

**Minutes**  
**Electrical Power Working Group**  
Wednesday, 17 March 2004  
Westin Long Beach  
Long Beach, California

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

**Recording secretary:** Karl G. Ruling; ESTA

**Members attending:** Joe Boardman; Bender Inc. (Bender GmbH & Co. KG); A; MP  
Steve Terry; Electronic Theatre Controls; P; MP (change of voting status at this meeting)  
Art Wanuch; M.C. Lights & Manufacturing, Ltd., representing the Entertainment Electrical Safety Committee of Ontario; O; G  
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U  
Roger Lattin; I.A.T.S.E. Local 728; P; U  
Richard Thornton Brown; Zero 88 Ltd. (i Light Group PLC); O; MP  
William L. Maiman; Lex Products Corp.; A; CP  
Louis Bradfield; I; U  
Paul Menetrey; Menetrey Associates; P; G  
W. G. Krokaugger P.E.; Mole-Richardson Co.; P; CP  
William N. Masten; SMS Inc. / PGS LLC; P; CP  
Stephen Vanciel; O; U  
Michael Lay; Strand Lighting (Strand Lighting Ltd.); P; MP  
Jerry Gorrell; Theatre Safety Programs; P; U (arrived at 10:10)  
Richard D. Thompson; Thompson Associates; P; G  
Mitch Hefter; Entertainment Technology (Genlyte Thomas Group), representing USITT; P; U

James Eade had sent regrets for not being able to attend.

**Visitors:** None

**1 Opening remarks**

Ken Vannice called the meeting to order at 08:05.

**2 Attendance and membership**

**2.1 Introduction of those present and taking attendance**

Those present were asked to introduce themselves. They did so.

**2.2 Determination of quorum**

Vannice asked for voting members to raise their hands. He announced that a quorum was present.

**2.3 Recognition of alternate voting members**

Bill Maiman was present to vote for Lex Products.

**2.4 Requirements for membership**

Vannice reminded the assembly that membership is open to all who are affected by the work of the group, but that 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

Bob Luther read the new applications. George Long had applied as a principal for Like a Duck Productions in the user interest category. Steve Terry applied for reinstatement to principal voting status.

Eddie Kramer moved that the applications be accepted, except that George Long shall be accepted as an observer, since he is not present and voting members must attend meetings. The motion was seconded. The motion was approved by a unanimous show of hands.

The complete consensus body for this meeting, including those not present, was:

Name	Company	Representing	Voting status	Interest 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
Jeff deRecat	Advanced Devices, Inc.	Advanced Devices, Inc.	P	MP
Bud Toly	Advanced Devices, Inc.	Advanced Devices, Inc.	A	MP
Kenny Delahoussaye	Aggreko	Aggreko LLC	P	DR
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	P	MP
Steve Terry	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	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
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
William L. Maiman	Lex Products Corp.	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Paul Menetrey	Menetrey Associates	Menetrey Associates	P	G
Michael Klein	Metropolitan Engineering, Inc.	Metropolitan Engineering, Inc.	P	G
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
James Eade	PLASA	PLASA	P	G
William N. Masten	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	P	CP
Richard A. Prey	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	A	CP
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Richard D. Thompson	Thompson Associates	Thompson Associates	P	G
Brian Dowd	TMB (NJ)	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Mitch Hefter	Entertainment Technology (Genlyte Thomas Group)	USITT	P	U
		Total votes	23	
		Votes by interest category	9	MP
			4	CP
			1	DR
			5	U
			4	G

### **3 Approval of the minutes from the previous meeting**

Mitch Hefter moved that the draft minutes (EPmin01-2004r1) be accepted 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**

Ken Vannice read the following statement aloud to the assembly:

"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 disclosure 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 working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence."

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

### **5 Reading of the anti-trust statement**

The following statement 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 \$100,000 and imprisoned for up to three years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

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

### **6 Approval of agenda**

Steve Terry moved that the agenda be accepted as written. The motion was seconded. The motion was approved with a unanimous show of hands.

### **7 Old business - task group reports**

#### **7.1 EMC task group**

No news, reported Vannice.

#### **7.2 BSR E1.24 pin connectors**

Mitch Hefter reported that he'd received no responses from the task group on the last circulated draft. He said he plans to have a version for working group consideration at the July meeting.

#### **7.3 BSR E1.18 portable feeder cable selection and use task group**

Eddie Kramer reported on how the document was developed, and who had offered input.

Steve Terry thanked the group for the prodigious body of work, but he also said that he did not feel it was ready for public review yet, and outlined his reasons:

1) It contains a lot of Hollywood-specific items that are alien to the target audience for the document. He suggested putting this information in a separate chapter.

2) The voltage drop tables are useful tools, but they should be in appendices. They now interrupt the flow of the reading.

- 3) Some of the content is interesting, but not useful to the reader. Conductor stranding and discussions of self-inductance are examples.
- 4) Some of the advice is contrary to the NEC, and therefore shouldn't be in this document.
- 5) Odd system voltages are interesting, but not useful. If odd systems are listed, information about them should be in an appendix.
- 6) There are new concepts being introduced that are not mainstream industry practice. Provocative ideas need to be explained, either in this text or to this group, so that the argument for them is explicit.
- 7) There are explicit requirements for the construction of utilization equipment, which are outside the scope of this standard.
- 8) Many of the recommendations are out of scope. Hollywood loop distribution systems is a specific example.

Terry said that this issues had been discussed with Eddie Kramer and Roger Lattin at breakfast, but that he would offer these comments to them in writing.

There was a discussion of the scope of the document, whether it needs to be changed or another standard started to address the issues that have been identified that are outside the existing scope or at its fringes.

Steve Terry moved that no matter what the final scope of the standard is, that the film-specific definitions and information be contained in a separate chapter. The motion was seconded. The motion was accepted by a show of hands, with all voting in favor, except for one who abstained.

There was a discussion of the scope. The whiteboard was used to list topics to be considered for inclusion. A straw poll was held, which included all people in the room (alternates and observers), but the chairmen and secretary did not vote:

Topic	Yes	No	Yes, but in an annex
Cable ampacities	10	0	0
Voltage drop considerations	12	0	0
Cable installation regulations/requirements	15	0	0
Internal busing of equipment that distributes power to other devices while not controlling them or that functions as a feed-through	15	0	0
Temperature corrections	4		10
Motion picture studio distribution system topologies	8	0	4
Connectors	14	0	1
Safety practices	15	0	0
Use of Ts and Ys	15	0	0
Cable termination	15	0	0
Power distribution system design	13	0	1
Overcurrent protection	13	1	1
Paralleling	15	0	0
Allowable cable types	15	0	0

Steve Terry moved that the scope be changed to read: "This document shall encompass the selection, installation, and safe use of single-conductor portable power feeder cable systems used in the entertainment and live-event industries with a portable power distribution system operating at less than 601 volts nominal." The motion was seconded. The motion was approved by a show of hands. This vote and the following votes were restricted to voting members.

Steve Terry moved that all voltage drop and temperature correction tables be moved into annexes. The motion was seconded. The motion was approved by a show of hands.

Steve Terry moved that items that are in conflict with the National Electrical Code (NFPA 70) be removed or changed to conform to the National Electrical Code. The motion was seconded. The motion was discussed. Eddie Kramer listed several common industry practices that do not conform to the requirements of the NEC, but that have excellent safety records. Steve Terry and Ken Vannice suggested that the NEC needs to be changed if there are conflicts between it and what is considered common, good practice in the industry. By show of hands, the vote was seven in favor and seven against, with no abstentions. (Jerry Gorrell was now present.) The motion failed.

Steve Terry moved that arguments be provided in the document for the unusual recommendations in the document, particularly those in conflict with the NEC. The motion was seconded. There was discussion. The motion carried by a show of hands, with 12 voting in favor, 1 against, and 1 abstention.

Kramer said that the revised document would be ready for the January meeting. He might be able to deliver a document for the November meeting, but that was not assured because of his work schedule and the amount of work needing to be done on the document.

Ken Vannice urged people to send comments to Eddie Kramer and Roger Lattin, as soon as possible, and no later than May 1.

#### **7.4 BSR E1.19 GFCI task group**

Bob Luther reported on the work that has been done.

There was a discussion of equipment maintenance and earth-leakage testing. Vannice reported that UL 508, Standard for Industrial Control Equipment, has the requirement that anything that is cord and plug connected needs to be leakage tested.

Luther outlined what he would have ready for the next meeting. To facilitate this, he requested comments from the task group be sent to him by April 17.

#### **8 New business**

None.

#### **9 Other business**

Richard Thompson said that the UL General Information for Electrical Equipment (the "white book") is handy to have because AHJs will use it to see to what standards equipment must be tested.

Roger Lattin reminded people of the studio tour after the CPWG meeting tomorrow. Attendees need closed-toed shoes and a valid picture ID to enter the Paramount studios.

#### **10 Changes to observer status with third meeting missed**

None.

#### **11 Schedule for future meetings**

Vannice announced that the next working group meeting is scheduled for Friday, July 16, from 8:00 to noon, at the Dallas/Ft. Worth Airport Marriott South in Ft. Worth, Texas.

#### **12 Adjournment**

Mitch Hefter moved that the meeting adjourn. The motion was seconded. The motion was approved by acclamation. Ken Vannice declared the meeting adjourned at 11:21.

## Working Group Membership and Contact Information as of 27 April 2004

Name	Company	Representing (This is the primary sort field.)	Vot. stat.	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
Jeff deRecat	Advanced Devices, Inc.	Advanced Devices, Inc.	P	MP
Bud Toly	Advanced Devices, Inc.	Advanced Devices, Inc.	A	MP
Kenny Delahoussaye	Aggreko	Aggreko LLC	P	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
Lowell R. Nutter	Array Connector Corp.	Array Connector Corp.	O	MP
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Lee J. Bloch	Blue Sky Design, Ltd.	Blue Sky Design, Ltd.	O	G
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	P	MP
Jeffrey Measley	Crouse-Hinds Molded Products	Cooper Crouse-Hinds Molded Products Inc.	O	MP
Stewart Cox	Crouse-Hinds Molded Products	Cooper Crouse-Hinds Molded Products Inc.	O	MP
Ron Dahlquist	Dadco	Dadco	O	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
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
Richard Thornton Brown	Zero 88 Ltd.	i Light Group PLC	O	MP
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
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	O	MP
Don Gray	Kohler Event Services	Kohler Co.	O	U
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
William L. Maiman	Lex Products Corp.	Lex Products Corp.	A	CP
George Long	Like A Duck Productions	Like A Duck Productions	O	U
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Jim Holladay	Luxence	Luxence	O	G
Phil Fram	Marinco	Marinco	O	MP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Paul Menetrey	Menetrey Associates	Menetrey Associates	P	G
Michael Klein	Metropolitan Engineering, Inc.	Metropolitan Engineering, Inc.	P	G
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Chris Guptill	Ohlone College	Ohlone College	O	U
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
William N. Masten	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	P	CP
Richard A. Prey	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	A	CP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
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
Andy Topinka	Technical Group Services, Inc.	Thea & Schoen, Inc.	O	G

Name	Company	Representing (This is the primary sort field.)	Vot. stat.	Int. cat.
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Richard D. Thompson	Thompson Associates	Thompson Associates	P	G
Brian Dowd	TMB (NJ)	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Richard Wolpert	Union Connector Company	Union Connector Company	O	CP
Mitch Hefter	Entertainment Technology (Genlyte Thomas Group)	USITT	P	U
Eckart Steffens	SOUNDLIGHT	VPLT	O	G

**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