales since 1982 and still has received none. Upgrading 61000-3-2 to a standard and making it a horizontal one was accomplished as an editorial change after the vote. In the research the US has found that the models used to create some of the standards are not appropriate for US systems; and there is evidence that they are not even appropriate for European systems. It can be shown that several of the prescribed measurement techniques are ambiguous resulting in different results from the same test. Some tests are overly complex, requiring 2900 passes to adequately demonstrate compliance. The US believes that many of these standards are in poor shape and not ready for implementation.

The Low Frequency Emissions Industry Coalition (LFEIC), of which ESTA is a founding member, reported on their work. This is covered separately below.

One of the purposes of this workshop was to begin to form a US position. Under discussion was a “strawman” created by Ed Yandek of GE proposing limits for the lighting industry.

Contained therein was a proposal for the entertainment industry that supported no limits with a maximum Vthd of 5%. Upon the advice of the Harmonics Task Group of the Electrical Power Working Group I went to the meeting in support of this proposal. The plan was to produce evidence that this level was appropriate for our industry based on the size of power consumption in comparison with the total power consumed. This "strawman" has been temporarily set aside in order to pursue an opportunity in SC77A/WG1/TF5a. In that body a task group has been formed to define a product "impact factor" matrix and product parameter input to that matrix. They are issuing their own survey. The target date for the first draft is 3/00. This is an opportunity for our industry and product mix to position itself within the standards process.

Our energy has been on 61000-3-2 because of its immediacy; however other standards are looming in the distance. IEC61000-3-3, Voltage Fluctuations (Inrush) and Flicker <16A/Phase has the potential of being equally as onerous. Its main objective is to reduce the inrush on the power lines after a power outage and to reduce the complaints to the utilities about dips at home caused by such things as air conditioners turning on. In the direction it is going all the light switches in your house will have to be changed to microprocessor-controlled devices to ramp on the cold tungsten inrush of your incandescent lights. This process will cause harmonics to be generated which will then have to be mitigated. If this is required in your home, imagine what will be required for stage lighting.

We created four workshop task groups, one to deal with impact factor matrix mentioned above, one to deal with the flicker issue mentioned above, one to deal with another looming issue, interharmonics, and one to deal with EMC safety issues. Interharmonics is a topic of discussion because the Europeans use ripple control systems on the AC lines to control such things as traffic lights and train signals.

The final item before we broke into task groups was to deal with a request from our TA, Dr. Showers. There exists a technical report on EMC safety. It lists safety issue items to consider when writing EMC standards. At the time it was issued the US and 75% of the rest of the world supported it as a technical report. Now there is a group that wants to make it a standard to give it more prestige. The workshop unanimously voted to keep it a technical report based on what other bodies might do with it (like mandate it).

I, along with Karl Ruling, have been involved with the LFEIC. The LFEIC was formed by the following trade organizations:

- Air-Conditioning and Refrigeration Institute
- American Electronics Assoc.
- Consumer Electronics Assoc.
- Copper Development Assoc.
- Electronic Industries Alliance
- ESTA
- Information Technology Industry Council
- National Electrical Manufacturers Assoc.
- Telecommunications Industry Assoc.

Supporting the LFEIC goals are:

- IEC National Committee of Mexico
- European Computer Manufacturers Assoc.
- Information Technology Assoc. of Canada
- Lighting Industry Federation Ltd. (UK)
- Arcarcelyk A.S. (Turkey)
- Carrier s.p.A. (Italy)
- Daikin Europe NV – Design Dept. (Japan)
- American Electronics Assoc. Europe

One of the LFEIC goals is to encourage the EU to postpone implementation of the LFE requirements to 1/1/04 based on the fact that the standards are not ready yet, and that in their present form, constitute a trade barrier. The US Dept. of Commerce and State have become actively involved. The LFEIC has also been working with the Simpler Legislation for the Single Market working group which is currently reviewing the EMC Directive.

The LFEIC is also working towards the revision of the EMC standards. They have issued a Harmonic Emissions Product Impact Assessment Survey that they would like all manufacturers to fill out. The ESTA Harmonics Task Group has been looking at the document and is leaning towards collecting data for an abbreviated survey rather than widely distribute the whole survey for direct submission.

Technical Standards Committee Membership at End of Meeting

Name	Company	Parent Co./Org Represented	Voting Status
Mike Wood	High End Systems	High End Systems	P
Larry Schoeneman	Interesting Products, Inc.	Interesting Products, Inc.	P
Mike Garl	James Thomas Engineering, Inc.	James Thomas Engineering, Inc.	P
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	P
Ken Vannice	NSI Corporation	Leviton Manufacturing Co., Inc.	P
Tim Cox	PLASA	PLASA	P
Tony Douglas-Beveridge	PLASA Standards Office	PLASA	A
Bill Groener	Production Arts	PRG	P
Steve Carlson	Rosco/Entertainment Technology	Rosco Laboratories	P
Mitch Hefter	Rosco/Entertainment Technology	Rosco Laboratories	P
Frank Stewart	Specialty Tech Services	Specialty Tech Services	P
Colin Waters	TMB Associates	TMB Associates	P
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	A
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	P
Eckart Steffens	SOUNDLIGHT	VPLT	A
Florian Von Hofen	VPLT	VPLT	P