

Minutes
Electrical Power Working Group
Friday 25 January 2013
D/FW Marriott Solana
Westlake, TX

Chairmen: Mitch Hefter and Ken Vannice

Recording Secretary: Karl G. Ruling; PLASA

Members Attending:

Nathan Leonard; Bender Group (Bender GmbH & Co. KG); P; MP
Don Earl; Earl Girls, Inc.; O; DR
Art Wanuch; Entertainment Electrical Safety Committee of Ontario; A; G
Ed Garstkiewicz; Harting Inc., North America (Harting KGAA); P; G
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
Alan M. Rowe; I.A.T.S.E. Local 728; A; U
Ken Vannice; Leviton Manufacturing Co., Inc.; P; MP
Tyrone Mellon, Jr.; Lex Products Corp.; A; CP
Alex Yoon; Mole-Richardson Co.; A; CP
Michael Lay; Philips Color Kinetics (Royal Philips Electronics); P; MP
Jerry Gorrell; Theatre Safety Programs; P; U
Mitch Hefter; Mitch Hefter; USITT; P; U

Visitors:

Erin Grabe; PLASA

1 Opening remarks

The meeting was called to order by Mitch Hefter at 9:05. He welcomed all to Texas.

2 Attendance and membership

2.1 Introduction of those present and taking attendance

Introductions took place counter clockwise around the table as a hot pink sign-in sheet was passed in the opposite direction. clockwise around the table.

2.2 Determination of quorum

Mitch Hefter asked for the voters present to raise a hand. He counted the raised hands and then announced that business could be conducted.

2.3 Recognition of alternate voting members

Alternate voting members were recognized.

2.4 Requirements for membership

Mitch Hefter reminded the assembly that membership is open to all who are affected by the work of the group. Voters who would be in the designer or dealer/rental company interest category in particular are encouraged to become members. Voting members are required to attend meetings and to vote on letter ballots. Voting members and their alternates may not miss three consecutive meetings or three consecutive letter ballots without a loss of voting status.

2.5 Changes to observer status

Members who have missed the previous two meetings and who will not have met the minimum attendance requirement for voting if this meeting is missed:

Jeff deRecat and William Drake; Actuant Corporation; Mass-market Producers
 George Long; Aggreko; Dealer/Rental company
 Ron Bonner; PLASA EU; General interest

These people were not present. Mitch Hefter announced that they are now observers.

2.6 Processing of new membership requests

As of 7 January 2013, the following application had been logged:

Robert Timmerman; Color Kinetics (Royal Philips Electronics); Observer; Mass-market Producer
 Jeremy Day; Color Kinetics (Royal Philips Electronics); Observer; Mass-market Producer

Eddie Kramer moved that the applications be accepted. The motion was seconded, and then approved by a show of hands.

2.7 Consensus Body

The full consensus body during this meeting, including those not present, was:

Name	Representing	Voting Status	Interest Category
James Davey	AC Power Distribution, Inc.	P	CP
Greg Mayberry	AC Power Distribution, Inc.	A	CP
Richard Cadena	Academy of Production Technology	P	G
Wendy Holt	Alliance of Motion Picture and Television Producers	P	G
Nathan Leonard	Bender GmbH & Co., KG	P	MP
Joe Boardman	Bender GmbH & Co., KG	A	MP
Torsten Gruhn	Bender GmbH & Co., KG	A	MP
Stephen (Steve) Brock	Bender GmbH & Co., KG	A	MP
Larry Shoeneman	Designlab Chicago, Inc.	P	DR
Jody Williquette	Electrivot, Inc.	P	CP
Steve Terry	Electronic Theatre Controls, Inc.	P	CP
Ian Foulds	Entertainment Electrical Safety Committee of Ontario	P	G
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	A	G
Ed Garstkiewicz	Harting KGAA	P	G
Howard Forryan	Harting KGAA	A	G
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	A	U
R. Bruce Prochal	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	I.A.T.S.E. Local 728	A	U
Keith S. Woods	I.A.T.S.E. Local 891	P	U
Ken Vannice	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	A	MP
Bob Luther	Lex Products Corp.	P	CP
Tyrone Mellon, Jr.	Lex Products Corp.	A	CP

Name	Representing	Voting Status	Interest Category
Sean Sloat	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	P	U
Brian Eustace	Mole-Richardson Co.	P	CP
Alex Yoon	Mole-Richardson Co.	A	CP
Vincent J. Cannavale	Motion Laboratories	P	CP
Peter Herrmann	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	A	CP
Michael Lay	Royal Philips Electronics	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Mitch Hefter	USITT	P	U
Total Votes Possible		19	
Votes by Interest Category		6	CP
		1	DR
		4	G
		3	MP
		5	U

3 Approval of the minutes from the previous meeting

See the draft minutes of the 19 October 2012 meeting, *EPmin10-2012.pdf*

Mitch Hefter asked for a motion to approve the minutes or amend them. Roger Lattin moved that the minutes be approve as written. The motion was seconded, then approved by a show of hands.

4 Reading of the call for patents

Ken Vannice read the following statement aloud to the assembly:

"PLASA intends not to publish any standard that contains protected intellectual property, unless that information can be licensed by anyone for a reasonable fee. PLASA uses a process of open patent and copyright disclosures to implement its intent. PLASA 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."

Nothing was revealed.

5 Reading of the anti-trust statement

Ken Vannice read the following statement aloud to the assembly:

"The PLASA Board of Directors, the Technical Standards Council, 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 PLASA chairman immediately.

"PLASA 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."

No restraint of trade issues were reported.

6 Approval of agenda

Roger Lattin asked for a discussion of a new single-pole wiring device.

Mitch Heffer asked for an update on 1691, an update on IEC relays, and an update on branch circuits.

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

7 Old business & task group reports

7.1 EMC task group

Vannice read his report on IEEE P1836/1837:

On December 12, 2012, the Association of Home Appliance Manufacturers; Air-conditioning, Heating & Refrigeration Institute; Heating, Refrigeration & Air-conditioning of Canada; Electro-Federation of Canada; and National Electrical Manufacturers Association wrote a letter to the Canadian Electricity Association expression their concern as to the lack of root cause analysis of the Canadian utilities proposals to cover almost everything.

On December 21, 2012, the CEA responded. In their opinion they have done everything necessary to support their position. It is the manufacturers that have done nothing to support theirs. The letter includes statements like "it will bring an end the harmonization process" and "We remain cautiously optimistic that your letter of December 12th does not represent your final position."

As agreed a draft of the North American version of IEC 61000-3-2 has been prepared for presentation. The scope includes:

This standard deals with the limitation of harmonic currents from equipment installed in a residential environment injected into the public low-voltage distribution system.

This standard is applicable to electrical and electronic equipment having an input current up to and including 50 A per phase, and intended to be directly connected to public low-voltage distribution systems.

It includes two classes of equipment only:

Class C – lighting equipment

Class E – a list of major offenders

The next meeting is January 30 & 31, 2013 at NEMA headquarters in Rosslyn, VA. Stay tuned.

7.2 ANSI E1.16-2002 (R2012)

It's published. Any news?

No news or other action.

7.3 BSR E1.19 – 201x, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry

Report on public review of revised section 4. Review closes EOD 14 January 2013.

Karl Ruling reported that no comments had been received. Eddie Kramer moved that BSR E1.19 be accepted as an American National Standard. The motion was seconded. The question will be decided by letter ballot.

7.4 ANSI E1.24 - 2012, Pin Connectors

Any news or action required?

No news or other action.

7.5 ANSI E1.32 - 2012, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires

It's published. Any news or action required?

No news or other action.

7.6 UL Stage and Studio Luminaire standard

Task group report on revision proposals. From the March minutes:

"Steve Terry said that the big need is for a reasonable leakage current standard in UL 1573. He doesn't have the time to develop this, but that this issue would affect a number of automated luminaire and LED luminaire manufacturers. He identified a few: Martin Professional, Altman Stage Lighting, Philips, High End Systems (Barco), Mole-Richardson, German Light Products, Robe, Clay Paky, and Elation.

"Steve Terry moved that we draft a letter and send it to identified people at these organizations to ask them to work on a 1573 revision. The motion was seconded and then approved with a unanimous show of hands.

"Terry said he will identify the senior person at each of these companies to whom the letter should be sent."

No news.

Ken Vannice talked about the CSA luminaire product standard. He is on that committee. Ken said the the CSA standard does not cover LEDs or moving lights and is outdated. How can it be updated?

Art Wanuch was charged by Mitch Hefter with seeing if the professional lighting community in Canada has any interest in updating the CSA standard for stage and studio luminaires.

Mitch Hefter summarized the issues:

- Leakage current
- SSL requirements applied to 1573
- Changes are needed to the Canadian product standard to harmonize with the US standard and manufacturing practices.

Eddie Kramer moved that the project be removed from the working group's agenda as a standing item. The motion was seconded. There was discussion. The motion was approved with a show of hands.

7.7 Grounding and Bonding on Portable Structures and Electrical Systems

Task group report. From the October draft minutes:

Richard Cadena said the task group is making progress and may have something for the January meeting.

Art Wanuch reported that the task group had produced four working documents:

- 1) an extract from the NEC of what is required
- 2) a best practices document with examples of what to do and what not to do (largely pictorial)
- 3) what earth impedances to expect

4) two part document: (a) grounding practices with generators and (b) bonding practices.

Wanuch said that he thought a project update would be available in March with a complete document for the group to look at in July.

7.8 A Canadian E1.18

From the October draft minutes:

Art Wanuch reported that a draft of a shorter Canadian document based on the larger, US-centric BSR E1.18 exists. He feels that it would be useful to the industry and should be published in some form.

The Canadian document had been sent to the working group in July, but no action was taken on it at the July 2012 meeting. The consensus of the working group was that it should be considered. Karl

Ruling will send it to the working group for consideration at the January meeting.

See E1-18_CanadianWordingDraftRev_12.pdf.

There was discussion of what the group might do with this. Options include making: a Canadian guidance document, an ANS for Canadian practices, a guidance document for Canada and USA, an ANS for Canada and the USA, a PLASA standard for Canada, a PLASA standard for Canada and the USA.

Eddie Kramer moved that Art Wanuch and the Entertainment Electrical Safety Committee of Ontario continue work on the document for Canadian work practices and present it again to the EPWG for further consideration. The motion was seconded. The motion was approved with a show of hands.

7.9 CEC and NEC harmonization

From the October draft minutes:

Steve Terry said he'd recently bought a copy of the CEC and read it. He asked if it would be worthwhile to try to harmonize the entertainment industry sections between it and the NEC? What is the process if we want to do this? Why should there be substantive differences between the two documents?

Art Wanuch, who is on the CEC section 66 committee (amusement parks, midways, carnivals, film and TV sets, TV remote broadcasting locations, and traveling shows) committee, explained the process.

(Section 44 is theatre installations.) He noted that the disparities are not always a big problem, but the theatre section of the CEC is antiquated.

Any report or action?

Eddie Kramer says that there is ongoing CEC/NEC harmonization. We don't pay attention to much of this work, but it has resulted in harmonization of the wire table. He said that 520 and 530 are outdated. Mitch Hefter said that the CEC sections 44 and 66 are also outdated.

There were no motions or further action. Hefter suggested it not be on the agenda for the next meeting.

7.10 CSA and UL harmonization

From the October draft minutes:

Steve Terry said it would be good to harmonize UL 1573 and the CSA stage and studio luminaire standard. He asked Art Wanuch how we can propose changes. Art Wanuch said he would find out.

Any report or action?

Ken Vannice said that he is on the CSA stage and studio luminaire standard committee. If people have questions or comments, talk to him.

There was no other action.

8 New business

None.

9 Other business

9.1 Single-pole wiring devices

Roger Lattin talked about single-pole boot lubricants and a three-in, three-out connector for paralleling feeder cable conductors..

9.2 1691 report

It's published with the strain relief problem resolved, reported Heffer.

9.3 Update on IEC relay standards

Ken Vannice briefed the group on the following:

UL announced the transfer of ANSI/UL 508 products to ANSI/UL 60947-4-1A. When queried, UL stated that only contactors and relays would be transferred. The balance of products, like dimmers and relay panels, would remain under UL 508. UL would be transferring all contactors and relays without further test and evaluation because the standards are equivalent due to numerous US deviations. This is a done deal and is in process.

It was noted that ANSI/UL 60947-4-1A was really applicable to motor control contactors and not control relays. An ad hoc committee, the International Harmonization Committee 61810-1, was formed heavily supported by UL to device a path for the control relays to take. The charge was to draft a US version of 61810-1 by adding US deviations to IEC 61810-1 so that it was equal to ANSI/UL 508. Once this process seemed to be proceeding well UL stopped the process of moving the control relays out of ANSI/UL 508 and proceeded with only the motor control contactors. The US version of 61810-1 is close to being drafted.

During the process in 2 above the plans were discussed with IEC TC 94, under whose jurisdiction IEC 61810-1 falls. This was accomplished by a member of both groups. They were amenable to changing the IEC standard to include several of the US concepts the IHC has proposed. The US document has been put on the back burner until we see what happens on the IEC level. If it goes well we can reduce the number of US deviations. If not we will leave them. Anyone who wants to weigh in on the IEC changes needs to contact the US TAG to TC 94. The IHC is feeding ideas into TC24. Anything negative that happens in the IEC can be reversed with US deviations.

Now that the US version of the IEC 61810-1 is close to completion it needs a vehicle for adoption as the IHC is just an ad hoc committee. UL is forming what will probably be called STP 61810 and Warren Casper will be its leader. This is where the public review of what will become UL 61810-1 will occur. They will be looking for user members, which in this case, may include manufacturers of products employing relays. CSA is watching what is going on but so far is not participating.

Note: There has been a discussion as to what is a contactor and what is a relay. UL's unofficial opinion is whether a short-circuit test is required per UL 508. Section 50.1.3 specifies when a short-circuit test is required. If it is required the device is a contactor. If not the device is a relay.

9.4 Update on Branch Circuits

Other UL BCELTS Task Group, report from Steve Terry given by Mitch Heffer:

The UL task group for Branch Circuit Emergency Lighting Transfer Switches (BCELTS) had two meetings and has crafted a CSDS proposal to UL1008 to include the requirements for a new device—the BCELTS. Basically, this will mean that:

- A device not exceeding 20A may transfer an emergency lighting load between normal power and “continuously available” emergency power.
- It must meet all the material requirements of UL1008, but
- It need not be “mechanically held”—which is a current requirement

Assuming the CSDS proposal passes, there will also need to be changes to the 2017 NEC to allow this device.

10 Schedule for future meetings

The next working group meeting is scheduled for 20 March 2013, from 09:00 to noon at the Hyatt Regency Milwaukee.

Roger Lattin pointed out that the July meeting dates conflict with the IATSE quadrennial meetings in Boston.

11 Adjournment

Jerry Gorrell moved that the meeting adjourn. The motion was seconded and approved by a show of hands. Mitch Hefter declared the meeting adjourned at 11:15a.m.

Working Group Membership and Contact Information as of 21 February 2013

Name	Company	Representing	Voting Status	Int. Cat.
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Ron Bonner	PLASA Technical Resources Office	PLASA EU	O	U
Eric Bouchard	Cirque du Soliel	Cirque du Soliel	O	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	P	U
Stephen (Steve) Brock	Bender ET Inc.	Bender GmbH & Co. KG	A	MP
André Broucke	André Broucke	André Broucke	O	G
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	O	CP
Richard Cadena	Academy of Production Technology	Academy of Production Technology	P	G
Vincent J. Cannavale	Motion Laboratories	Motion Laboratories	P	CP
Michael J. Carnaby	Mikan Theatricals	Mikan Theatricals	O	DR
Edward R. Condit	Edward R. Condit	Edward R. Condit	O	U
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
Jeremy Day	Philips Color Kinetics	Royal Philips Electronics	O	MP
Kenny Delahoussaye	Aggreko	Aggreko	O	DR
Jeff deRecat	Marinco	Actuant Corporation	O	MP
Jim Digby	The Collaborative Endeavor Group	Linkin Park Touring/The Collective	O	U
William Drake	Marinco	Actuant Corporation	O	MP
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Steve DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
James Eade	PLASA	PLASA EU	O	G
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	O	DR
Brian Eustace	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	O	MP
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Howard Forryan	Harting Ltd.	Harting KGAA	A	G

Name	Company	Representing	Voting Status	Int. Cat.
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G
Phillip M. Gallo	TMB	TMB	O	DR
Ed Garstkiewicz	Harting Inc., North America	Harting KGAA	P	G
Richard B. Glickman	Gliconen Corporation	Rosco Laboratories	O	MP
Reuben Goldberg	Technic Services	Technic Services	O	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Torsten Gruhn	Bender Inc.	Bender GmbH & Co. KG	A	MP
Mitch Hefter	Mitch Hefter	USITT	P	U
Peter Herrmann	Motion Laboratories	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	Motion Laboratories	A	CP
Jim Holladay	Luxence	Luxence	O	G
Wendy Holt	AMPTP/CSATF	Alliance of Motion Picture and Television Producers	P	G
Simon Hunt	IATSE Local 891	IATSE Local 891	O	U
Richard L. Eberth_Jr.	North Shore Safety	Airpax Corporation	O	MP
Tyrone Mellon_Jr.	Lex Products Corp.	Lex Products Corp.	A	CP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	O	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Charles (Chuck) Kurten	Underwriters Laboratories, Inc.	Underwriters Laboratories, Inc.	O	G
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Michael Lay	Philips Color Kinetics	Royal Philips Electronics	P	MP
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	DR
Nathan Leonard	Bender Group	Bender GmbH & Co. KG	P	MP
Dave Lester	Clair Global	Clair Global	O	U
George Long	Aggreko Event Services	Aggreko	O	DR
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP
William L. Maiman	William L. Maiman	William L. Maiman	O	U
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	MP
Greg Mayberry	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP

Name	Company	Representing	Voting Status	Int. Cat.
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	O	MP
David Murray	IPC Resistors Inc.	IPC Resistors Inc.	O	CP
Kevin O'Brien	Bestek Lighting & Staging	Bestek Lighting & Staging	O	U
Natti Pierce-Thomson	North American Theatre Technology	North American Theatre Technology	O	U
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	Elizabeth Pittsley	O	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Jared Saltzman	Jared Saltzman	Jared Saltzman	O	U
Larry Schoeneman	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	P	DR
Ford Sellers	Cornell University	Cornell University	O	U
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Sean Sloat	Lex Products Corp.	Lex Products Corp.	A	CP
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	O	G
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Robert Timmerman	Philips Color Kinetics	Royal Philips Electronics	O	MP
Eric Tishman	Rosco Laboratories	Rosco Laboratories	O	MP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	O	U
Ken Vannice	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	P	MP
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	Entertainment Electrical Safety Committee of Ontario	A	G
Colin Waters	TMB	TMB	O	DR
Jody Williquette	Electrivers, Inc.	Electrivers, Inc.	P	CP
Richard Wolpert	Union Connector Company (MO)	Union Connector Company	O	CP
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Alex Yoon	Mole-Richardson Co.	Mole-Richardson Co.	A	CP

Voting Status		Interest Category	
P	Principal voting member	CP	Custom-market Producer
A	Alternate voting member	MP	Mass-market Producer

I Individual voting member	DE DEsigner
O Observer non-voting member	DR Dealer/Rental company
	U User
	G General interest