

Minutes
Electrical Power Working Group
17 July 2020
via Webex

Chairpersons:

Justin Bennett (presiding); University of the Incarnate Word
Mitch Hefter; USITT

Recording secretaries:

Karl Ruling and Richard Nix; ESTA

Attendees:

Kevin Amick; IATSE Local 479; O; G
Alyxzander Bear; Insomniac; O; DE
Justin Bennett; University of the Incarnate Word; P; U
Don Earl; Earl Girls, Inc.; P; DR
Nehad El-Sherif; Nehad El-Sherif; I; G
Ian Foulds; Entertainment Electrical Safety Association; A; G
Jerry Gorrell; Theatre Safety Programs; P; U
Mike Harwood; William F. White International; O; DR
Mitch Hefter; USITT; P; U
John Valus Jr.; Lex TM3; A; MP
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Hans Lau; I.A.T.S.E. Local 728; A; U
Michael Lay; Candela Controls, Inc; P; G
Bob Luther; Lex TM3; P; MP
Charles McIntyre; I.A.T.S.E. Local 728; P; U
Elizabeth E. (Lizz) Pittsley; Elizabeth Pittsley; P; U
Jason Potterf; Cisco; P; MP
Alan M. Rowe; I.A.T.S.E. Local 728; A; U
Wendy Russell; Electronic Theatre Controls, Inc; A; MP
Mike Skinner; Contract Services Administration Trust Fund; P; U
Steve Terry; Electronic Theatre Controls, Inc.; P; MP
Stephen Vanciel; IATSE Local 631; P; U
Ken Wagner; Ken Wagner; I; U
Art Wanuch; Entertainment Electrical Safety Association; P; G
Mike Webb; Motion Laboratories, Inc.; P; MP
Keith S. Woods; IATSE Local 891; P; U

Visitors:

Jaz Ellis
Mike Luther

1 Opening remarks

Justin Bennett called the meeting to order at 14:02, welcoming everyone and thanking them for attending. He reminded everyone to mute their microphones when not speaking. He also explained how to access the WebEx participants panel for the purpose of using the “raise hand” feature 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 Justin Bennett:

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 easy-to-read pamphlet in front of his camera for all to see. No concerns were revealed.

2.2 Reading of the call for patents

The following statement was read aloud to the assembly by Justin Bennett:

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.

Nothing was revealed.

3 Attendance and Membership

3.1 Requirements for membership

The following statement was read aloud to the assembly by Justin Bennett:

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.

Karl Ruling read the list of attendees displayed on the WebEx screen.

3.3 Determination of quorum

As of 26 June, a quorum would be at least seven members, and a super-majority vote 11. This is after removing Schoeneman as a voter. See 3.4.

Justin Bennett asked all principal voters, individual voters, and alternates voting on behalf of a principal to raise their hand and be counted. He declared that a quorum was present, and more than 50% of the voting body.

3.4 Processing of new and other membership requests

Larry Schoeneman had requested being moved to observer status.

No applications as of 26 June 2020

Lizz Pittsley asked to be returned to voting status. Steve Vanciel moved that her request be accepted. The motion was seconded. The motion was approved unanimously with no abstentions.

3.5 Changes to observer status due to lack of participation

James Davey; A.C.T. Lighting, Inc.; CP, was not present. He was moved to observer status.

3.6 Consensus body during this meeting:

| Delegate | Representing | Voting status | Int. cat. |
|-------------------|---|---------------|-----------|
| George Long | Aggreko | P | DR |
| Michael Lay | Candela Controls, Inc. | P | DR |
| 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 |
| 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 |
| Kevin Amick | IATSE Local 479 | P | G |
| John (JA) Byerly | IATSE Local 479 | A | G |
| 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 |
| 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 |
| Lizz Pitsley | Elizabeth Pitsley | P | U |
| 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 |
| Michael Shaw | Motion Laboratories, Inc. | A | MP |
| Nehad El-Sherif | Nehad El-Sherif | I | G |
| Nick Holmberg | PSAV | P | DR |
| 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 |

| Delegate | Representing | Voting status | Int. cat. |
|----------|----------------------------------|---------------|-----------|
| | TOTAL | 22 | |
| | | 0 | CP |
| | | 0 | DE |
| | Subtotals by interest categories | 3 | DR |
| | | 4 | G |
| | | 4 | 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 |
| O | Observer, non-voter | G | General interest |
| | | MP | Mass-market producer |
| | | U | User |

4 Approval of the minutes from the previous meeting

See *EPmin04-2020_DRAFT.pdf*.

Eddie Kramer moved that the minutes be accepted as written. The motion was seconded. The motion was approved with no abstentions or objections.

5 Approval of agenda

Eddie Kramer moved to approve the draft agenda. The motion was seconded and carried without objection or abstention.

6 Old business

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

No news or action.

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 (Reaffirmation 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).

Justin Bennett reported that they have had some meetings and made some progress. He hopes to have a revised standard for the next meeting.

Bennett reported that the task group is planning to add wet location definition and proximity of water definition. There was some discussion about the distance to use for the proximity of water definition. The task group is currently considering 3 meters.

The task group also intend to remove the references to dimmers with built-in GFCI or that there are GFCIs that work on the output side of a dimmer. Steve Terry suggested it would be useful to provide guidance on why GFCI's cannot be used on a dimmer output.

Justin Bennett said they are still discussing GFCI requirements for portable cord sets and portable power tools, thinking that more guidance will be required to exclude them in entertainment use. Bennett said they are still struggling with the NFPA 70E requirements for GFCI on cord-connected appliances during construction. Those

requirements might apply some times in an entertainment venue, but not others, and GFCI won't work with some loads.

There was discussion about clause 4.1 response times. End-users can't access the response time data, so there is no point in giving advice about response time, is one opinion. Steve Terry expressed a need to identify components that might create nuisance tripping problems. Bob Luther asked Nehad El-Sherif for his opinion, since the question has arisen because of his input. Nehad El-Sherif explained that his comments came from not being able to clearly identify the leakage current from device to device, which has created issues with trip-delay times. Bob Luther suggested that the standard could provide useful informational guidance without actually directing the user to any specific product.

Steve Terry asked if the issue is specifically related to Class A GFCI devices, and said that many of the entertainment industry GFCI's are adjustable outside of the Class-A compliant range. How is the task group addressing non-Class-A devices, when they are clearly less safe than Class A devices, but are more safe than no protection at all. Bennett asked if the standard should be re-scoped to include non Class-A devices. Karl Ruling said that decision is up to the task group, although it might significantly increase the size of the standard. Mitch Hefter suggested that a new standard could be considered in the future, to address non-Class-A devices. Justin Bennett said that, even though the informational notes in the current standard might address non-scoped devices, they might be helpful nonetheless.

Justin Bennett reported that they had also discussed removing the recommendations that GFCI devices be returned to the factory for adjustment, because this is no longer permitted by the NEC.

Responding to a comment in the chat, Bennett then returned to the proximity to water 3 m distance. Ken Wagner found a reference in Article 680 of the NEC stating 1.5 m as a critical boundary distance. The task group will review this in a future meeting.

Ken Wagner asked if the task group would consider offering guidance for situations where a Class C device is substituted for a Class A, that the device is tested to verify the trip range. Nehad El-Sherif said that this creates a problem because an adjustable Class C device cannot be listed as a Class A device. Steve Terry said that the heart of the issue seems to be answering the questions of what is a Class C device according to UL, versus what is appropriate protection according to NEC.

6.3 ANSI E1.24 – 2012 (R2017), pin connectors (Revision, reaffirmation, or withdrawal by 23 February 2022)
No news or action.

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.

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.

6.6 ANSI E1.53 – 2019, Overhead mounting of luminaires, lighting accessories, and other portable devices: specification and practice (*revise, reaffirm, or withdraw by 03 June 2024*)
No news or action.

6.7 ANSI E1.58 – 2017, Indoor equipment outdoors (*Reaffirmation, revision, or withdrawal by 11 October 2022*)
No news or action.

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

The task group appointed in March:

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

Eddie Kramer said he is unable to continue as task group leader. A new leader is needed and could be appointed.

No one stepped forward. There was discussion of how to move forward with this project. Justin Bennett said that we should pause this project until we see a leader emerge.

In WebEx Chat, Michael Harwood asked to be added to the task group. Bennett appointed him to the task group. The task group is thus:

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

6.9 Multiconductor cable proposal for NEC 2023

Steve Terry reported that a proposal has been submitted. January 2021 will be the next meeting for Code Panel 15. We will see then how the proposal is received.

6.10 Recommended Practices for Avoiding Shock and Electrocutation

From the minutes of the last 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.

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.

7 New business

None.

8 Other business and announcements

8.1 Above & Beyond Awards

Information about the Above & Beyond Awards may be found at http://tsp.esta.org/tsp/news/award_recipients.html. The deadline for nominations this year is November 1.

8.2 IES report

Mitch Hefter said that the projects he was working on, LP-6 and RP-42, have been adopted as American National Standards. LP-8 has been adopted, too. An IES on-line library is scheduled to launch in August.

8.3 Other other business

Steve Terry reported that he has submitted an applied to join UL STP 817, cord sets. He has not heard back. He says that things are moving slowly in UL.

Mitch Hefter noted that NEC public input period ends September 10.

Alan Rowe reported that Hans Lau (whose microphone wasn't working) had sent him text saying that the Hollywood committee's NEC Article 530 proposals had been submitted.

9 Schedule for future meetings

The current meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>. The October meetings are planned for the second week of October via WebEx.

10 Adjournment

The agenda being complete, and there being no further business, Justin Bennett declared the meeting adjourned at 14:53.

Justin Bennett thanked everyone for attending.

Electrical Power Working Group Members as of 18 August 2020

| Delegate | Representing | 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 |
| 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 |
| Nick Holmberg | PSAV | P | DR |

Electrical Power Working Group Members as of 18 August 2020

| Delegate | Representing | 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 |
| 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 |
| Larry Schoeneman | Larry Schoeneman | O | G |
| 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 18 August 2020

| Delegate | Representing | 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, non-voter | G | General interest |
| | | MP | Mass-market producer |
| | | U | User |