

Minutes
Electrical Power Working Group
Wednesday, 20 March 2013
Hyatt Regency Milwaukee
Milwaukee, WI

Presiding Chairman: Ken Vannice

Recording Secretary: Karl G. Ruling; PLASA

Members Attending:

James Davey; AC Power Distribution Inc.; P; CP
Jeff deRecat; Marinco (Actuant Corporation); P; MP
Wendy Holt; AMPTP/CSATF, representing AMPTP; P; G
Joe Boardman; Bender Inc. (Bender GmbH & Co. KG); A; MP
Larry Schoeneman; DesignLab Chicago, Inc.; P; DR (arrived at 10:12)
Edward R. Condit; Edward R. Condit; O; U
Steve Terry; Electronic Theatre Controls, Inc.; P; MP
Art Wanuch; Entertainment Electrical Safety Committee of Ontario; A; G
Rodger Dean; R. Dean Lighting Limited, representing the Entertainment Electrical Safety Committee of Ontario; A; G
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
Alan M. Rowe; IATSE Local 728; A; U
Ken Vannice; Leviton Manufacturing Co., Inc.; P; MP
Bob Luther; Lex Products Corp.; P; CP
Tyrone Mellon_Jr.; Lex Products Corp.; A; CP
Louis Bradfield; Louis Bradfield; P; U
Erin Grabe; PLASA NA; ex officio
Jerry Gorrell; Theatre Safety Programs; P; U
Mitch Hefter; Mitch Hefter representing USITT; P; U
Jeff T. Miller; Worldwide Standards and Auditing (Walt Disney Company); P; U

Visitors:

None

1 Opening remarks

Ken Vannice called the meeting to order at 9:03 by welcoming everyone.

2 Attendance and membership

2.1 Introduction of those present and taking attendance

A bright green sign-in sheet was passed clockwise while self-introductions took place counterclockwise.

2.2 Determination of quorum

Ken Vannice asked for a show of hands of voting members and announced a quorum present.

2.3 Recognition of alternate voting members

2.4 Requirements for membership

Ken Vannice read the following statement aloud to the assembly:

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

Members who have missed the previous two meetings and who will not have met the minimum attendance requirement for voters if this meeting is missed:

2.6 Processing of new membership requests

Bob Luther asked that Ty Mellon become the principal for Lex Products, moving himself to alternate.

Art Wanuch asked to become the principal for Entertainment Electrical Safety Committee of Ontario with Ian Foulds being moved to alternate and Roger Dean (applying) as an alternate.

Jeff deRecat asked to be made a principal voting member again with William Drake as his alternate.

Steve Terry moved that the working group accept the applications. The motion was seconded and approved by a show of hands with no opposition and no abstentions.

2.7 Consensus body

The full consensus body during this meeting, including those not present, was:

Name	Representing	Voting Status	Interest Category
James Davey	AC Power Distribution Inc.	P	CP
Greg Mayberry	AC Power Distribution Inc.	A	CP
Richard Cadena	Academy of Production Technology	P	G
Jeff deRecat	Actuant Corporation	P	MP
William Drake	Actuant Corporation	A	MP
Wendy Holt	Alliance of Motion Picture and Television Producers	P	G
Nathan Leonard	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender GmbH & Co. KG	A	MP
Torsten Gruhn	Bender GmbH & Co. KG	A	MP
Stephen (Steve) Brock	Bender GmbH & Co. KG	A	MP
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Jody Williquette	Electrivot, Inc.	P	CP
Steve Terry	Electronic Theatre Controls, Inc.	P	MP
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

Name	Representing	Voting Status	Interest Category
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
Keith S. Woods	IATSE Local 891	P	U
Ken Vannice	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	A	MP
Tyrone Mellon_Jr.	Lex Products Corp.	P	CP
Bob Luther	Lex Products Corp.	A	CP
Sean Sloat	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	P	U
Brian Eustace	Mole-Richardson Co.	P	CP
Alex Yoon	Mole-Richardson Co.	A	CP
Vincent J. Cannavale	Motion Laboratories	P	CP
Peter Herrmann	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	A	CP
Michael Lay	Royal Philips Electronics	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Mitch Hefter	USITT	P	U
Total votes possible		21	
Votes by interest categories:		5	CP
		0	DE
CP, Custom-market producer		1	DR
DE, Designer		4	G
DR, Dealer or Rental Company		5	MP
G, General interest		6	U
MP, Mass-market producer			
U, User			

3 Approval of the minutes from the previous meeting

See the draft minutes of the 25 January 2013 meeting, *EPmin01-2013.pdf*

Roger Lattin moved that the draft minutes be approved as written. The motion was seconded and unanimously approved by a show of hands.

4 Reading of the call for patents

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

"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

Ken Vannice read the following statement to the assembly.

"The PLASA Board of Directors, the Technical Standards Council, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or PLASA chairman immediately.

"PLASA legal counsel has informed us that violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

No anti-trust issues were raised.

6 Approval of agenda

Roger Lattin asked to add a report on UL 1573.

Steve Terry asked to add a discussion of powerCONcon appliance connectors and an emergency lighting update.

Roger Lattin moved that the modified accepted approved. The motion was seconded and unanimously approved by a show of hands.

7 Old business - task group reports

7.1 EMC task group

From the draft January minutes:

The next meeting is January 30 & 31, 2013 at NEMA headquarters in Rosslyn, VA. Stay tuned

Ken Vannice reported on issues related to the IEEE working group that is creating a harmonics standard for North America to work better than IEC 61000-3-12. He said that progress being made, but slowly. Canadian utilities object to the slow rate, and are intractably against any allowance of harmonics. However, they are backing off on regulations for CFLs, since LEDs are taking over that domestic retro-fit market, and working on CFLs would not be worth the effort. Powerline harmonics are largely a consumer product issue, and not an industrial issue.

The US approach is to look at the percentage of the load that creates harmonics. The problem is clearly with motor controls, which are an expanding part of the connected load and have significant harmonics.

Vannice submitted a written report after the meeting. That report is appended to these minutes.

7.2 ANSI E1.16-2002 (R2012)

No news.

7.3 BSR E1.19 – 201x, Recommended Practice for the Use of Class A Ground-Fault Circuit Interrupters (GFCIs) Intended for Personnel Protection in the Entertainment Industry

Report on final vote. Action to resolve objections.

The working group voted to accept the revised standard as an ANS. (See EP_Ballot2013-7002r1_results.pdf) However, there were comments and reasons on the ballot. These were discussed and resolved:

Name: Nathan Leonard - Bender GmbH & Co. KG (MP)

Vote: Yes with comments

Time: 2013-02-22 14:12:15 PT

Comments: It is agreed that recommending a response time that is higher than the UL requirements will reduce nuisance tripping in some cases, but would recommend that the bandwidth range be increased by changing 50% to 25% of the permissible response times as described in UL943 for ground fault currents up to 40mA. This would allow for a greater number of GFCIs to be available to the marketplace while still preventing nuisance tripping in electrically noisy environments.

There was discussion. Joe Boardman said his company's newest product line meets this 50% response time. There was no technical reason brought forth in the discussion for why others can't meet this delay. Ty Mellon said that he had talked to Leviton engineers, and they said that the 50% delay is no problem. They don't make a product like that now because there has been no market demand.

Steve Terry reminded us that the 50% trip time was set to eliminate nuisance tripping. If we move to 25%, that will increase the probability of nuisance tripping.

Steve Terry moved that we reject the suggestion. The reason being that the 50% response time was selected to reduce nuisance tripping. A 25% response time will not reduce this nuisance tripping as effectively. The motion was seconded and unanimously approved by a show of hands. This was a supermajority.

Name: Steve Terry - Electronic Theatre Controls, Inc. (MP)

Vote: No with reasons

Time: 2013-02-25 10:37:43 PT

Comments:

1. Section 6.2.4 references a non-existent section 4.6.

2. Section 4.3.1.1 calls out "variable voltage GFCI's." I am not aware of any such stand-alone GFCI device that will operate safely down to zero volts, as provided on a dimmer output. There are stand-alone GFCI devices that have separate non-dimmed inputs, or there are GFCI Dimmers listed as a complete assembly. There is no such thing as a "variable voltage GFCI".

3. Section 4.3.1.2 states that phase-control dimmers can be ordered with special harmonic-canceling filters, thus making them immune from nuisance tripping when fed by a GFCI. I am not aware of any such device. Moreover, the issue with feeding phase control dimmers from a GFCI is not limited to nuisance tripping. A GFCI in this application must be specifically evaluated and listed for the non-sinusoidal current waveform produced by a phase-control dimmer. This requires the GFCI to sense peak current rather than RMS current. Such a device is the Leviton 36895, which is a "Dimmer GFCI" with a constant power feed and a dimmed feed. This section needs to be clear that a normal GFCI cannot safely feed a phase control dimmer, even if a mythical harmonic cancellation filter were available to mitigate nuisance tripping.

Terry said he does not believe that there are Listed GFCIs that will work on a dimmed output without a separate constant supply.

Ty Mellon moved that we strike the "or by using a variable voltage GFCI" in the standard. The motion was seconded and approved by show of hands with one abstention and the rest Yes votes.

Roger Lattin moved that 4.3.1.2 be changed to read:

4.3.1.2 GFCIs feeding phase control dimmers

Phase-control dimmers create harmonic currents on the load and supply sides of the circuit. The GFCI may read this as a current difference and turn off the circuit, resulting in a nuisance trip situation. Also, the GFCI may not respond correctly and safely with non-sinusoidal loads. ~~Dimmers can be special ordered with filters to cancel out the harmonic current.~~ Check with the dimmer and GFCI manufacturers regarding specific models or and applications.

The motion was seconded and there was discussion.

The motion passed with a show of hands, with one abstention, no opposition, and the rest Yes. This was a supermajority.

Clause number reference problem is an editorial matter, and will be corrected.

Mitch Hefter said that his objections were resolved by these responses to Steve Terry's objections.

Keith Woods's objections were considered.

Name: Keith S. Woods - IATSE Local 891 (U)

Vote: No with reasons

Time: 2013-03-11 11:13:15 PT

Comments:

My reasons for my "No, with reasons" is below:

In referenceing the Canadian Electrical Code, one must reference the entire CEC, referred to colloquially as "The Code", not just sections of The Code in a stand-alone reference. Therefore, the following sections need to be revised as follows:

3.2 Theatres: All buildings or that part of a building or structure, indoor or outdoor, designed or used for presentation, dramatic, musical, motion picture projection, or similar purposes and to specific audience seating areas within motion picture television studios. These areas are within the scope of US NFPA 70 (National Electrical Code) Article 520, Mexico Electrical Code Article 520 and ~~Canadian Electrical Code section 44~~ the Canadian Electrical Code Part 1, C22.1.

3.3 Carnivals, circuses, fairs, sporting events and similar events: The portable wiring and equipment for the above including wiring on all structures. These areas are within the scope of US NFPA 70 (National Electrical Code) Article 525, Mexico Electrical Code Article 525 and ~~Canadian Electrical Code section 66~~ the Canadian Electrical Code Part 1, C22.1.

3.4 Motion picture studios and similar locations: Professional television and motion picture studios and exchanges, factories, laboratories and stages. These areas are within the scope of US NFPA 70 (National Electrical Code) Article 530, Mexico Electrical Code Article 530 and ~~Canadian Electrical Code section 48~~ the Canadian Electrical Code Part 1, C22.1. Excluded are audience areas of television and motion picture studios that are considered part of a theatre.

As can be seen, I have crossed out the sections mentioned, and just added the wording "Canadian Electrical

Code Part 1, C22.1" in it's place. This is the correct way to reference The Code in Canada, and we should do so as well. It should be noted that this will also help when things are added, or deleted; such as Section 48, which was deleted in the 2012 addition of the CEC Part 1, C22.1.

This method is evident in the wording below, found in a description of the CEC:

"The Code is divided into numbered Sections, each covering some main division of the work. Sections 0 to 16 and 26 are considered general sections, *and the other sections supplement or amend the general sections.*" Italics are mine.

As well, when studying for the Full Entertainment Electrical Certificate in British Columbia, Canada, my jurisdiction, one studies the list below, from the C of Q forms available from the BC Electrical Safety Authority:

Area of Applicable items from the Reference Material List & the following sections of the study:

B.C. Electrical Code Regulation

0, 2, 4, 8, 10, 12, 14, 16, 26, 28, 30, 34, 42, 44, 48, 66, 76.

It is for these reasons, that I feel BSR E1-19r15 needs to be revised to reflect the correct wording in association with the Canadian Electrical Code Part 1, C22.1. Agreed, it does mean we are mentioning the scope of The Code, and bringing all electrical systems in Canada into our document, but that is how it is done in my jurisdiction. All electrical systems are intertwined and are part of the whole, not an individual system separate from other electrical systems in use in Canada.

Steve Terry moved that we reject Woods's objections. The motion was seconded.

Terry gave reasons for rejecting the objections: The rest of the Code is implicitly referenced. The structure of the CEC is similar to the structure of the NEC in that the separate industry sections modify the general requirements. However, we reference the sections simply to define the industries in which our standard is applicable. We do not suggest ignoring the rest of the CEC. Furthermore, the commenter provided no text from the CEC or other documents that show a prohibition against citing individual CEC sections.

Roger Dean said that Woods's objections are simply incorrect. It is acceptable in Canada to cite specific sections of the Code.

The motion carried with a unanimous show of hands, with no abstentions and no objections. This was a supermajority.

Eddie Kramer moved that we change the CEC reference from 48 to 66. The motion was seconded and approved by a unanimous show of hands. There were no abstentions or objections. This was a supermajority.

The above actions concluded the resolution of comments and reasons on the letter ballot accepting BSR E1.19 as an ANS, but the contents of the proposed standard were discussed further.

Wendy Holt reported that Mike Skinner objected to wording that requires the use of GFCIs in motion picture studios and locations that take the standard beyond the requirements of the NEC. There was considerable discussion about risk assessment and situations in film and video production where the use of GFCI will result in reducing safety in the workplace or unequivocally will not increase safety.

Eddie Kramer moved that we rescind the approval of the draft standard to implement the agreed upon changes and to consider possible the concerns of the motion picture and television industry, as expressed by Wendy Holt. The motion was seconded and then approved with a unanimous show of hands. This was a supermajority.

Ken Vannice proposed a task group to this matter and appointed the following members to the task group: Ty Mellon, Art Wanuch, Joe Boardman, Wendy Holt, Alan Rowe, Jerry Gorrell, and Jeff Miller.

7.4 ANSI E1.24 - 2012, pin connectors

No news or action.

7.5 ANSI E1.32 - 2012, Guide for the Inspection of Entertainment Industry Incandescent Lamp Luminaires

No news or action.

7.6 Grounding and Bonding on portable structures and electrical systems

From the draft January minutes:

Art Wanuch reported that the task group had produced four working documents:

- 1) an extract from the NEC of what is required*
- 2) a best practices document with examples of what to do and what not do (largely pictorial)*
- 3) what earth impedances to expect*

Draft EPWG Minutes 25 January 2013 EP/2013-7003

- 4) two part document: (a) grounding practices with generators and (b) bonding practices.*

Wanuch said that he thought a project update would be available in March with a complete document for the group to look at in July.

Update?

Art Wanuch said that he will have a draft to the working group for the August meeting.

7.7 A Canadian E1.18

From the draft January minutes:

Eddie Kramer moved that Art Wanuch and the Entertainment Electrical Safety Committee of Ontario continue work on the document for Canadian work practices and present it again to the EPWG for further consideration.

Update?

Rodger Dean said that more work is needed. There was further discussion of the direction of the document, but no motions were made or votes taken.

7.8 CSA and UL harmonization

From the draft January minutes:

Ken Vannice said that he is on the CSA stage and studio luminaire standard committee. If people have questions or comments, talk to him.

Any report or action?

Ken Vannice said he will submit a written report to the group.

8 New business

Steve Terry said that he would hold his two items for another meeting, but he added that there is activity in the industry with people wishing to use UL-recognized powerCON True1 connectors in place of pin connectors. Terry says that we need to collect more information to help with a conversation on this topic later.

Lattin said that he's talked to Hollywood manufacturers and Arri people and they have wish-lists for UL 1573. There is concern about the burn position used during testing.

Vannice said that if people have problems with the Canadian stage and studio luminaire standards he needs to know what those problems are. Terry suggested that we need to work with CANENA. There was a brief discussion of the difficulty of the CANENA process.

9 Other business

Jeff Miller of Worldwide Standards and Auditing in the Walt Disney Company submitted an application to join the working group as a voting member. Eddie Kramer moved that his application be accepted. The motion was seconded, and then approved with a show of hands.

10 Schedule for future meetings

It was announced that the July meetings in Texas have been rescheduled to avoid a conflict with IATSE's 67th Quadrennial in Boston. The new date for the EPWG meeting is Friday, 02 August 2013 at the D/FW Marriott Solana in Westlake, Texas.

The consensus was that we will need another hour to accomplish our work, and so should start an hour earlier. Thus, the working group will meet from 8:00 to noon instead of the initially scheduled 9:00 to noon.

11 Adjournment

Larry Schoeneman made a motion to adjourn. The motion was seconded and approved by a show of hands. Ken Vannice declared the meeting adjourned at 12:02.

Electrical Power Working Group Membership and Contact Information as of 28 March 2013

Name (Sort field)	Company	Representing	Voting Status	Int. Category
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
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	P	U
Stephen (Steve) Brock	Bender ET Inc.	Bender GmbH & Co. KG	A	MP
André Broucke	André Broucke	André Broucke	O	G
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	O	CP
Richard Cadena	Academy of Production Technology	Academy of Production Technology	P	G
Vincent J. Cannavale	Motion Laboratories	Motion Laboratories	P	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
Jeremy Day	Philips Color Kinetics	Royal Philips Electronics	O	MP
Rodger Dean	R. Dean Lighting Limited	Entertainment Electrical Safety Committee of Ontario	A	G
Kenny Delahoussaye	Aggreko	Aggreko	O	DR
Jeff deRecat	Marinco	Actuant Corporation	P	MP
Jim Digby	The Collaborative Endeavor Group	Linkin Park Touring/The Collective	O	U
William Drake	Marinco	Actuant Corporation	A	MP
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Steve DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
James Eade	PLASA	PLASA EU	O	G
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	O	DR
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

Name (Sort field)	Company	Representing	Voting Status	Int. Category
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
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Torsten Gruhn	Bender Inc.	Bender GmbH & Co. KG	A	MP
Mitch Hefter	Mitch Hefter	USITT	P	U
Peter Herrmann	Motion Laboratories	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	Motion Laboratories	A	CP
Jim Holladay	Luxence	Luxence	O	G
Wendy Holt	AMPTP/CSATF	Alliance of Motion Picture and Television Producers	P	G
Simon Hunt	IATSE Local 891	IATSE Local 891	O	U
Richard L. Eberth_Jr.	North Shore Safety	Airpax Corporation	O	MP
Tyrone Mellon_Jr.	Lex Products Corp.	Lex Products Corp.	P	CP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
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 Electronics	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.	A	CP

Name (Sort field)	Company	Representing	Voting Status	Int. Category
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	O	MP
Jeff T. Miller	Worldwide Standards and Auditing	Walt Disney Company	P	U
David Murray	IPC Resistors Inc.	IPC Resistors Inc.	O	CP
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	O	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Jared Saltzman	Jared Saltzman	Jared Saltzman	O	U
Larry Schoeneman	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	P	DR
Ford Sellers	Cornell University	Cornell University	O	U
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Sean Sloat	Lex Products Corp.	Lex Products Corp.	A	CP
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 Electronics	O	MP
Eric Tishman	Rosco Laboratories	Rosco Laboratories	O	MP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	O	U
Ken Vannice	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	P	MP
Art Wanuch	Entertainment Electrical Safety Committee of Ontario	Entertainment Electrical Safety Committee of Ontario	P	G
Colin Waters	TMB	TMB	O	DR
Jody Williquette	Electrivers, Inc.	Electrivers, Inc.	P	CP
Richard Wolpert	Union Connector Company	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
Alex Yoon	Mole-Richardson Co.	Mole-Richardson Co.	A	CP

Key to Voting Status and Interest Category:

Voting Status		Interest Category	
P	Principal voting member	CP	Custom-market Producer
A	Alternate voting member	MP	Mass-market Producer
I	Individual voting member	DE	DEsigner
O	Observer non-voting member	DR	Dealer/Rental company
		U	User
		G	General interest

Report on IEEE P1836-37 WG on Power Harmonics

Ken Vannice

3/28/13

I want to begin this report by pointing out that this is not a USA/Canada conflict. It is a utility/manufacturer conflict. On the utility side the Canadians, represented by the Canadian Electricity Association, are driving the conflict as the Americans don't see a problem and don't care. On the manufacturer's side both the Canadian and Americans care but their side is being represented by Electro-Federation Canada. The manufacturers are not only representing themselves but also the users in that rising costs will decrease use.

1. Before the face-to-face meeting the Canadian utilities expressed their dismay as to the lack of progress on the manufacturer's side to come around to the utilities' position and questioned whether it was worth continuing or showing up to the meeting. The manufacturers expressed their dismay as to the lack of substantiation of the utilities' proposal.
2. A face-to-face meeting was held in Rosslyn, VA on January, 30-31, 2013. The same sentiments were exchanged. It was decided that since they were together they would try to accomplish something. The two groups caucused for the rest of the first day.
3. It was once again re-iterated that this standard was to only cover consumer products.
4. The lighting segment continues to be the only manufacturer's segment with a plan. Our plan has not changed. We pointed out that no one was working on CFL's as the development energy was moving to LED's. To put restrictions on products that were saving energy for now and would eventually leave the market would drive them out of use prematurely. It was agreed to leave CLF's alone and leave the LED's to follow all the IEC work currently going on.
5. It was agreed that instead of covering all products like the IEC standard does, specific segments of the industry would be targeted based on the size of the total load on the grid modified by its power factor. This would be placed in a new Class E. A major problem seemed to be with the variable-speed motor drives. In order to increase energy efficiency more and more simple motors are being replaced with variable-speed motors in heaters and air conditioners.
6. It was agreed that the IEC limits needed to be related to this standard. The co-chairs were tasked with coming up with a multiplier appropriate for North America.
7. One of the next steps is to actually draft the document.
8. The next meeting was a webinar meeting on March 18 where the co-chairs presented their proposed k-factor and its justification. Another webinar is scheduled for April 16.