

**Minutes**  
**Electrical Power Working Group**  
Friday, 29 January 2021

**Presiding working group leader:** Mitch Hefter; USITT

**Recording secretaries:** Richard Nix & Karl Ruling; ESTA

**Members attending:**

Don Earl; Earl Girls, Inc.; P; DR  
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U  
George Long; Aggreko; P; DR  
Hans Lau; I.A.T.S.E. Local 728; A; U  
Jason Potterf; Cisco; P; MP  
Jerry Gorrell; Theatre Safety Programs; P; U  
John Valus Jr.; Lex TM3; A; MP  
Justin Bennett; University of the Incarnate Word; P; U  
Ken Wagner; Ken Wagner; I; U  
Mark Pollock; Littelfuse, Inc.; P; MP  
Michael Lay; Candela Controls, Inc; P; G  
Mike Harwood; William F. White International; O; DR  
Mike Skinner; Contract Services Administration Trust Fund; P; U  
Mike Webb; Motion Laboratories, Inc.; P; MP  
Mitch Hefter; USITT; P; U  
Nehad El-Sherif; Nehad El-Sherif; I; G  
Rick Montgomery; Motion Laboratories, Inc.; A; MP  
Robert Haycock; UC Berkeley; I; U  
Stephen Vanciel; IATSE Local 631; P; U  
Steve Terry; Electronic Theatre Controls, Inc.; P; MP

**Visitor:** Mike Luther; Lex Products

**1 Opening remarks**

Mitch Hefter called the meeting to order at 15:01. He introduced himself and Justin Bennett as the two co-chairpersons for the working group. He said he will preside over today's meeting.

He thanks everyone for their attendance. He reminded everyone to keep their microphones muted when not speaking, and to use the WebEx interface for voting.

**2 Patent and anti-trust statements**

**2.1 Reading of the anti-trust statement**

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

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 an ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

Karl Ruling held a copy of the pamphlet in front of his camera to show that it was available.

No anti-trust concerns were raised.

## 2.2 Reading of the call for patents

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

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 protected 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 was brought to the attention of the assembly.

## 3 Attendance and Membership

### 3.1 Requirements for membership

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

Membership is open to all parties who are affected by the work of the group; membership in ESTA is not a requirement, but there is a \$100/person/year participation fee to help fund the costs of running the Technical Standards Program. Voting members are required to attend meetings and vote on letter ballots. Any principal member and alternate that both miss three consecutive meetings or letter ballots will have their membership status changed to observer. This action will be taken at the beginning of the first meeting after such inaction and will be recorded in the minutes of that meeting.

### 3.2 Introduction of attendees and taking attendance.

Mitch Hefter read the names from the screen and people then introduced themselves.

### 3.3 Determination of quorum

*As of 12 January there are 22 voting members: a quorum minimum is 8; 12 to pass a vote requiring a supermajority.*

Mitch Hefter asked for a show of hands of voters. Richard Nix counted the voters and announced that enough voters were present for a quorum and to pass a motion needing a supermajority.

### 3.4 Processing of new and other membership requests

There is one new application:

Mark Pollock; Littelfuse, Inc.; P; MP

Steve Terry moved to accept his application. The motion was seconded. The motion carried unanimously.

### 3.5 Changes to observer status due to lack of participation

The following voters have missed the last two meetings. If they miss this one, they will have missed three consecutive meetings and will lose voting status.

George Long; Aggreko; Dealer/Rental company

Robert Haycock; UC Berkeley; User

Both were present, so there were no changes in status.

### 3.6 Consensus body during this meeting was

| Delegate    | Representing           | Voting status | Int. cat. |
|-------------|------------------------|---------------|-----------|
| George Long | Aggreko                | P             | DR        |
| Michael Lay | Candela Controls, Inc. | P             | DR        |

| Delegate          | Representing                                | Voting status | Int. cat. |
|-------------------|---|---------------|-----------|
| Jason Potterf     | Cisco                                       | P             | MP        |
| Mike Skinner      | Contract Services Administration Trust Fund | P             | U         |
| Matthew Antonucci | Contract Services Administration Trust Fund | A             | U         |
| Chris Moulton     | Contract Services Administration Trust Fund | A             | U         |
| Don Earl          | Earl Girls, Inc.                            | P             | DR        |
| Steve Terry       | Electronic Theatre Controls, Inc.           | P             | MP        |
| Wendy Russell     | Electronic Theatre Controls, Inc            | A             | MP        |
| Lizz Pitsley      | Elizabeth Pitsley                           | P             | U         |
| Art Wanuch        | Entertainment Electrical Safety Association | P             | G         |
| Ian Foulds        | Entertainment Electrical Safety Association | A             | G         |
| Steve Brock       | Guardian Entertainment Inc.                 | P             | DR        |
| Edwin S. Kramer   | I.A.T.S.E. Local 1                          | P             | U         |
| Charles McIntyre  | I.A.T.S.E. Local 728                        | P             | U         |
| Alan M. Rowe      | I.A.T.S.E. Local 728                        | A             | U         |
| Hans Lau          | I.A.T.S.E. Local 728                        | A             | U         |
| Kevin Amick       | IATSE Local 479                             | P             | G         |
| John (JA) Byerly  | IATSE Local 479                             | A             | G         |
| Stephen Vanciel   | IATSE Local 631                             | P             | U         |
| Keith S. Woods    | IATSE Local 891                             | P             | U         |
| Simon Hunt        | IATSE Local 891                             | A             | U         |
| Ken Wagner        | Ken Wagner                                  | I             | U         |
| Bob Luther        | Lex TM3                                     | P             | MP        |
| John Valus Jr.    | Lex TM3                                     | A             | MP        |
| Mark Pollock      | Littelfuse, Inc.                            | P             | MP        |
| Mike Webb         | Motion Laboratories, Inc.                   | P             | MP        |
| Rick Montgomery   | Motion Laboratories, Inc.                   | A             | MP        |
| Michael Shaw      | Motion Laboratories, Inc.                   | A             | MP        |
| Nehad El-Sherif   | Nehad El-Sherif                             | I             | G         |
| Jerry Gorrell     | Theatre Safety Programs                     | P             | U         |
| Robert Haycock    | UC Berkeley                                 | I             | U         |
| Justin Bennett    | University of the Incarnate Word            | P             | U         |
| Mitch Hefter      | USITT                                       | P             | U         |
|                   | <b>TOTAL</b>                                | <b>23</b>     |           |
|                   | Subtotals by interest categories            | 0             | CP        |
|                   |   | 0             | DE        |
|                   |   | 3             | DR        |

| Delegate | Representing | Voting status | Int. cat. |
|----------|--------------|---------------|-----------|
|          |              | 4             | G         |
|          |              | 5             | MP        |
|          |              | 11            | U         |

**Key to codes:**

|   |                  |    |                        |
|---|------------------|----|------------------------|
| P | Principal voter  | CP | Custom-market producer |
| A | Alternate voter  | DE | Designer               |
| I | Individual voter | DR | Dealer/Rental company  |
|   |                  | G  | General interest       |
|   |                  | MP | Mass-market producer   |
|   |                  | U  | User                   |

**4 Approval of the minutes from the previous meeting**

*See EPmin10-2020\_DRAFT.pdf.*

Steve Terry moved to accept the minutes as written. The motion was seconded. The motion carried unanimously.

**5 Approval of agenda**

Robert Haycock moved to accept the agenda. The motion was seconded. The motion carried unanimously.

**6 Old business**

**6.1 ANSI E1.16 – 2002 (R2017) Entertainment Technology – Configuration Standard for Metal Halide Ballast Power Cables**

No news or action now.

**6.2 BSR E1.19, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry** (Revision of the 2015 edition)

*Task group: Justin Bennett, one representative from Lex (Bob Luther or John Valus Jr.), Ian Foulds, Nehad El Sherif, Mike Skinner, one representative from I.A.T.S.E. Local 728 (Alan Rowe), and one representative from I.A.T.S.E. Local 891 (Keith Woods or Simon Hunt).*

*See BSR\_E1-19-20xx\_r21.pdf. The task group would like this to be considered for a first public review. Changes from the version offered at the last meeting are highlighted in the text.*

Justin Bennett reported on the updates that were made to the document, the version that was distributed for this meeting. He said it was revised according to the prior meeting's discussions.

Steve Terry had a question about possibly changing one sentence of the revised 4.3.1.1 text slightly, by inserting the word "listed" between "using" and "dimmers." The working group agreed and the revision was made.

Steve Terry moved to offer the draft standard for public review. The motion was seconded and carried unanimously. The document will be forwarded by ESTA staff to the TSC for its consideration of approving the public review.

**6.3 ANSI E1.24 – 2012 (R2017), pin connectors**

*Revision, reaffirmation, or withdrawal by 23 February 2022.*

No news or action now.

**6.4 ANSI E1.32 – 2012 (R2017), Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires**

*Revision, reaffirmation, or withdrawal by 15 September 2022.*

No news or action now.

**6.5 ANSI E1.51 – 2018, The Selection, Installation, and Use of Single-Conductor Portable Power Feeder Cable Systems for Use At 600 Volts Nominal or Less for the Distribution of Electrical Energy in the Television, Film, Live Performance and Event Industries in Canada**

*Revision, reaffirmation, or withdrawal by 7 November 2023.*

No news or action now.

**6.6 ANSI E1.53 – 2019, Overhead mounting of luminaires, lighting accessories, and other portable devices: specification and practice**

*Revision, reaffirmation, or withdrawal by 3 June 2024.*

No news or action now.

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

*Reaffirmation, revision, or withdrawal by 11 October 2022.*

No news or action now.

**6.8 BSR E1.65, Recommended practice for the periodic inspection, testing, and maintenance of Electrical and Electronic equipment used in the entertainment and live event industries**

*No leader. Any suggestions on how to move forward, or should this project be abandoned?*

*Task group:*

- *Eddie Kramer,*
- *George Long,*
- *Justin Bennett,*
- *Keith Woods,*
- *Larry Schoeneman,*
- *Michael Harwood,*
- *Mike Skinner.*
- *Mitch Hefter,*
- *Robert Haycock,*
- *Steve Vanciel, and*
- *Wendy Russell*

Robert Haycock said he would be willing to take this on, but would not have time until other projects are moved along, probably at the end of the summer. Mike Harwood said he would co-chair, but also has resource limits now.

**6.9 Recommended Practices for Avoiding Shock and Electrocution**

*From the minutes of the March 2020 meeting:*

*Karl Ruling asked if the EPWG would be willing to direct Robert Haycock to contact Keith Sklar for further discussion, and to determine if the current ESWG projects already cover these issues.*

*Bob Luther moved to so direct Robert Haycock in this action, further asking for a followup report at the next EPWG meeting. Mitch Hefter and Justin Bennett also will report this action to the TSC. The motion was seconded and carried with no objections or abstentions.*

*From the minutes of the July 2020 meeting:*

*Robert Haycock was not present. Richard Nix reported that indeed in the ESWG the topic was discussed and Haycock was to reach out to Sklar.*

*From the minutes of the October 2020 meeting:*

*Haycock was not present. Mitch Hefter asked Richard Nix to follow up with Robert Haycock on this.*

Robert Haycock reported that he had talked to Keith Sklar, who joined an ESWG task group meeting. The task group will attempt to integrate his concerns into the medical provisions and electrical safety projects in the ESWG. Sklar's project proposal has content spanning these two ESWG projects.

**7 New business**

None.

## **8 Other business and announcements**

### **8.1 Above & Beyond Awards**

Attendees were reminded that the website is at [http://tsp.esta.org/tsp/news/award\\_recipients.html](http://tsp.esta.org/tsp/news/award_recipients.html).

### **8.2 Volunteer of the Year Award**

No news.

### **8.3 IES report**

Mitch Hefter reported that the IES on-line library is now on line.

### **8.4 NEC report**

Steve Terry reported.

The industry, a group headed by Alan Rowe, proposed a major rewrite of Article 530. He urged people to review this when it is offered for public review.

Terry said that the multipurpose multi-circuit cabling system for Article 520 passed first ballot. That is referred to in 530 also.

Steve Terry said that all the specialized definitions from the different articles will be together with general definitions in Article 100. Jason Potterf said his code panel has suggested that the definitions should be copied into Article 100 but also be in the relevant articles.

The consensus of EPWG members involved in the NEC was that this change, putting all the article-specific definitions into Article 100, will make it harder to use the NEC. Terry recommended that people comment against this relocation of the definitions when the NEC revisions are offered for public review.

Richard Nix pointed out that the NFPA has a glossary document that has all their definitions.

Article 700 is emergency lighting, and the changes would have a serious effects on emergency lighting, reported Terry. Emergency lighting wiring would have to be separate from other line voltage conductors and separate from other class 2 wiring and be in Chapter 3 wiring methods, which means conduit or armored cable. PoE lighting cables would have to be in conduit—even the patch cords into the switch, which is, of course, impossible.

Jason Potterf reported no similar butchering of his task group's work. The expanded the definitions of what can be reconditioned to included LED drivers and ballasts. There have been Public Input proposals that include cybersecurity, with the idea that AHJs should be vetting and approving networks for cybersecurity.

Potterf said that there are real cybersecurity risks, but the remediation is not in having Listed network equipment and a one-time commissioning inspection. Cybersecurity is an on-going system health issue, that is better addressed by experts outside the AHJ building/electrical inspection community.

### **8.5 USITT**

Mitch Hefter and Justin Bennett noted that the 2021 Conference will be virtual. The registration cost is lower than for a face-to-face conference, Hefter noted.

## **9 Schedule for future meetings**

The meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>. The next meeting is scheduled for Friday, April 16.

## **10 Adjournment**

Don Earl moved we adjourned. The motion was seconded. Hearing no objections and the agenda being completed, Mitch Hefter declared the meeting adjourned at 16:07.

Electrical Power Working Group Members as of 19 February 2021

| Delegate          | Reporting                                   | Voting status | Int. cat. |
|-------------------|---|---------------|-----------|
| Kevin Amick       | IATSE Local 479                             | P             | G         |
| Matthew Antonucci | Contract Services Administration Trust Fund | A             | U         |
| Robert Barbagallo | Solotech Inc.                               | O             | DR        |
| Alyxzander Bear   | Insomniac                                   | O             | DE        |
| Justin Bennett    | University of the Incarnate Word            | P             | U         |
| Steve Brock       | Guardian Entertainment Inc                  | P             | DR        |
| John (JA) Byerly  | IATSE Local 479                             | A             | G         |
| Richard Cadena    | Academy of Production Technology            | O             | G         |
| James Davey       | A.C.T. Lighting, Inc.                       | O             | CP        |
| Jeremy Day        | Lumenpulse Group                            | O             | MP        |
| Rodger Dean       | R. Dean Lighting Limited                    | O             | DR        |
| Jim Digby         | Event Safety Alliance                       | O             | U         |
| Marsha DuBois     | Pintech Stage Connectors, Inc.              | O             | CP        |
| James Eade        | ABTT  | O             | G         |
| Don Earl          | Earl Girls, Inc.                            | P             | DR        |
| Nehad El-Sherif   | Nehad El-Sherif                             | I             | G         |
| Trevor Forrest    | Helvar Lighting Control                     | O             | MP        |
| Ian Foulds        | Entertainment Electrical Safety Association | A             | G         |
| Mike Garl         | Mike Garl Consulting LLC                    | exf           |           |
| Jerry Gorrell     | Theatre Safety Programs                     | P             | U         |
| Erin Grabe        | ESTA  | exf           | G         |
| Mike Harwood      | William F. White International              | O             | DR        |
| Robert Haycock    | UC Berkeley                                 | I             | U         |
| Mitch Hefter      | USITT                                       | P             | U         |

Electrical Power Working Group Members as of 19 February 2021

| Delegate                     | Reporting                                   | Voting status | Int. cat. |
|------------------------------|---|---------------|-----------|
| Simon Hunt                   | IATSE Local 891                             | A             | U         |
| John Valus Jr.               | Lex TM3                                     | A             | MP        |
| Jerald Kraft                 | JTH Lighting Alliance                       | O             | G         |
| Edwin S. Kramer              | I.A.T.S.E. Local 1                          | P             | U         |
| Charles (Chuck) Kurten       | Underwriters Laboratories, Inc.             | O             | G         |
| Hans Lau                     | I.A.T.S.E. Local 728                        | A             | U         |
| Michael Lay                  | Candela Controls, Inc                       | P             | G         |
| George Long                  | Aggreko                                     | P             | DR        |
| Bob Luther                   | Lex TM3                                     | P             | MP        |
| Charles McIntyre             | I.A.T.S.E. Local 728                        | P             | U         |
| Ty Mellon                    | Tyron J Mellon, Jr.                         | O             | G         |
| Rick Montgomery              | Motion Laboratories, Inc.                   | A             | MP        |
| Chris Moulton                | Contract Services Administration Trust Fund | A             | U         |
| Richard J. Nix               | ESTA  | exf           | G         |
| Elizabeth E. (Lizz) Pittsley | Elizabeth Pittsley                          | P             | U         |
| Mark Pollock                 | Littelfuse, Inc.                            | P             | MP        |
| Jason Potterf                | Cisco                                       | P             | MP        |
| Alan M. Rowe                 | I.A.T.S.E. Local 728                        | A             | U         |
| Karl G. Ruling               | ESTA  | exf           | G         |
| Wendy Russell                | Electronic Theatre Controls, Inc            | A             | MP        |
| Ford Sellers                 | Chauvet Lighting                            | O             | MP        |
| Michael Shaw                 | Motion Laboratories, Inc.                   | A             | MP        |
| Mike Skinner                 | Contract Services Administration Trust Fund | P             | U         |
| Jonny Starr                  | TMB   | O             | MP        |



Electrical Power Working Group Members as of 19 February 2021

| Delegate         | Reporting                                   | Voting status | Int. cat. |
|------------------|---|---------------|-----------|
| Steve Terry      | Electronic Theatre Controls, Inc.           | P             | MP        |
| Robert Timmerman | Signify                                     | O             | MP        |
| Stephen Vanciel  | IATSE Local 631                             | P             | U         |
| Ken Wagner       | Ken Wagner                                  | I             | U         |
| Art Wanuch       | Entertainment Electrical Safety Association | P             | G         |
| Colin Waters     | TMB   | O             | DR        |
| Mike Webb        | Motion Laboratories, Inc.                   | P             | MP        |
| Keith S. Woods   | IATSE Local 891                             | P             | U         |
| Jeong Sik Yoo    | Ghost LX                                    | O             | DE        |

**Key to codes:**

- |     |                    |    |                        |
|-----|--------------------|----|------------------------|
| P   | Principal voter    | CP | Custom-market producer |
| A   | Alternate voter    | DE | Designer               |
| I   | Individual voter   | DR | Dealer/Rental company  |
| O   | Observer           | G  | General interest       |
| exf | Ex Officio (staff) | MP | Mass-market producer   |
|     |                    | U  | User                   |