

Minutes
Electrical Power Working Group
Friday, 29 July 2005
Dallas/Ft. Worth Airport Marriott South
Ft. Worth, Texas

Chairmen: Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); P; MP
Bob Luther; Lex Products Corp.; P; CP

Recording secretary: Karl G. Ruling

Members attending: James Davey; AC Power Distribution Inc.; A; CP
Paul Menetrey; Menetrey Partners; (Bender GmbH & Co. KG); A; MP
Steve Terry; Electronic Theatre Controls, Inc.; P; MP
Ian Foulds; IATSE Local 873, representing the Entertainment Electrical Safety
Committee of Ontario; P; G (joined at this meeting)
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
Stephen J. Kay; K-Tec Corporation; P; MP
Kenneth M. Makowski; Lex Products Corp.; A; CP (joined at this meeting)
Jeff deRecat; Marinco/ADI; (Marinco); P; MP
W. G. Krokaugger P.E.; Mole-Richardson Co.; P; CP
Nic Bowker; PLASA; P; G
Michael Scudday; SSRC, Inc.; P; CP (joined at this meeting)
Michael Lay; Strand Lighting; (Strand Lighting Ltd.); P; MP
Jerry Gorrell; Theatre Safety Programs; Theatre Safety Programs; P; U
Michele Yindrick; TMB; P; MP
Richard Wolpert; Union Connector Company; P; CP (change of voting status at
this meeting)
Mitch Hefter; Entertainment Technology (Genlyte Group), representing USITT; P;
U
William L. Maiman; William L. Maiman; P; U

Visitors: None

1 Opening remarks

The meeting was called to order by Ken Vannice at 08:02.

2 Attendance and membership

2.1 Introduction of those present and taking attendance

Those present introduced themselves while a chartreuse attendance sign-in sheet was circulated.

Roger Lattin asked for a moment of silence for Bill Masten(SMS Inc.), who passed away recently.

2.2 Determination of quorum

Ken Vannice announced that a quorum was present and business could be conducted.

2.3 Recognition of alternate voting members

Alternates were reminded that they may not vote on an issue if their principal is present and voting.

2.4 Requirements for membership

Vannice reminded the assembly that membership is open to all who are affected by the work of the group. Voting members are required to attend meetings and to vote on letter ballots. Voting members and their alternates may not miss three consecutive meetings without a loss of voting status.

2.5 Processing of new membership requests

Applications had been received from the following:

Michael Scudday, SSRC, Inc., Principal, CP

Kenneth M. Makowski, Lex Products Company, Alternate, CP

Eddie Kramer moved that their membership applications be accepted. The motion was seconded and approved with a unanimous show of hands.

Ian Foulds, a member of IATSE Local 873, then submitted an application to represent the Entertainment Electrical Safety Committee of Ontario as a principal in the General Interest category.

Steve Terry moved that his application be approved. The motion was seconded and approved by a unanimous show of hands.

Richard Wolpert asked to be moved from Observer to Principal voting status.

Roger Lattin moved that his application be approved. The motion was seconded and approved by a unanimous show of hands.

After these additions to the voting body, the full voting roster during this meeting, including those not present, was:

Name	Company	Representing	Voting status	Interest category
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP
George Long	Aggreko Event Services	Aggreko	P	DR
Kenny Delahoussaye	Aggreko	Aggreko	A	DR
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Jeff deRecat	Marinco/ADI	Marinco	P	MP
Bud Toly	Marinco/ADI	Marinco	A	MP
William Drake	Marinco	Marinco	A	MP
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Nic Bowker	PLASA	PLASA	P	G
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U

Name	Company	Representing	Voting status	Interest category
Richard D. Thompson	Thompson Associates	Thompson Associates	P	G
Michele Yindrick	TMB	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP
William L. Maiman	William L. Maiman	William L. Maiman	P	U
			23	Total
		Voters by interest category	8	MP
			5	CP
			1	DR
			6	U
			3	G

3 Approval of the minutes from the previous meeting

Mitch Hefter moved the minutes of the previous meeting (EP/2005-7002) be approved as written. The motion was seconded. The motion was approved by a unanimous show of hands, except for one abstention.

4 Reading of the call for patents

The following was read aloud to the assembly by Ken Vannice:

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

"In keeping with the open disclosures policy, I ask if anyone present wishes to notify this working group of the existence of a patent or copyright or other intellectual property that might protect material in a standard being developed by this working group. You need not be the holder of the patent or copyright to notify this working group of its existence."

No protected intellectual property issues were brought to the attention of the assembly.

5 Reading of the anti-trust statement

The following was read aloud to the assembly by Ken Vannice:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that 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 violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

Karl Ruling, the Technical Standards Manager, held up two of the easy-to-read pamphlets.

No restraint of trade issues were brought to the attention of the assembly.

6 Approval of agenda

Discussions of CANENA and a possible NRTL liaison group were added to the Other business section.

Steve Terry moved that the modified agenda be accepted. The motion was seconded and then approved by a unanimous show of hands.

7 Old business - task group reports

7.1 EMC task group

There is not a lot going on, Ken Vannice reported. The head of the US EMC advisory committee has proposing a meeting to be held September 9 at the NFPA headquarters in Quincy, MA. Ken Vannice will attempt to be there.

7.2 BSR E1.24 pin connectors, Report on public review comments and resolutions

Hefter moved that the EPWG accept the resolutions to the first public review of BSR E1.24 offered in document EP/2005-7009. The motion was seconded.

Steve Terry objected to the proposed resolution 2. He suggested that allowing the split to be parallel to the body would make the pin connector harder to maintain in the field, and more likely to allow the male pins to bend closed when the connector is used in a panel mount with the weight of the cable.

Terry's argument was persuasive; the motion to accept EP/2005-7009 was unanimously rejected on a hand vote.

Mitch Hefter moved that the EPWG accept the resolutions to the first public review, except that the resolution for number 2 shall be:

Response: Reject. It is the opinion of the working group that slot orientation other than perpendicular to the body of the connector adversely affects the performance. "

The motion was seconded. The motion was proved with a unanimous show of hands.

There was further discussion in which it was decided that the resolution to comment 1 should be "Accept in part with point 2 being rejected. Dimension D applies to all sleeves. Mitch Hefter moved that the comment resolution document so modified be accepted. The motion was seconded. The motion was approved by a unanimous show of hands.

Mitch Hefter moved that the changes be not considered substantive. The motion was seconded.

Karl Ruling argued that if the change is from a fixed measurement to a suggested maximum it is a substantive change. One says it must be something, while the other says it can be any measurement up to a maximum.

The motion to consider the changes as not substantive was defeated by a unanimous show of hands.

Mitch Hefter moved that "suggested maximum" in the resolution document be changed to "recommended maximum." The motion was seconded. The motion was approved by a unanimous show of hands.

The approved, revised resolution document is EP/2005-7009r1.

Hefter moved that the draft BSR E1.24 document EP/2003-7005r2.1 (with the change from "suggested" to "recommended") be offered for a second public review. The motion was seconded. The motion was approved by all present on a roll call ballot.

Name	Company	Representing	Voting status	Interest category	Yes	No	Abstain
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP	X		
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP			
George Long	Aggreko Event Services	Aggreko	P	DR			
Kenny Delahoussaye	Aggreko	Aggreko	A	DR			
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP			
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP			
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP	X		
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP	X		
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G	X		
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP			
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U	X		
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U	X		
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U			
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U			
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP	X		
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP	X		
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP			
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP	X		
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP			
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U			
Jeff deRecat	Marinco/ADI	Marinco	P	MP	X		
Bud Toly	Marinco/ADI	Marinco	A	MP			
William Drake	Marinco	Marinco	A	MP			
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP	X		
Nic Bowker	PLASA	PLASA	P	G	X		
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP	X		
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP	X		
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U	X		
Richard D. Thompson	Thompson Associates	Thompson Associates	P	G			
Michele Yindrick	TMB	TMB	P	MP	X		
Colin Waters	TMB	TMB	A	MP			
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U	X		
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP	X		

Name	Company	Representing	Voting status	Interest category	Yes	No	Abstain
William L. Maiman	William L. Maiman	William L. Maiman	P	U	X		
			23	Total	19	0	0
		Voters by interest category	8	MP	7	0	0
			5	CP	5	0	0
			1	DR	0	0	0
			6	U	5	0	0
			3	G	2	0	0

7.3 BSR E1.18 portable feeder cable selection and use task group [Lattin or Kramer]

Eddie Kramer reported on how quickly people on the task group had responded, and how the document was then sent to Mike Wood.

Eddie Kramer moved that the draft document (EP/2002-7003r8) be offered for a first public review. The motion was seconded.

Steve Terry spoke against the motion, finding the notion of a closed loop distribution system as too radical a departure from current practice in temporary power feeder cabling and that it has many practical problems. A properly designed radial system will address the problems that a closed loop system purports to solve. He would not be opposed to it in a permanent system.

Roger Lattin and Eddie Kramer argued for the system, stating that it is used, and has been for 75 years. It needs to be covered in a standard so that people can use them with proper guidance. Lattin said that it is taught to their Union members and that their local AHJ has not questioned ring mains systems.

Jerry Gorrell and Ian Foulds said that their AHJs (in Arizona and Ontario respectively) would not approve a loop system. Jerry Gorrell pointed out that no listed loop-closing switch exists, so his AHJ would be likely to condemn it on that basis alone.

Bill Maiman suggested that the group should simply evaluate whether the document is ready for public review. What's the harm in seeing what comments would come from public review, as long as the document is written well enough that people can vet it? he argued.

Since this is a motion for a first public review, the motion will be decided by letter ballot.

Roger Lattin asked for one-hour at the next meeting for a class on closed loop systems.

Bob Luther said that he would like to see it made clear in a ring-main system that every connector may be fed from both directions. Steve Terry agreed on this. Jerry Gorrell pointed out that the draft standard requires work practices per NFPA 70E. Mike Lay pointed out that the marking requested is already required per the draft standard. This satisfied Steve Terry regarding this issue.

7.4 BSR E1.19 GFCI task group [Luther]

The first public review has been approved, Luther reported. The document is posted on the ESTA website for public access.

Steve Kay's comments that had been discussed at the last meeting will be processed as public review comments, said Bob Luther.

Roger Lattin reported that on the remake of the Poseidon adventure it has been discovered that radio transmitters will cause false tripping of GFCIs. He said he will write something about this and submit it as a public review comment.

8 New business

8.1 Luminaire inspection procedure

The idea of developing some sort of guidance document for luminaire inspection and safety maintenance was discussed. This was in regard to leakage testing in luminaire manufacturing. The problem with leakage identified by members of UL 1573 is not with new equipment, but with used equipment in the field. That equipment can develop excessive earth leakage currents.

Karl Ruling pointed out that ABTT has a guidance document for Portable Appliance Testing.

Jerry Gorrell offered to do a first draft of some kind of guidance document to see if it might be a project we would want to pursue. The consensus was that we'll look at the document and see if we want to pursue this as a project. If so, we'll take formal vote and make an announcement of the project, with a call for dealer/rental companies and general interest members to work on the project. Gorrell said he could have something written maybe by January.

8.2 Advice on portable power systems grounding procedures

Roger Lattin distributed some information he has about grounding portable power systems. Depending on where you are in Southern California, portable power systems are required to be grounded or are forbidden to be grounded. This is a problem. Measuring the resistance to earth is difficult. It is supposed to be less than 20 ohms. Ken Vannice pointed out that per the Code, if you cannot achieve less than 20 ohms, two or more rods are needed, and no test for resistance is then needed.

Steve Terry suggested that people use Google to search for "Earthing arrangements." There are a plethora of ways this is done. We are lucky in North America for having one system.

9 Other business

9.1 UL 1573, Stage and Studio Luminaires and Connector Strips, advice to UL on scope and leakage current tests.

Ken Vannice reported that UL 1573 is now an ANSI project, and he had submitted comments, which were rejected because they were not complete proposals with specific text for the standard. They did accept his proposal for a working group to research luminaire leakage current issues, and asked for members. Therefore, Vannice asked for volunteers from the working group. Eddie Kramer and Roger Lattin volunteered and Mitch Heftler offered to provide someone from Vari-Lite.

9.2 Canena

Roger Lattin reported that the working group had met Tuesday and Wednesday, here at the Dallas/Ft. Worth Marriott South, and is planning another meeting at LDI.

9.3 NRTL liaison group

Bob Luther reported on an ESTA Board proposal to have an NRTL liaison group or committee to work on behalf of ESTA members in dealing with NRTL issues. There was a discussion of this idea and general support, but it would not be part of the EPWG's work. Various people volunteered to be on this group, if it is formed.

10 Changes to observer status with third meeting missed

Richard Thompson of Thompson Associates had missed the previous two meetings and this current one. Ken Vannice announced that Thompson is now an observer, since he has not been able to fulfill the minimum attendance requirement for a voting member.

11 Schedule for future meetings

It was announced that the next meeting will be at the Rosen Plaza Hotel on 11 November, from 7:00 p.m. to 11:00 p.m.

12 Adjournment

Mitch Hefter moved that the meeting adjourn. The motion was seconded. The motion was approved by a unanimous show of hands.

Membership and Contact Information as of 2005-08-12

Name	Company	Representing This is the primary sort field.	Voting status	Int. cat.
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP
Andre Broucke	ADB - TTV Technologies	ADB-TTV Group	O	MP
George Long	Aggreko Event Services	Aggreko	P	DR
Kenny Delahoussaye	Aggreko	Aggreko	A	DR
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	O	G
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP
Lee J. Bloch	Blue Sky Design, Ltd.	Blue Sky Design, Ltd.	O	G
Eric Bouchard	Cirque du Soliel	Cirque du Soliel	O	CP
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	O	MP
Ron Dahlquist	Dadco	Dadco	O	MP
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	O	DR
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G
Art Wanuch	M.C. Lights & Manufacturing, Ltd.	Entertainment Electrical Safety Committee of Ontario	O	G
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	O	U
Gian Carlo C. Bartolotti	Ibeam SP / Banco de Eventos	Ibeam SP / Banco de Eventos	O	U
Bill Kanne	Illumination Dynamics	Illumination Dynamics	O	U
Kevin Stolpe	Illumination Dynamics	Illumination Dynamics	O	U
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	O	MP
Don Gray	Kohler Event Services	Kohler Co.	O	U
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP
Reinhold Luther	Lex Products Corp.	Lex Products Corp.	O	CP
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Jim Holladay	Luxence	Luxence	O	G
Jeff deRecat	Marinco/ADI	Marinco	P	MP
Phil Fram	Marinco	Marinco	O	MP
Bud Toly	Marinco/ADI	Marinco	A	MP
William Drake	Marinco	Marinco	A	MP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP

Name	Company	Representing This is the primary sort field.	Voting status	Int. cat.
Michael Klein	Metropolitan Engineering, Inc.	Metropolitan Engineering, Inc.	O	G
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Chris Guptill	Ohlone College	Ohlone College	O	U
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Steve DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Nic Bowker	PLASA	PLASA	P	G
James Eade	PLASA	PLASA	O	G
Mac Perkins	PNTA Inc.	PNTA Inc.	O	G
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	MP
Douglas Franz	QVC Network	QVC Network	O	U
Eric Tishman	Rosco Laboratories	Rosco Laboratories	O	MP
Richard B. Glickman	Gliconen Corporation	Rosco Laboratories	O	MP
Richard A. Prey	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	O	CP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	O	U
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP
Reuben Goldberg	Technic Services	Technic Services	O	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Richard D. Thompson	Thompson Associates	Thompson Associates	O	G
Michele Yindrick	TMB	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
Eckart Steffens	SOUNDLIGHT	VPLT	O	G
William L. Maiman	William L. Maiman	William L. Maiman	P	U

Key to codes:

- P principal voting member
- A alternate voting member
- I individual voting member
- O observer, non-voting
- MP mass-market producer interest category
- CP custom-market producer interest category
- DR dealer or rental company interest category
- U user interest category
- G general-interest interest category