

Minutes
Electrical Power Working Group
Wednesday, 16 March 2016
Salt Lake City Downtown Marriott at City Creek
Salt Lake City, UT

Presiding co-chairpersons:

Mitch Hefter; USITT; P; U
Ken Vannice; Ken Vannice LLC; I; G

Recording secretaries:

Erin Grabe; ESTA
Karl G. Ruling; ESTA

Members in attendance:

Matthew Antonucci; Contract Services Administration Trust Fund; P; U
Justin Bennett; University of the Incarnate Word; P; U
James Davey; AC Power Distribution Inc.; P; CP
Rodger Dean; R. Dean Lighting Limited; Entertainment Electrical Safety Committee of Ontario; A; G
Jerry Gorrell; Theatre Safety Programs; P; U
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
Michael Lay; Philips Color Kinetics; Royal Philips; P; MP
Tyrone Mellon, Jr.; Lex Products; Lex TM3; P; CP
Darryl Ross; TMB; P; MP
Alan M. Rowe; I.A.T.S.E. Local 728; A; U
Larry Schoeneman; DesignLab Chicago, Inc.; P; DR
Steve Terry; Electronic Theatre Controls, Inc.; P; MP
Stephen Vanciel; IATSE Local 631; P; U
Art Wanuch; Entertainment Electrical Safety Committee of Ontario; P; G
Keith S. Woods; Lakhri Impressions Ltd.; IATSE Local 891; P; U

Visitors:

Jerald Kraft; JTH Lighting Alliance

1 Opening remarks

Mitch Hefter called the meeting to order at 14:05. He noted the exits, should there be a need to evacuate.

2 Attendance and membership

2.1 Introduction of those present and taking attendance

A yellow sign-in sheet was passed counterclockwise while self-introductions took place in the opposite direction.

2.2 Determination of quorum

Mitch Hefter asked for a show of hands of the voters present. Including the voters joining remotely, he announced that more than a dozen voters were present.

2.3 Recognition of alternate voting members

2.4 Requirements for membership, *new*

The following statement was read aloud to the assembly by Mitch Hefter:

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. There is an annual \$100 participation fee for all 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

There were no voting members in jeopardy of a change to Observer status due to lack of attendance.

2.6 Processing of new and other membership requests

As of 16 March 2016, the following request was received.

Darryl Ross; TMB; P; MP

[See 9.1 for Nehad El-Sherif; I; G]

Eddie Kramer moved to approve the application. The motion was seconded and approved with a unanimous voice vote.

2.7 Consensus body

The full consensus body of this group during of this meeting, including those not present, until item 9.1, was:

Name	Representing	Voting status	Interest category
James Eade	ABTT	P	G
James Davey	AC Power Distribution Inc.	P	CP
George Long	Aggreko	P	DR
Matthew Antonucci	Contract Services Administration Trust Fund	P	U
Heather Rowe	Contract Services Administration Trust Fund	A	U
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Don Earl	Earl Girls, Inc.	P	DR
Steve Terry	Electronic Theatre Controls, Inc.	P	MP
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	I	U
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	P	G
Ian Foulds	Entertainment Electrical Safety Committee of Ontario	A	G
Rodger Dean	Entertainment Electrical Safety Committee of Ontario	A	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
Stephen Vanciel	IATSE Local 631	P	U
Keith S. Woods	IATSE Local 891	P	U
Ken Vannice	Ken Vannice LLC	I	G
Tyrone Mellon_Jr.	Lex TM3	P	CP
Bob Luther	Lex TM3	A	CP
Brian Eustace	Mole-Richardson Co.	P	CP
Michael Lay	Royal Philips	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Darryl Ross	TMB	P	MP
Justin Bennett	University of the Incarnate Word	P	U
Mitch Hefter	USITT	P	U
Jeff T. Miller	Walt Disney Company	P	U

Name	Representing	Voting status	Interest category
		22	

Votes by interest categories			
Custom-market producer		CP	3
Designer		DE	0
Dealer or rental company		DR	3
General interest		G	3
Mass-market producer		MP	3
User		U	10

3 Approval of the minutes from the previous meeting

See *EPmin01-2016.pdf*.

Eddie Kramer suggested edits to item 8.5 to the consensus of the group, see *EPmin01-2016r1.pdf*. The motion was seconded by Steve Terry and approved by voice vote with one abstention.

4 Reading of the call for patents

The following statement was read aloud to the assembly by Mitch Heftner:

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, patent application, 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

The following statement was read aloud to the assembly by Mitch Heftner:

ESTA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all ESTA events, all discussions will be limited to those subjects that are permitted by the antitrust laws. All members should refrain from any discussion or mention of competitively sensitive subjects such as the current or future prices charged for any member product or services, current or future marketing plans or strategies, and current or future costs, including employee salaries. There also must be no agreement on the suppliers or customers that members will do business with or the markets in which members will conduct business.

Violations of the antitrust laws can have serious consequences. If you have any questions or concerns about anything that is discussed at a ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

A copy of the pamphlet was held up by Erin Grabe. No concerns were raised.

6 Approval of agenda

Steve Terry added an item to discuss proposed CEC changes and an item to discuss UL 8750, LED driver activities.

Roger Lattin offered a show-and-tell after the meeting.

Steve Vanciel made a motion to approve the agenda as amended. The motion was seconded and approved by a unanimous voice vote.

7 Other business and announcements

8 Old business - task group reports

8.1 ANSI E1.16-2002 (R2012) Configuration Standard for Metal Halide Ballast Power Cables (Revision, reaffirmation, or withdrawal by 2017)
No news or action at this time.

8.2 ANSI E1.19 – 2015, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry (Revision, reaffirmation, or withdrawal by 2020)
No news or action at this time.

8.3 ANSI E1.24 - 2012, pin connectors (Revision, reaffirmation, or withdrawal by 2017)
No news or action at this time.

8.4 ANSI E1.32 - 2012, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires (Revision, reaffirmation, or withdrawal by 2017)
Mitch Hefter suggested that action be taken at the time of the LDI meeting.

8.5 BSR E1.51—A Canadian E1.18

Steve Terry moved that we waive any two-week rule related to the supporting documents. The motion was seconded. After some discussion, Steve Terry withdrew his motion on the grounds that these documents were not being voted upon.

There was discussion of the documents anyway. The most contentious part of the discussion was whether all affected parties must be involved in a standard's development by conducting extensive outreach or whether it is adequate if materially affected parties have had a reasonable opportunity to become involved by the announcement of the project, the open public review of the project, and the outreach already done. A second point of disagreement and discussion was whether the topic is adequately covered in existing documents. Further discussion was about the utility of having standards as reference documents.

Steve Terry moved that we abandon the project. The motion was seconded by Keith Woods. The matter had already been discussed, and the vote was taken by roll-call ballot. The motion failed with 10 No votes, 2 Yes votes, and 3 abstentions.

				Yes	No	Abs tain
James Eade	ABTT	P	G	0	0	0
James Davey	AC Power Distribution Inc.	P	CP		1	
George Long	Aggreko	P	DR			
Matthew Antonucci	Contract Services Administration Trust Fund	P	U			1
Heather Rowe	Contract Services Administration Trust Fund	A	U			
Larry Schoeneman	DesignLab Chicago Inc.	P	DR			
Don Earl	Earl Girls Inc.	P	DR			
Steve Terry	Electronic Theatre Controls Inc.	P	MP		1	

				Yes	No	Abs tain
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	I	U			
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	P	G		1	
Ian Foulds	Entertainment Electrical Safety Committee of Ontario	A	G			
Rodger Dean	Entertainment Electrical Safety Committee of Ontario	A	G			
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U	1		
Roger Lattin	I.A.T.S.E. Local 728	P	U			1
Alan M. Rowe	I.A.T.S.E. Local 728	A	U			
Stephen Vanciel	IATSE Local 631	P	U		1	
Keith S. Woods	IATSE Local 891	P	U	1		
Ken Vannice	Ken Vannice LLC	I	G		1	
Tyrone Mellon_Jr.	Lex TM3	P	CP		1	
Bob Luther	Lex TM3	A	CP			
Brian Eustace	Mole-Richardson Co.	P	CP			
Michael Lay	Royal Philips	P	MP		1	
Jerry Gorrell	Theatre Safety Programs	P	U		1	
Darryl Ross	TMB	P	MP			1
Justin Bennett	University of the Incarnate Word	P	U		1	
Mitch Hefter	USITT	P	U		1	
Jeff T. Miller	Walt Disney Company	P	U			
	TOTALS			2	10	3

Mitch Hefter explained that comment resolutions are yet due and that the working group will likely need to meet some time in the summer.

8.6 A proposal about Portable Power Distribution Equipment for Canada

Rodger Dean reported that the document is not close to completion. It was planned to be done last Friday, but it still needs some work. The public review will probably be started by July and notification will be given.

It is not intended to harmonize with UL 1640, Rodger Dean reported when Steve Terry asked. He went on to say that harmonization was not part of the charge and that it's a broad document that even covers mining equipment.

8.7 BSR E1.53, Overhead mounting of luminaires, lighting accessories, and other portable devices: specification and practice

The draft standard is currently in public review through 2 May, reported Karl Ruling. All who voted for the public review voted Yes.

8.8 BSR E1.58, Electrical Safety Standard for Portable Stage and Studio Equipment Used Outdoors

Steve Vanciel said that he and the task group are interested in comments on the draft that was submitted. Do people have comments to offer today, he asked? Roger Lattin praised the document's direction. There was further discussion, with the consensus being that we send comments and suggested language to Steve Vanciel.

Steve Vanciel said that he would love to get feedback prior to offering a progress report in July, with the intention of approving a draft document for public review at LDI meeting.

8.9 Special Purpose GFCIs (SPGFCI)

There was discussion of the second draft of NEC and the proposed references to special purpose GFCIs. Nehad El-Sherif reported on the acceptance of a proposal whereby large circuits may use assured grounding where a GFCI may not be practical. Ty Mellon added that this was under article 590.

9 New business

9.1 Membership

Nehad El-Sherif applied for membership as an Individual voting member representing himself. Steve Terry moved that his application be accepted. The motion passed by unanimous voice vote.

The consensus body was thus:

Votes by interest categories		
Custom-market producer	CP	3
Designer	DE	0
Dealer or rental company	DR	3
General interest	G	4
Mass-market producer	MP	2
User	U	10
	Total	22

9.2 CEC changes to single-conductor rules

There was discussion of the proposed changes to single-conductor rules in the CEC as follows:

C22.1, Amendment - Canadian Electrical Code, Part I, Subject No. 4068, Deletion of Subrules 66-456(7) and (8). (Amendment)

Delete Subrules 66-456(7) and (8)

66-456 Single-conductor cable connections (see Appendix I)

(1) Connections to single-conductor cables shall not be accessible to unqualified persons.

(2) Plug-in connectors for single-conductor cables shall

(a) be of a locking type;

(b) incorporate a mechanical interlock to prevent wrong connections or be colour-coded; and

(c) have all connections that are not in use covered with a seal or cap that is acceptable.

(3) Single-conductor cables shall not be connected in parallel except as a means of reducing voltage drop, and cables so connected shall have overcurrent protection sized to protect the cable having the smallest ampacity as though it were used alone.

(4) Tapping tees, paralleling tees, or rigid turnarounds shall

(a) not be directly connected to any single-pin plug or connector rigidly housed or mounted in a multiple connection device;

(b) not be directly connected to a panel mount inlet or outlet or to a multiple connection device with a cable less than 2 m in length; and

(c) be arranged so that no mechanical strain is imposed on the connection.

(5) In-line single-conductor cable connections forming part of a circuit of more than 150 volts-to-ground shall be mechanically protected by enclosing the connector(s) in a lockable, non-conductive box or similar enclosure.

(6) The lockable enclosure referred to in Subrule (5) shall

(a) be labelled on the outside, in a conspicuous, legible, and permanent manner, identifying the supply voltage of the circuit; and

(b) be acceptable.

~~(7) No more than one tapping or parallel tee per conductor shall be used at any one point in a power distribution system.~~

~~(8) Any distribution splitting or combining devices requiring more than two load connections per conductor shall use a single, approved multiple connection device at that point.~~

There was an argument about how harmonic currents are dealt with in neutral conductors. Phase control dimmers can result in neutral currents that exceed those in any of the ungrounded power conductors, so how are the neutral conductors protected from overcurrents if they cannot be run in parallel? Keith Woods defended this rule, saying that none of the distribution equipment in BC has over-sized neutrals, so there is no benefit to doubling the neutral portable cables. Steve Terry argued that the cables are operated at their limits, and so need this protection. Furthermore, the adequacy or inadequacy of the ampacity of conductors inside the distribution equipment is irrelevant to concerns about the portable cable.

9.3 UL 8750 preliminary review about LED drivers with control circuits.

The comment period has been extended to 28 March, reported Steve Terry. Ty Mellon clarified that, if you are not a member of the STP, commenting doesn't cost anything, except for the time required to email the necessary people. The contact information can be shared.

9.4 E1.51 Task Group status

Matt Antonucci asked about being involved with the E1.51 task group and was so appointed by Mitch Hefter.

10 Other business

10.1 Above & Beyond Awards

Mitch Hefter reminded the group that the nomination site is open year-round at http://tsp.esta.org/tsp/news/award_recipients.html. Nominate a member who has been particularly helpful, diligent, or hard-working.

10.2 Other other business

11 Schedule for future meetings

Mitch Hefter told the group to see <http://tsp.esta.org/tsp/meetings/index.php> for the most current schedule.

11.1 July 2016

Mitch Hefter reminded the group that there is no face-to-face meeting being held in New York, but that a meeting would be scheduled via WebEx about that same time.

11.2 October 2016

Mitch Hefter reminded the group that the October 2016 meetings will be at the Westgate Las Vegas Resort and Casino the week of October 17, in conjunction with the LDI Show.

12 Adjournment

Eddie Kramer moved to adjourn. The motion was seconded and approved by unanimous voice vote. Mitch Hefter declared the meeting adjourned at 4:44 p.m. Mountain Time.

Name	Company	Representing	Voting status	Int cat
Matthew Antonucci	Contract Services Administration Trust Fund	Contract Services Administration Trust Fund	P	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Justin Bennett	University of the Incarnate Word	University of the Incarnate Word	P	U
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Ron Bonner	PLASA Technical Resources Office	PLASA EU	O	U
Louis Bradfield	Louis Bradfield	Louis Bradfield	O	U
Richard Cadena	Academy of Production Technology	Academy of Production Technology	O	G
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
Jeremy Day	Lumenpulse Lighting Inc.	Lumenpulse Lighting Inc.	O	MP
Rodger Dean	R. Dean Lighting Limited	Entertainment Electrical Safety Committee of Ontario	A	G
Jim Digby	The Collaborative Endeavor Group	Linkin Park Touring/The Collective	O	U
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
James Eade	ABTT	ABTT	P	G
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	P	DR
Nehad El-Sherif	Nehad El-Sherif	Nehad El-Sherif	I	G
Brian Eustace	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	A	G
Ed Garstkiewicz	Harting Inc., North America	Harting KGAA	O	G
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Erin Grabe	ESTA	ESTA	exf	G
Robert P. Harris	IATSE Local 891	IATSE Local 891	O	U
Mike Harwood	William F. White International	William F. White International	O	DR

Name	Company	Representing	Voting status	Int cat
Mitch Hefter	Mitch Hefter	USITT	P	U
Jim Holladay	Luxence	Luxence	O	G
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	P	MP
George Long	Aggreko Event Services	Aggreko	P	DR
Bob Luther	Lex Products	Lex TM3	A	CP
Tyrone Mellon, Jr.	Lex Products	Lex TM3	P	CP
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	O	MP
Jeff T. Miller	Worldwide Standards and Auditing	Walt Disney Company	P	U
Kevin O'Brien	Bestek Lighting & Staging	Bestek Lighting & Staging	O	U
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	Elizabeth Pittsley	I	U
Darryl Ross	TMB	TMB	P	MP
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Heather Rowe	Contract Services Administration Trust Fund	Contract Services Administration Trust Fund	A	U
Karl G. Ruling	ESTA	ESTA	exf	G
Larry Schoeneman	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	P	DR
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Jonny Starr	TMB	TMB	O	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Robert Timmerman	Philips Color Kinetics	Royal Philips	O	MP
James Tomlinson	Team Tomlinson	Team Tomlinson	O	G

Name	Company	Representing	Voting status	Int cat
Stephen Vanciel	IATSE Local 631	IATSE Local 631	P	U
Ken Vannice	Ken Vannice LLC	Ken Vannice LLC	I	G
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	Entertainment Electrical Safety Committee of Ontario	P	G
Colin Waters	TMB	TMB	O	DR
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U

Voting Status Key: P = Principal voter, A = Alternate voter, I = Individual voter, O = Observer member, exf = Ex Officio member (staff)

Interest Category Key: CP = Custom-market producer, DE = Designer, DR = Dealer or rental company, G = General interest, MP = Mass-market producer, U = User