

**Minutes**  
**Electrical Power Working Group**  
Friday 17 November 2017  
The Tropicana Las Vegas  
Las Vegas, NV

R1: Reference to NEC in item 7.5 was updated from 520.24 to 520.54

**Presiding co-chairs:**

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

**Recording secretaries:** Karl Ruling and Erin Grabe; ESTA

**Members in attendance:**

Louis Bradfield; O; U  
Jerry Gorrell; Theatre Safety Programs; P; U  
Mike Harwood; William F. White International; O; DR  
John Valus\_Jr.; LEX Products; Lex TM3; A; MP  
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; Philips Lighting; P; MP  
George Long; Aggreko Event Services; Aggreko; P; DR  
Bob Luther; Lex Products; Lex TM3; P; MP  
Ty Mellon; I; G  
Rick Montgomery; Motion Laboratories, Inc.; A; 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; P; MP  
Art Wanuch; Entertainment Electrical Safety Association; P; G  
Mike Webb; Motion Laboratories, Inc.; P; MP  
Keith S. Woods; Lakhri Impressions Ltd.; IATSE Local 891; P; U

**Visitors:**

R. Duane Wilson; George Izenour Assoc.

**1 Opening remarks**

Ken Vannice called the meeting to order at 7:02 p.m.

**2 Attendance and membership**

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

Self-introductions took place and then a pink sign-in sheet was passed around to attendees.

**2.2 Determination of quorum**

Ken Vannice announced a quorum present.

**2.3 Recognition of alternate voting members**

**2.4 Requirements for membership**

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

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

*Ken Vannice said that the following voter has missed the last three meetings and is being moved to Observer status:*

Matthew Antonucci; CSATF; User NOT HERE

## 2.6 Processing of new and other membership requests

*As of 17 November 2017, the following new applications or status change requests have been received:*

Bob Luther; LEX TM3; P; CP  
 John Valus, Jr.; LEX TM3; A;  
 Ty Mellon; Self; I;

Steve Terry moved to approve the applications. The motion was seconded and approved by a show of hands.

## 2.7 Consensus body

The full consensus body of this working group at the time of this meeting, including those not present, was:

Name	Representing	Voting status	Int cat
George Long	Aggreko	P	DR
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Don Earl	Earl Girls, Inc.	P	DR
Steve Terry	Electronic Theatre Controls, Inc.	P	MP
Art Wanuch	Entertainment Electrical Safety Association	P	G
Ian Foulds	Entertainment Electrical Safety Association	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
Kevin Amick	IATSE Local 479	P	G
Stephen Vanciel	IATSE Local 631	P	U
Keith S. Woods	IATSE Local 891	P	U
Simon Hunt	IATSE Local 891	A	U
Ken Vannice	Ken Vannice LLC	I	G
Bob Luther	Lex TM3	P	MP
John Valus_Jr.	Lex TM3	A	MP
Mike Webb	Motion Laboratories, Inc.	P	MP
Rick Montgomery	Motion Laboratories, Inc.	A	MP
Nehad El-Sherif	Nehad El-Sherif	I	G
Michael Lay	Philips Lighting	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Ty Mellon	Tyron J Mellon, Jr.	I	G
Justin Bennett	University of the Incarnate Word	P	U
Mitch Hefter	USITT	P	U
<b>Total possible</b>		19	

<p style="text-align: right;"><b>Subtotals by interest category</b></p> <p><b>Voting Status Key:</b> P = Principal voter, A = Alternate voter, I = Individual voter, O = Observer member, exf = Ex Officio member (staff)</p> <p><b>Interest Category Key:</b> CP = Custom-market producer, DE = Designer, DR = Dealer or rental company, G = General interest, MP = Mass-market producer, U = User</p>	0	<b>CP</b>
	0	<b>DE</b>
	3	<b>DR</b>
	5	<b>G</b>
	7	<b>U</b>
	4	<b>MP</b>

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

See *EPmin07-2017.pdf*.

Steve Terry moved to approve the minutes of the last meeting as drafted. The motion was seconded and approved by a show of hands.

### 4 Reading of the call for patents

The following statement 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, 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.

No patent issues were raised.

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

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

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 or will not 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.

Erin Grabe held up a copy of the pamphlet. Nothing was revealed.

### 6 Approval of agenda

Ken Vannice added an item to discuss an idea for a new project at 8.1. Art Wanuch would like to add an item, 9.3, to discuss CSA 300. Mitch Heffer added item 10.3, autumn meetings.

Steve Terry moved to approve the agenda as modified. The motion was seconded and approved by raised hands and voice votes.

### 7 Old business - task group reports

**7.1 ANSI E1.16 – 2002 (R2017) Entertainment Technology – Configuration Standard for Metal Halide Ballast Power Cables** (Revision, reaffirmation, or withdrawal by 18 May 2022)

Roger Lattin reported that he had a question about this in the field. The person was pleasantly surprised that the standard exists.

**7.2 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 11 February 2020)

No news or action at this time.

**7.3 ANSI E1.24 – 2012 (R2017), pin connectors** (Revision, reaffirmation, or withdrawal by 23 February 2022)  
*Drawing #10 was corrected in the published version. Any other news or action at this time?*

Steve Terry reported that he can find pin connectors that comply with the standard, but the connectors don't show that they comply. The product literature also doesn't show compliance.

**7.4 ANSI E1.32 – 2012 (R2017), Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires** (Revision, reaffirmation, or withdrawal by 15 September 2022)

It's been approved and published. No other news or action.

**7.5 BSR E1.51, A Canadian E1.18**

*Comments were received and all but one resolved at the last working group meeting.*

Steve Terry brought up the clause in question from the remaining comment to resolve, clause 6.2.2. He quoted tap rules from NEC 520.54. He said the lack of tap rules in the document are a relaxing of standard procedures in the U.S.

Clauses which add protection rules were added to the draft standard under clause 6.2.2. There was considerable discussion of protection. The comment resolution document was revised to reflect the consensus of the group and the changes to the draft standard.

Roger Lattin made a motion to accept the comment resolutions as amended at this meeting. The motion was seconded. The motion carried with the required supermajority and two objections.

Steve Terry moved to offer the document for public review. The motion was seconded and approved by raised hands and WebEx chats with one objection.

**7.6 ANSI E1.53 – 2016, Overhead mounting of luminaires, lighting accessories, and other portable devices: specification and practice** (Reaffirmation, revision, or withdrawal by 4 August 2021)

No news or action at this time.

**7.7 ANSI E1.58 – 2017, – Indoor equipment outdoors**

*It was approved by ANSI on 11 October 2017. It's now published, and a copy was sent to William Perry, Directorate of Standards & Guidance, U.S. DOL/OSHA in Washington.*

It was noted that David Miller of Disney relayed to the Technical Standards Council a real-life example of leveraging our standards and ETCP certifications to help avoid a potentially expensive policy change in their parks and resorts. E1.58 was one of the standards cited.

## **8 New business**

### **8.1 New project**

Ken Vannice said that there is a standard for checking rigging, there's a standard for checking incandescent lighting fixtures, but there is no checklist standard for inspecting electrical systems in a facility. He listed a number of things that should be routinely inspected in a facility for the electrical system and said that this body could take up a project to write an inspection standard. He asked if others thought this was a good idea.

Steve Terry moved to start a project to develop an inspection guidance document for electrical system inspections. A project request form is needed, which Ken offered to draft. The motion was seconded and approved by a show of hands.

## **8.2 Research project**

Discussion under item 8.1 led to some discussion about the possible pitfalls of writing a standard for multi-cable assemblies and the UL listing of multi-cable assemblies. The consensus of the group was that a research project to look into a possible listing method, including a potential proposal to change UL 817, was needed. John Valus was appointed to lead the research project to find out what would need to be done to have NRTL listing of multi-conductor cable assemblies.

## **9 Other business and announcements**

### **9.1 Education**

#### **9.1.1 INNOVA**

*USITT and ESTA have partnered up to bring you INNOVA, an online learning platform for the entertainment technology industry. Check it out at <http://innova.usitt.org>. Content and content providers are being sought. If you are interested, email [standards@esta.org](mailto:standards@esta.org) to be put in touch with someone.*

Ken Vannice described the platform as narrated powerpoints that are put online for people to download. There are possible ETCP renewal credits available for some of them.

#### **9.1.2 NAMM**

*ESTA is partnering with NAMM to provide a curated selection of classes at the NAMM show.*

*Thursday, 25 January 2018*

#### **General Electrical Safety for the Stage and Set**

*Richard Cadena, Lighting&Sound America/PLASA; Alan Rowe, IATSE*

*2:00 p.m. – 3:45 p.m.*

*Sunday, 28 January 2018*

#### **USITT Electrical Workshop**

*Jerry Gorrell, Theatre Safety Programs; Mitch Hefter, Philips Lighting; Ken Vannice, Ken Vannice LLC*

*9:00 a.m. – 6:00 p.m.*

*With luck, we will need sessions for NAMM the following year. Start thinking!*

### **9.2 Awards**

#### **9.2.1 Above & Beyond Awards**

Ken Vannice noted that the nomination site is open year round at [http://tsp.esta.org/tsp/news/award\\_nomination.html](http://tsp.esta.org/tsp/news/award_nomination.html).

#### **9.2.2 ESTA Lifetime Technical Achievement Award**

Ken Vannice said that long-time TSP member, Bob Goddard, was the first recipient of this new award.

#### **9.2.3 Volunteer of the Year**

Mitch Hefter recognized Michael Lay for receiving the 2017 Volunteer of the Year Award yesterday at the ESTA Annual General Meeting. Michael received a round of applause.

#### **9.2.4 Eva Swan**

Mitch Hefter recognized Ken Vannice for receiving the Eva Swan Award, ESTA's highest honor, yesterday at the ESTA Annual General Meeting. Ken received a round of applause.

### **9.3 CSA 300**

Bob Luther reported.

There were concerns brought up during the public review of CSA 300 regarding the required orientation of the cam-type connectors (downward facing), the requirement for male and female connectors on the ground, and the spacing between connectors (3.5 inches). The downward orientation was removed as a requirement but maintained as a recommendation. A waiver was granted to the entertainment industry for the two sets of ground connectors, but they are still required for industrial applications. The minimum spacing was reduced to 2.5" horizontally on center, but you have to demonstrate that you can make the connections, that there is enough space for a worker's hand to insert and twist the connector.

### **9.4 CEC updates**

Ken Vannice reported that he has a copy of the revised CEC that people can look at if they would like to look at his laptop. There are changes to 66, but not 44.

### **10 Schedule for future meetings**

Visit <http://tsp.esta.org/tsp/meetings/index.php> for the most current schedule.

#### **10.1 January ESTA meetings**

*The January meetings will take place in conjunction with the NAMM show in Anaheim, CA.*

Steve Terry moved that we not have a meeting at NAMM. The motion was seconded and unanimously approved by a show of hands and WebEx chat.

#### **10.2 March meetings @ USITT**

The subsequent set of meetings will be held in conjunction with the USITT Conference & Stage Expo, which is scheduled for March 14 through 17 in Ft. Lauderdale, Florida. [The EPWG meeting has since been scheduled for Friday, 16 March 2018, from 2-6pm at the Hilton Ft. Lauderdale Marina.]

#### **10.3 Fall meetings**

Ken Vannice asked the group whether they still want to meet at LDI. The consensus of the group was that one WebEx meeting would be okay and that not meeting at LDI would be okay. The biggest issue is that the meetings are all too close together. The group would really like to get the meetings as close to 90 days apart as possible.

### **11 Adjournment**

Steve Terry moved to adjourn. The motion was seconded. Hearing no objections, Ken Vannice declared the meeting adjourned at 9:16 p.m. PST.

Electrical Power Working Group Members as of 17 November 2017

Name	Company	Representing	Voting status	Int cat
Kevin Amick	IATSE Local 479	IATSE Local 479	P	G
Matthew Antonucci	Contract Services Administration Trust Fund	Contract Services Administration Trust Fund	O	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Alyxzander Bear	Insomniac	Insomniac	O	DE
Justin Bennett	University of the Incarnate Word	University of the Incarnate Word	P	U
Louis Bradfield	Louis Bradfield	Louis Bradfield	O	U
Richard Cadena	Academy of Production Technology	Academy of Production Technology	O	G
Ron Dahlquist	Dadco	Dadco	O	MP
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	O	CP
Jeremy Day	Lumenpulse Lighting Inc.	Lumenpulse Lighting Inc.	O	MP
Rodger Dean	R. Dean Lighting Limited	R. Dean Lighting Limited	O	DR
Jim Digby	Event Safety Alliance	Event Safety Alliance	O	U
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
James Eade	ABTT	ABTT	O	G
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	P	DR
Nehad El-Sherif	Nehad El-Sherif	Nehad El-Sherif	I	G
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Association	A	G
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Erin Grabe	ESTA	ESTA	exf	G
Mike Harwood	William F. White International	William F. White International	O	DR
Mitch Hefter	Mitch Hefter	USITT	P	U
Jim Holladay	Luxence	Luxence	O	G
Simon Hunt	IATSE Local 891	IATSE Local 891	A	U
John Valus_Jr.	LEX Products	Lex TM3	A	MP
Jerald Kraft	JTH Lighting Alliance	JTH Lighting Alliance	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	Philips Lighting	P	MP
George Long	Aggreko Event Services	Aggreko	P	DR
Bob Luther	Lex Products	Lex TM3	P	MP
Ty Mellon	Tyron J Mellon, Jr.	Tyron J Mellon, Jr.	I	G
Rick Montgomery	Motion Laboratories, Inc.	Motion Laboratories, Inc.	A	MP

Electrical Power Working Group Members as of 17 November 2017

Name	Company	Representing	Voting status	Int cat
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	Elizabeth Pittsley	O	U
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	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	Philips Lighting	O	MP
James Tomlinson	Team Tomlinson	Team Tomlinson	O	G
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 Association	Entertainment Electrical Safety Association	P	G
Colin Waters	TMB	TMB	O	DR
Mike Webb	Motion Laboratories, Inc.	Motion Laboratories, Inc.	P	MP
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U
Jeong Sik Yoo	Ghost LX	Ghost LX	O	DE

**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