

**Minutes**  
**Electrical Power Working Group**  
Wednesday, 18 March 2015, 3:00 p.m. - 6:00 p.m.  
Hilton Netherland Plaza  
Cincinnati, OH

**Presiding co-chairpersons:**

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

**Recording secretaries:**

Erin Grabe; PLASA NA; exf; G  
Karl G. Ruling; PLASA NA; exf; G

**Members in attendance:**

Matthew Antonucci; Contract Services Administration Trust Fund; P; U  
Justin Bennett; I; U  
Stephen (Steve) Brock; Bender ET Inc.; Bender GmbH & Co. KG; A; MP  
Richard Cadena; Academy of Production Technology; O; G  
James Davey; AC Power Distribution Inc.; P; CP  
Michael G. Davis ; Mole-Richardson Co.; A; CP  
Casey Diers; DesignLab Chicago, Inc.; A; DR  
Don Earl; Earl Girls, Inc.; P; DR  
Nehad El-Sherif; Littelfuse; Startco; P; MP  
Jerry Gorrell; Theatre Safety Programs; P; U  
Roger Lattin; I.A.T.S.E. Local 728; P; U  
Michael Lay; Philips Color Kinetics; Royal Philips; P; MP  
Nathan Leonard; Bender Group; Bender GmbH & Co. KG; P; MP  
Tyrone Mellon, Jr.; Lex Products Corp.; P; CP  
Elizabeth E. (Lizz) Pittsley; I; U  
Gregory Quinkert; Motion Laboratories; 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

**1 Opening remarks**

Mitch Hefter called the meeting to order at 3:05 p.m.

**2 Attendance and membership**

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

A light green sign-in sheet was passed counterclockwise to sign as self-introductions took place.

Keith Woods, Mike Davis, Lizz Pittsley, and Steve Brock were recognized on WebEx.

**2.2 Determination of quorum**

By a count of raised hands and voice votes, Mitch Hefter declared a supermajority present.

**2.3 Recognition of alternate voting members**

Mike Davis was recognized by Mitch Hefter as an alternate voting in place of the principal.

## 2.4 Requirements for membership

*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. 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

As of this meeting, the following voter has missed three consecutive meetings and was moved to observer:

George Long; Aggreko; P; DR

## 2.6 Processing of new and other membership requests

*As of 26 February 2015 the following applications have been received and logged:*

Jeremy Day; Lumenpulse Lighting, Inc.; O; MP

Mike Harwood; William F. White International; O; DR

Robert Harris; IATSE Local 891; O; U

Steve Vanciel; IATSE Local 631; P; U

Larry Schoeneman moved to accept the new applications. The motion was seconded and approved by a show of hands and voice votes.

## 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	Interest category
James Eade	ABTT	P	G
James Davey	AC Power Distribution Inc.	P	CP
Nathan Leonard	Bender GmbH & Co. KG	P	MP
Torsten Gruhn	Bender GmbH & Co. KG	A	MP
Stephen (Steve) Brock	Bender GmbH & Co. KG	A	MP
Matthew Antonucci	Contract Services Administration Trust Fund	P	U
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Casey Diers	DesignLab Chicago, Inc.	A	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
Ed Garstkiewicz	Harting KGAA	P	G
Howard Forryan	Harting KGAA	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
R. Bruce Prochal	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	I.A.T.S.E. Local 728	A	U

Name	Representing	Voting status	Interest category
Stephen Vanciel	IATSE Local 631	P	U
Keith S. Woods	IATSE Local 891	P	U
Justin Bennett	Justin Bennett	I	U
Ken Vannice	Ken Vannice LLC	I	G
Tyrone Mellon_Jr.	Lex Products Corp.	P	CP
Bob Luther	Lex Products Corp.	A	CP
Brian Eustace	Mole-Richardson Co.	P	CP
Michael G. Davis	Mole-Richardson Co.	A	CP
Gregory Quinkert	Motion Laboratories	P	MP
Michael Lay	Royal Philips	P	MP
Nehad El-Sherif	Startco	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Mitch Hefter	USITT	P	U
<b>Voting Status Key: P = Principal voter, A = Alternate voter, I = Individual voter</b>			
<b>Votes by Interest Category:</b>			
Custom-market producer		CP	3
Designer		DE	0
Dealer or rental company		DR	2
General interest		G	4
Mass-market producer		MP	5
User		U	9
<b>Total votes possible:</b>			<b>23</b>

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

See the draft minutes of the November 2014 meeting, *EPmin11-2014.pdf*

Steve Terry moved to approve the minutes of the November meeting as drafted. The motion was seconded and approved by a show of hands and voice votes, with no opposition.

### 4 Reading of the call for patents

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

PLASA intends not to publish any standard that contains protected intellectual property, unless that information can be licensed by anyone for a reasonable fee. PLASA uses a process of open patent and copyright disclosures to implement its intent. PLASA 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 or 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 Heffer:*

PLASA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all PLASA 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 PLASA meeting, please bring your concern to PLASA management. An easy to read pamphlet describing the antitrust laws is available from the PLASA staff.

Karl Ruling held up the pamphlet. Nothing was revealed.

## **6 Approval of agenda**

Roger Lattin wishes to add the announcement of a new tool to the agenda. Steve Vanciel would like to add an item dealing with a new project to clarify section 520.10 of the NFPA, allowing indoor equipment to be used outdoors.

Roger Lattin moved to approve the agenda as amended. The motion was seconded and approved by a show of hands and voice votes.

## **7 Other business and announcements**

### **8 Old business - task group reports**

#### **8.1 EMC task group**

In response to an email from James Eade to the TSP staff, dated 15 December 2014, Ken Vannice said that the characteristic impedance of the grid is unknown, and that no consensus exists in the industry on how to measure the characteristic impedance. The NEC, NFPA 70, requires a headroom of 30% for the neutral, so that answers that question.

Steve Terry was opposed to having a not-well-considered method for measuring harmonics, since it is likely to become more problematic as end-users without the proper knowledge become involved. Steve Terry suggested that this is a problem that is much larger in the mainstream lighting industry than in the entertainment industry; and that this group should wait to see what mainstream industry does.

The consensus of the group was to continue to consider these topics, but to take no action at this time.

#### **8.2 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.

#### **8.3 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)

The group was reminded that this document was just published.

Steve Terry said that UL 943 has a new edition which requires auto-self-testing for GFCIs with a period of not less than 30 minutes. The new edition goes into effect on 1 June or July 2015. Ty Mellon interjected that manufacturers have tighter tolerances than the required 30 minutes. Steve Terry added that ETC will be withdrawing the Sensor GFCI dimmer from its product line. It was noted that Leviton has already withdrawn their GFCI dimmer module. GFCIs could be used with dimmers, but are unlikely to be built into the dimmers by manufacturers, Steve Terry concluded.

It was remarked that NFPA 70E now requires all cord-connected tools to be protected by GFCIs. There was then some discussion about opening the newly published E1.19 standard early, but the consensus of the group was to wait.

#### **8.4 ANSI E1.24 - 2012, pin connectors** (Revision, reaffirmation, or withdrawal by 2017)

No news or action at this time.

#### **8.5 ANSI E1.32 - 2012, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires** (Revision, reaffirmation, or withdrawal by 2017)

No news or action at this time.

#### **8.6 BSR E1.51—A Canadian E1.18**

*See DraftResols\_BSRE1-51\_ScndRvw.pdf and BSR E1.51 2nd public review resolution of duplicate comments.pdf.*

Ken Vannice moved that we approve the second review draft comment resolutions. The motion was seconded and the topic was opened for discussion. Together as a group, the draft resolution document was modified to the consensus of the members. Ken Vannice modified his motion to accept the amended comment resolutions. The motion was seconded and approved by a unanimous show of hands and voice votes.

Karl Ruling was asked to make the changes to the draft standard, in accordance with the approved resolutions. Ty Mellon moved to approve, by letter ballot, the offering of the forthcoming draft standard to a third public review. That motion was seconded and was approved unanimously by a show of hands and voice votes.

#### **8.7 CSA and UL harmonization**

Ken Vannice reported CSA 22.166 was harmonized. No action at this time.

#### **8.8 Special Purpose GFCI's (SPGFCI)**

Nehad El-Sharif summarized the many proposals he made to have special purpose GFCIs included in NFPA 70.

### **9 New business**

#### **9.1 A proposal about Portable Power Distribution Equipment from Ty Mellon**

*From an email to PLASA from Ty Mellon:*

***Issue:***

*There is currently no standard in place for portable power distribution equipment in Canada. In the United States there is a standard for such equipment, UL 1640, that covers how such equipment should be tested and constructed in the US. Canada lacks such a standard and as such the evaluation for such products for use in Canada by testing laboratories has been scattershot and inconsistent.*

*UL and ETL use CSA-C22.2 No. 14, "Industrial Control Equipment." As the standard for evaluating such product for the Canadian market. From having read CSA-C22.2 No. 14, it is not particularly applicable to the products typically built as portable power distribution equipment. I am not aware of what CSA uses when evaluating such projects.*

***Possible Proposal:***

*That PLASA in some form or another (TSC, EPWG, etc) requests that a safety standard be created for the Canadian marketplace that serves the same purpose as UL 1640 does in the US marketplace. We could send that request to UL as they can create standards for the Canadian market, we could send that request to another body.*

Steve Terry moved that Karl Ruling be directed to propose to UL that a product safety standard for portable power distribution equipment be developed for the Canadian market which serves the same function as UL 1640. The motion was seconded and approved by a show of hands and voice votes, with one abstention.

*Ty Mellon's additional comments on this item:*

*The ways in which portable power distribution equipment is evaluated for the Canadian market seems to be less than standardized compared to the US market. UL typically uses CSA C22.2 No. 14 industrial control panels which does not describe the product type well. I've seen ETL use that and C22.2 No. 60065 Audio, video and similar electronic apparatus – Safety requirements, and QPS has used C22.2 No. 107-01 General use power supplies. In my professional opinion, these standards are not nearly as applicable to portable power distribution units as UL 1640.*

## **9.2 Falling equipment**

*From the November 2014 EPWG draft minutes:*

*Ty Mellon moved that the working group wait for the results of the Rigging Working Group's task group's study before deciding what action to take on this issue. That motion was seconded and approved by a show of hands with two objections.*

*From the January 2015 RWG draft minutes:*

*Bruce Darden reported that he spoke with Gary Fails of City Theatrical who reported that only about 1% of their accessories sold in the U.S. are equipped with safety cables. He added that the spring-loaded gel retainer that was added in the 80's is the primary restraint for gel frames and that no brand of luminaires has a safety feature to prevent the gobo holder from falling out. E1.32 requires inspection of the spring clip and requires that the user check to be sure a safety cable is present. Bruce Darden concluded with a recommendation that the RWG not get involved with this issue since the EPWG has already set a precedent with E1.32.*

*Karl Ruling added that UL 1573 has a testing method and that E1.32 says the cable needs to be present, but does not actually say that it shall be used. Neither UL 1573 nor E1.32 are use standards, they are testing and inspection standards. The EPWG is passionate about this issue. Bill Sapsis agreed that the RWG should keep away from the issue.*

*Karl Ruling said that the issue would be brought to the EPWG. Bill Sapsis asked to bring the issue back if the EPWG doesn't take action.*

Steve Terry moved to begin a new project to take up this issue. The motion was seconded. A New Project notification will need to be sent to the TSC for approval, and a PINS form will need to be filed with ANSI soon after.

Karl Ruling volunteered to begin the framework for this project, along with the help of Casey Diers and Justin Bennett, who both volunteered their assistance. The motion was approved by a unanimous show of hands.

## **9.2 Use of indoor equipment outdoors**

Steve Vaniel described the issues with indoor equipment being used outdoors. This began a discussion of how to address the issue of misuse: Is it a series of articles in Protocol articles? Or, is it a standard telling people how to safely use indoor equipment outdoors? There was further discussion, during which an interest in doing a recommended practice document became clear.

Steve Terry moved that we start a project to write a standard to cover the safe use of indoor equipment outdoors in compliance with NFPA 70: 2014, sections 520.10 and 530.6. The motion was approved by a unanimous show of hands and voice votes.

Steve Vaniel was appointed the task group leader by Mitch Hefter, with Matt Antonucci and Lizz Pitsley to join in the work.

## **9.3 New tool**

Roger Lattin reported on new pliers that work well for helping to turn cam-type connectors without destroying them.

#### **9.4 Call for donations**

Ken Vannice said that the TSP needs donations. The TSP is seeking pledges of \$5,000 a year for five years, or any continued support that members can give.

Ken Vannice reminded the group that the TSP is partially funded by ProSight Specialty Insurance, which would like to offer you a quote. Please consider asking them for a quote when your policies are up for review.

#### **9.5 Above & Beyond Awards**

Mitch Hefter reminded the group that the nomination site is open year round at [tsp.plasa.org/AboveandBeyond](http://tsp.plasa.org/AboveandBeyond).

It was also noted that EPWG member, Larry Schoeneman, received an Above & Beyond award from the TSC for his continued success at fund-raising for this program.

#### **9.6 TSP sessions at LDI 2015**

Roger Lattin and Steve Vanciel both offered suggestions to the staff for inclusion in the 90-minute session at LDI.

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

The group was reminded that the next meeting will take place in conjunction with the July meetings in Westlake, TX. Keep an eye on the meeting schedule at <http://na.plasa.org/news/meetings.php> for the most current information.

[Subsequent to this meeting, the next EPWG meeting time was confirmed as being on Thursday, 23 July 2015, from 7:00 p.m. to 10:00 p.m. at the D/FW Marriott Solana in Westlake, TX.]

#### **11 Adjournment**

Roger Lattin moved to adjourn. The motion was seconded. The motion was accepted by a show of hands and voice votes. Mitch Hefter declared the meeting adjourned at 5:20 p.m.

Name	Company	Representing	Voting status	Int. cat.
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Matthew Antonucci	Contract Services Administration Trust Fund	Contract Services Administration Trust Fund	P	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Justin Bennett	Justin Bennett	Justin Bennett	I	U
Kaleb Best	Tait Towers	Tait Towers	O	MP
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Ron Bonner	PLASA Technical Resources Office	PLASA EU	O	U
Eric Bouchard	Cirque du Soliel	Cirque du Soliel	O	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	O	U
Stephen (Steve) Brock	Bender ET Inc.	Bender GmbH & Co. KG	A	MP
André Broucke	André Broucke	André Broucke	O	G
Richard Cadena	Academy of Production Technology	Academy of Production Technology	O	G
Vincent J. Cannavale	Motion Laboratories	Motion Laboratories	O	CP
Michael J. Carnaby	Mikan Theatricals	Mikan Theatricals	O	DR
Edward R. Condit	Edward R. Condit	Edward R. Condit	O	U
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
Michael G. Davis	Mole-Richardson Co.	Mole-Richardson Co.	A	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
Kenny Delahoussaye	Aggreko	Aggreko	O	DR
Casey Diers	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	A	DR
Jim Digby	The Collaborative Endeavor Group	Linkin Park Touring/The Collective	O	U
William Drake	Marinco	Power Products, LLC	O	MP
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP



Name	Company	Representing	Voting status	Int. cat.
Steve 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	Littelfuse	Startco	P	MP
Brian Eustace	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	O	MP
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Howard Forryan	Harting Ltd.	Harting KGAA	A	G
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	A	G
Ed Garstkiewicz	Harting Inc., North America	Harting KGAA	P	G
Richard B. Glickman	Gliconen Corporation	Rosco Laboratories	O	MP
Reuben Goldberg	Technic Services	Technic Services	O	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Erin Grabe	PLASA NA	PLASA NA	exf	G
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	O	MP
Torsten Gruhn	Bender Inc.	Bender GmbH & Co. KG	A	MP
Robert P. Harris	IATSE Local 891	IATSE Local 891	O	U
Mike Harwood	William F. White International	William F. White International	O	DR
Mitch Hefter	Mitch Hefter	USITT	P	U
Peter Herrmann	Motion Laboratories	Motion Laboratories	O	CP
David Herrmann	Motion Laboratories	Motion Laboratories	O	CP
Jim Holladay	Luxence	Luxence	O	G
Simon Hunt	IATSE Local 891	IATSE Local 891	O	U
Tyrone Mellon_Jr.	Lex Products Corp.	Lex Products Corp.	P	CP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP

Name	Company	Representing	Voting status	Int. cat.
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	O	MP
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
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	DR
Nathan Leonard	Bender Group	Bender GmbH & Co. KG	P	MP
Dave Lester	Clair Global	Clair Global	O	U
George Long	Aggreko Event Services	Aggreko	O	DR
Bob Luther	Lex Products Corp.	Lex Products Corp.	A	CP
William L. Maiman	William L. Maiman	William L. Maiman	O	U
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	MP
Greg Mayberry	AC Power Distribution Inc.	AC Power Distribution Inc.	O	CP
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	O	MP
Jeff T. Miller	Worldwide Standards and Auditing	Walt Disney Company	O	U
Kevin O'Brien	Bestek Lighting & Staging	Bestek Lighting & Staging	O	U
Natti Pierce-Thomson	North American Theatre Technology	North American Theatre Technology	O	U
Elizabeth E. (Lizz) Pittsley	Elizabeth Pittsley	Elizabeth Pittsley	I	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Gregory Quinkert	Motion Laboratories	Motion Laboratories	P	MP
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Karl G. Ruling	PLASA NA	PLASA NA	exf	G
Jared Saltzman	Jared Saltzman	Jared Saltzman	O	U
Larry Schoeneman	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	P	DR
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP

Name	Company	Representing	Voting status	Int. cat.
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Jonny Starr	TMB	TMB	O	MP
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	O	G
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Robert Timmerman	Philips Color Kinetics	Royal Philips	O	MP
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
Richard Wolpert	Union Connector Company (MO)	Union Connector Company	O	CP
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G

**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