

**Minutes**  
**Electrical Power Working Group**  
1 April 2020  
via Webex

**Presiding chairpersons:**

Justin Bennett; University of the Incarnate Word  
Mitch Hefter; USITT

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

**Members attending:**

Kevin Amick; IATSE Local 479; O; G  
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  
Robert Haycock; UC Berkeley; I; U  
Mitch Hefter; USITT; P; U  
Nick Holmberg; PSAV; P; DR  
Simon Hunt; IATSE Local 891; A; U  
John Valus Jr.; Lex TM3; A; MP  
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  
Elizabeth E. (Lizz) Pittsley; Elizabeth Pittsley; O; U  
Alan M. Rowe; I.A.T.S.E. Local 728; A; U  
Larry Schoeneman; Larry Schoeneman; I; G  
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

**1 Opening remarks**

Justin Bennett called the meeting to order at 10:01. He welcomed all and noted the extraordinary state of affairs we are in due to the COVID-19 pandemic. He thanked all attendees for their work and for taking time to be here on this virtual meeting. He suggested we not discuss the weather, but did mention that the weather in his location was T-shirt-worthy. He asked people to mute their mics if they are not speaking.

**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.*

No restraint of trade problems were reported.

## **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.*

No protected intellectual property was reported.

## **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 names of the people who were on-line.

### **3.3 Determination of quorum**

Bennett asked voters to raise their hands. He noted that a quorum was present, enough to pass a super-majority vote.

### **3.4 Processing of new and other membership requests**

The following applications and status change requests have been received:

Michael Lay; Candela Controls Inc.; Principal; Dealer/Rental company  
(New representation. Previously represented himself.)

Larry Schoeneman moved that Lay's application be accepted. The motion was seconded and then approved unanimously.

Kevin Amick and John Bylery asked to be moved back to voting status. Keith Woods moved to accept their request. The motion was seconded and then approved unanimously.

### 3.5 Changes to observer status

#### 3.5.1 Due to lack of attendance

The following voting members and their respective alternates (if applicable) have missed two consecutive meetings, and are in jeopardy of losing voting status if they are not present at this meeting.

George Long; Aggreko; P; Dealer/Rental company

George Long was present, so no change in status was made.

### 3.6 Consensus body

Delegate	Representing	Voting status	Int. cat.
James Davey	A.C.T. Lighting, Inc.	P	CP
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	I.A.T.S.E. Local 479	P	G
John Byerly	I.A.T.S.E. 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
Larry Schoeneman	Larry Schoeneman	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
Michael Shaw#	Motion Laboratories, Inc.	A	MP
Nehad El-Sherif	Nehad El-Sherif	I	G

Delegate	Representing	Voting status	Int. cat.
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
	<b>TOTAL</b>	<b>22</b>	
	Subtotals by interest categories	1	CP
		0	DE
		3	DR
		3	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 *EPmin10-2019\_DRAFT.pdf*. Note that several typographical errors were corrected.

Steve Terry moved that the draft minutes be accepted. The motion was seconded and then approved unanimously.

**5 Approval of agenda**

Ty Mellon asked for a discussion about testing multi-cable assemblies to be part of 8.1.

Larry Schoeneman moved we approve the modified agenda. The motion was seconded and then approved unanimously.

**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)

See *E1-19\_EPWG\_Final\_BallotResults\_EP\_2019-7010.pdf* and *ESTA\_E1-19-2015\_R202x.pdf*. The motion carried with the required super-majority, but the two No votes require an attempt to resolve the objections and a further recirculation of the ballot after any attempt at resolution.

Since Justin Bennett was the primary "No" vote, he asked Mitch Hefter to preside so he could participate in the discussion.

Mitch Hefter reported that this is in a reaffirmation process, but that two “No” votes were received. There was discussion about the current standard development timeline. Mitch Hefter asked to discuss the comments, then decide whether to revise first, or to reaffirm prior to reopening the document for revision.

Justin Bennett gave further explanation about the reasons why he voted “No”. He has a strong opinion only about the GFCI dimmers statement.

Steve Terry moved to reconsider the carried letter ballot motion, based on Justin Bennett’s objections and commentary. The motion was seconded and a role call ballot was taken using the original vote consensus body. Keith Woods expressed concern that the action was not in accordance with Robert’s Rules of Order, but a reconsideration of a prior motion is appropriate at any time after the motion’s action or during the motion.

Delegate	Representing	Voting status	Int. cat.	Previous vote	Vote at this meeting
James Davey	A.C.T. Lighting, Inc.	P	CP	Y	
George Long	Aggreko	P	DR	Y	N
Michael Lay	Candela Controls, Inc. (previously Michael Lay)	P	DR	Y	N
Jason Potterf	Cisco	P	MP	Y	
Mike Skinner	Contract Services Administration Trust Fund	P	U	Y	N
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	Y	N
Steve Terry	Electronic Theatre Controls, Inc.	P	MP	Y	N
Wendy Russell	Electronic Theatre Controls, Inc	A	MP		
Art Wanuch	Entertainment Electrical Safety Association	P	G	Y	N
Ian Foulds	Entertainment Electrical Safety Association	A	G		
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U	Y	N
Charles McIntyre	I.A.T.S.E. Local 728	P	U	Y	N
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	Y	N
Keith S. Woods	IATSE Local 891	P	U	Y	N
Simon Hunt	IATSE Local 891	A	U		
Ken Wagner	Ken Wagner	I	U		N
Larry Schoeneman	Larry Schoeneman	I	G	Y	N
Bob Luther	Lex TM3	P	MP	Y	N
John Valus_Jr.	Lex TM3	A	MP		
Mike Webb	Motion Laboratories, Inc.	P	MP	Y	N
Rick Montgomery	Motion Laboratories, Inc.	A	MP		
Michael Shaw#	Motion Laboratories, Inc.	A	MP		

Delegate	Representing	Voting status	Int. cat.	Previous vote	Vote at this meeting
Nehad El-Sherif	Nehad El-Sherif	I	G	Y	N
Nick Holmberg	PSAV	P	DR	Y	N
Jerry Gorrell	Theatre Safety Programs	P	U	Y	N
Robert Haycock	UC Berkeley	I	U	N	N
Justin Bennett	University of the Incarnate Word	P	U	N	N
Mitch Hefter	USITT	P	U	Y	N
	<b>TOTAL</b>	<b>22</b>		<b>19Y 2N 1 not returned</b>	<b>2Y (not changed) 20N</b>

The reaffirmation motion failed.

Steve Terry moved to start a new revision project on E1.19. The motion was seconded and carried with the required supermajority. No objections and one abstention.

A task group was appointed: 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 for now), and one representative from I.A.T.S.E. Local 891 (Keith Woods or Simon Hunt).

There was further discussion of Class A GFCI standards and how they affect the entertainment industry.

Nehad El Sherif reported he is on the UL STP for GFCI. Work was being done to remove the current limitations from the scope for Class A GFCI, so the scope is limited only by nominal voltage, not nominal maximum circuit current. The STP is also working on requirements for GFCI to respond at higher line frequencies, line frequencies beyond 60 Hz.

Steve Terry reminded everyone that the code has exemptions for dimmed circuits in 520 and 530 (outdoor theatres and motion picture studios).

Ken Wagner asked about fairs and carnivals, and whether they could be included in the exemptions. Steve Terry suggested that a proposal could be made to add them.

Mitch Hefter returned running the meeting to Justin Bennett.

**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 was established as:

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

Eddie Kramer announced that the task group would meet at the end of this working group meeting. He'd sent out a draft document last night to discuss.

## **7 New business**

### **7.1 Recommended Practices for Avoiding Shock and Electrocutation**

*See TSP\_ProjectRequest Shock and Electrocutation.pdf*

Hans Lau said that the new project mentions that there are no existing standards that covers this topic. He suggested that the entire intent of the NEC (NFPA 70) was to prevent this.

Karl Ruling explained how the project request was developed by Keith Sklar, and what the essence of the request entailed. He said that Keith is looking for something that explicitly addresses the live theatre environment. Hans reiterated that he felt strongly that NEC 520 accomplishes the first two of three parts.

Robert Haycock mentioned that the ESWG has two task groups with active projects for both electrical safety and medical. He said that defibrillators are currently be addressed in the medical task group project, and he asked if the new project request author might be interested in joining either of the ESWG task group to facilitate the requested coverage.

Steve Terry asked if the ESWG scope addressed indoor environments, and suggested that further study of the request might be worthwhile. Richard Nix said that the Event Safety Working Group's scope generally addresses both indoor and outdoor events. Robert Haycock said that both of his ESWG task groups have made a conscious effort to make the scopes as broad as possible.

Michael Lay suggested that Sklar might consider breaking the request into two separate requests and send it to the Event Safety Working Group.

Jerry Gorrell added that defibrillators, for example, cannot be required without them being part of a larger, more comprehensive medical program, and emphasized his opinion that the EPWG should not take on this project.

Steve Terry asked Karl Ruling if he was aware of any incidents that have already occurred. Karl Ruling said he was not aware of any. Terry said we should ask for more details from Sklar, as to what the presenting problems were, so that we might be able to offer better, more targeted advice on how to resolve the issue.

After more discussion, the sense of the group was to send this request, or other revised requests, over to the Event Safety Working Group.

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.

## **7.2 Other new business**

None.

## **8 Other business and announcements**

### **8.1 NEC proposals**

#### **8.1.1 Multiconductor cable proposal for NEC 2023**

*See SteveTerry\_For addition to the EPWG Agenda and Docs \_ Fastmail.pdf and 2023 Proposal Multi-Circuit Cable Systems RevA.pdf*

Justin Bennett opened the floor for discussion of Steve Terry's proposal for writing into the NEC language allowing the use of multi-circuit cable assemblies.

There are three technical issues with the acceptability of 6-circuit cables with multi-pin circular connectors:

1. These multi-circuit cables are usually rated for hard-usage rather than extra-hard usage.
2. There has to be an allowance for load diversity. The cables will rarely survive a continuous 20-ampere load, but the circuits are rarely loaded that way, so multi-circuit cable systems work in practice.
3. The circular connector used is a general-purpose connector and is used to supply 120 V single-phase lighting loads and three-phase chain hoists. Nothing prevents a technician from connecting a load to the wrong supply.

These issues were discussed in the context of having multi-circuit cable assemblies with circular connectors be acceptable per the National Electrical Code.

Terry said that a jump to allowing hard usage cable rather than extra-hard usage in many applications would be a leap too far with too little data. He proposed that we narrow the proposal to allow hard usage cable to the six-circuit multi-circuit cable for application in venues within the scope of 520 or 530. Mike Skinner said that Article 530 already allows hard-usage cables. Steve Terry acknowledged this, and reiterated that he was recommending that the exception not be made a general exception, and be maintained only in the specialty Articles 520 and 530.

Bob Luther said that the cable size is important when considering hard-usage versus extra hard-usage, so he has a concern for how an exception would be worded. It is easy to put 12/3 cable in some place where the jacket might be damaged, but difficult to do that with 12/18 cable. The latter is as large as a tree branch.

There was more discussion about if or how the application of load diversity impacts this issue. The discussion concluded with Steve saying he would abandon any attempt to reference section 400.5.

Steve Terry asked what it would take to get 6-circuit multicables listed. He described the common issues of interoperability of connectors, and of the required cable types (hard usage, or extra-hard usage). Hans Lau said he had a concern about the listing requirement for the entire cable assembly, when the code has a listing requirement only for the cable itself. Ty Mellon said he was not aware of any listed 6-circuit connector on the market. Bob Luther suggested we have an opportunity to clean this up. Steve Terry said he thought the NEC proposal would be difficult to get accepted by the NFPA without a listing requirement for the entire cable assembly.

Ty Mellon asked to assigned to any task group that might be created for developing cable assembly listing criteria. Ty Mellon then had to leave the EPWG meeting. There was therefore no further discussion of NRTL-testing for multi-cable.

The topic was discussed extensively, but generated no action for the Electrical Power Working Group as a TSP working group.

### **8.1.2 NEC proposal ideas**

*From the October minutes: "Mitch Hefter pointed out people in the working group who are on Code Panel 15. He suggested that people with possible NEC proposals bring them to this group for discussion."*

Hans Lau said that there is work being done on new language for Article 530. The plan is for something by June for the EPWG and other code panel people to discuss it.

### **8.2 Above & Beyond Awards**

Justin Bennett noted that the Above & Beyond Awards may be found at [http://tsp.esta.org/tsp/news/award\\_recipients.html](http://tsp.esta.org/tsp/news/award_recipients.html). The nomination site is open year round, and the award is designed for members to highlight the work of their peers. The deadline for nominations is November 1.

### **8.3 IES report**

Mitch Hefter reported that the BSR/IES RP 42, Recommended Practice: Dimming and Control Method Designation, is in public review until April 20, along with several other IES standards.

Karl Ruling said that 18 IES draft standards in public review were announced in the last issue of *Standards Watch*.

## **9 Schedule for future meetings**

Bennett noted that the current meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>, said Justin Bennett.

The Summer 2020 meetings are scheduled to be held in conjunction with the North American Theatre Engineering and Architecture Conference in New York City, 19-20 July 2020. The COVID-19 pandemic is being monitored by NATEAC organizers to see if the conference can proceed as planned.

*[On April 7 NATEAC organizers announced that NATEAC is being postponed until 2021. Summer meetings will be via WebEx.]*

The October meetings are now planned for the first weekend of October at the Marriott Solana in Westlake, TX.

## **10 Adjournment**

Having reached the end of the agenda, Justin Bennett declared the meeting adjourned at 13:22.

Electrical Power Working Group Members as of 6 April 2020

<b>Delegate</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
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.	P	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 6 April 2020

<b>Delegate</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
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	O	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	I	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 6 April 2020

Delegate	Representing	Voting status	Int. cat.
Stewart Stephens	Ashford Management Group	O	G
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