

# Minutes

## Electrical Power Working Group

Friday, November 19, 1999  
Peabody Hotel  
Orlando, FL

Co-chairs: Bob Luther; Lex Products Corp.; Principal; Producer  
Ken Vannice; NSI Corporation (Leviton Manufacturing Co., Inc.); Principal; Producer

Recording secretary: Karl G. Ruling

Members present: Jeff deRecat; Advanced Devices; Advanced Devices; Alt.; Producer (joined at this meeting)  
Doug Kraus; Advanced Devices, Inc.; Principal; Producer  
David Evaniew; B. I. M. Limited; Principal; Producer (joined at this meeting)  
Tim Bachman; Barbizon Light (Barbizon Companies); Principal; User  
Trevor Forrest; Helvar Lighting Control; Principal; Producer (joined at this meeting)  
Edwin S. Kramer; IATSE, Local 1; Principal; User  
Roger Lattin; IATSE Local 728; Alt.; User (joined at this meeting)  
Jose J. Flores; Kino Flo, Inc.; Principal; Producer  
Mitchell Stein; Leviton Manufacturing Co., Inc.; Alt.; Producer  
Phil Fram; Marinco; Principal; Producer (joined at this meeting)  
W. G. Krokauger P.E.; Mole-Richardson Co.; Principal; Producer (joined at this meeting)  
Tim Cox; PLASA; Principal; Gen. Interest  
Teddy Van Bommel; PRG Lighting Division (PRG); Principal; User (joined at this meeting)  
Robert Barbagallo; Proximo Inc.; Principal; Gen. Interest  
Colin Waters; TMB Associates; Principal; Producer  
Warren Mays; TMB Associates; Alt.; Producer (joined at this meeting)  
Richard Wolpert; Union Connector Company; Principal; Producer

### 1 Opening remarks

Ken Vannice called the meeting to order at 7:07 p.m. and welcomed the group.

### 2. Attendance and membership

#### 2.1. Introduction of those present

At the invitation of Ken Vannice, those attending introduced themselves, starting from Vannice and proceeding counter-clockwise around the table.

#### 2.2 Determination of quorum (6 needed)

Vannice announced that a quorum was present.

#### 2.3 Recognition of alternate voting members

The group was reminded of the one vote per company or organization rule.

#### 2.4. Requirements for membership

Ken Vannice read the requirements for membership from the P&P, version 3.1.

#### 2.5. Processing of new membership requests

The following people had applied for membership:

Teddy Van Bommel; PRG Lighting Division (PRG); Principal; User  
Hiroshi Kita; Marumo Electric Co. Ltd.; Observer; Producer  
Lee Bloch; Bloch Design Group Inc.; Observer; Gen. interest  
David Evaniew; B. I. M. Limited; Principal; Producer  
Phil Fram; Marinco; Principal; Producer  
Jeff deRecat; Advanced Devices; Advanced Devices; Alt.; Producer  
Brian Parker; Mole-Richardson Co.; Alternate; Producer  
W. G. Krokaugger P.E.; Mole-Richardson Co.; Principal; Producer  
Roger Lattin; IATSE Local 728; Alt.; User  
Trevor Forrest; Helvar Lighting Control; Principal; Producer  
Warren Mays; TMB Associates; Alt.; Producer

Tim Bachman moved that they all be accepted. Bob Barbagallo seconded the motion. The motion was accepted unanimously by a show of hands.

[Note: This vote gave PRG two principals. Subsequent to the meeting, the PRG representatives determined that Teddy Van Bommel would be the alternate and Steve Terry would be the principal.]

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

Tim Cox moved we approve the minutes with the addition of the word "consecutive" in second paragraph of section 2.2. Thus, the section will read:

"Vannice announced that the penalty for non-attendance will be a change of voting status to Observer. At the beginning of the third consecutive meeting missed by both a principal and his alternate, the principal and alternate (if there is one) will be changed to observer."

Kramer seconded the motion. The minutes with this amendment were accepted unanimously.

### 4. Call for Patents

The call for patents was read by Eddie Kramer

"ESTA" intends to publish no standard that contains protected intellectual property, unless that property can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent disclosure to implement this intent. ESTA does not conduct patent searches and does not warrant that its standards contain no protected intellectual property."

"In keeping with the open disclosure policy, I ask if anyone present wishes to notify the working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence."

Kramer also read the Anti-Trust Statement:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this Working Group will reject or nullify any actions that restrain trade. Anyone who feels that an action restraining trade is being or has been taken is requested to bring the 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 ESTA president immediately."

"ESTA legal counsel has informed us that any member of this working group may be found individually liable for any action that restrains trade taken by this working group. An individual convicted of a violation of the Sherman Act may be fined as much as \$100,000 and be imprisoned for up to three years. An easy to read pamphlet describing restraint of trade is available from the Technical Standards Committee."

## 5. Approval of Agenda

Vannice asked that fundraising be added under new business.

Kramer moved that we approve the agenda amended by the addition of fundraising. Colin Waters seconded the motion. Unanimous acceptance by show of hands.

## 6. Old Business

### 6.1 Vision and Mission Statements

Vannice asked that the vision and mission statements be reviewed.

No motions were offered that were supported by a second. No action was taken.

### 6.2 Cable Task Group Report

Tim Bachman reported on the survey results.

Bachman moved that we discuss the survey as a committee of the whole. Bob Barbagallo seconded the motion. Unanimous by show of hands.

Bachman moved that we go through the projects one by one to gauge interest in doing them. Roger Lattin seconded.

Colin suggested that the motion be " that we go through them one by one to gauge interest in doing them and to discuss the validity. " Bachman and Lattin accepted this suggestion.

The motion passed unanimously by a show of hands.

The group then discussed each proposal. At the conclusion of the discussion Eddie Kramer moved that we draft a recommended practice for selection, installation, and use of portable feeder cable. The motion was seconded. By show of hands, the motion was accepted unanimously.

Vannice appointed Roger Lattin and Eddie Kramer co-chairs of the task group to draft a recommended practice for selection, installation, and use of portable feeder cable.

Colin Waters moved that we create a task group for writing a recommended practice for use of GFCI (Residual Current Devices) in entertainment applications. The motion was seconded. Eleven in favor. None opposed. The motion passed.

Ken Vannice noted that we have two potential volunteers (Bob Barbagallo and Mitch Stein), but that we will table the appointment of the chairs until the next meeting.

Colin Waters moved that we form a task group to write a configuration standard for HMI power cables and/or head to ballast cables. Roger Lattin seconded the motion. The motion passed with nine in favor, none opposed, and five abstentions. Vannice and Bob Luther appointed Colin Waters as the task group head.

Mitch Stein moved that a recommended practice for gender orientation of single-pole detachable connectors be rolled into the recommended practice for selection, installation and use of power feeder cables. The motion was seconded. After a brief discussion Mitch Stein withdrew the motion.

Tim Bachman moved that we cease discussion of any more task group projects. Eddie Kramer seconded the motion. It was accepted unanimously.

Bob Barbagallo moved that the cabling projects identification task group be dissolved and thanked for their work. The motion was seconded. Unanimous by show of hands and voice.

### 6.3 Harmonics Task Group Report

Ken Vannice gave his report on his attendance at the third Powerline Harmonics Workshop and on the Low Frequency Emissions Industry Coalition. A written version of the report is appended to these minutes.

## 7 New business

### 7.1 Establish new Task Groups based on report of Cable Task Group Report

This item had been done as old business above.

### 7.2 Fundraising.

Ken Vannice pointed out that the TSP cannot be totally funded from the ESTA general fund, and needs additional funding. What followed was a brainstorming session on fundraising ideas. The ideas included:

- Possibly there should be an increase in the portion of the proceeds from the LDI Institute, which could be used for TSP funding.
- We could have an "ESTA Bake Sale" of surplus equipment.
- We could sell ESTA swag in the trade show lobby.

## 8 Other business

None

## 9. Schedule for future meetings

Vannice announced that the next meeting will be January 21, 2000, from 8:00 a.m. to noon, in Irving, Texas at the Dallas/Ft. Worth Airport Marriott.

The following meeting will be during the USITT Conference and Stage Expo in Denver, CO. The meeting is tentatively set for from 9:00 a.m. to noon on March 22.

The following meeting will be on the morning of July the 14<sup>th</sup>, back at the Dallas/Ft. Worth Airport Marriott.

## 10. Adjournment

Tim Bachman moved that the meeting adjourn. The motion was seconded. Unanimous approval by acclamation. The meeting was adjourned at 10:27 p.m.

Report to ESTA on Harmonics  
by  
Ken Vannice  
November 1999

I attended the third Powerline Harmonics Workshop sponsored by the USCCEMC held at the Sheraton BWI on Oct. 14 – 15, 1999. Forty-one were in attendance. Previous to this workshop was a workshop on the IEC EMC standardization process presented with the help of IEC personnel. Complete workbooks from that workshop are available for \$100 plus shipping.

The first session was devoted to a summary of the state of the situation. It was noted that the USCCEMC 99-01 philosophy paper has been endorsed by:

- Mexican IEC National Committee
- American Electronics Assoc. (Europe)
- UNISYS
- Carrier European Transcontinental Ops.
- Daikin Europe (Air Conditioners)
- ECS Lighting Controls (UK)
- Oce-Technologies (Netherlands)

This list is not a complete one. ESTA was not on it but is now. The Canadian IEC National Committee is still considering it. PLASA has chosen not to endorse it.

IEC SC77A and its various working groups have had various meetings. Most of the proposals the US opposes failed. Some of the meetings were acrimonious. The SC77A is still dominated by European utilities but manufacturer participation is increasing. Agenda and content of work is now being influenced by objective data brought to the table by manufacturers. Having been schooled in the US way of standards making, it is personally disconcerting that the IEC process is more like being in the US Congress than in an ESTA or NFPA meeting.

The US has received complaints about making waves so late in the process. This has caused the US delegation to research the history of the process. The US has continually asked for detailed technical rationales since 1982 and still has received none. Upgrading 61000-3-2 to a standard and making it a horizontal one was accomplished as an editorial change after the vote. In the research the US has found that the models used to create some of the standards are not appropriate for US systems; and there is evidence that they are not even appropriate for European systems. It can be shown that several of the prescribed measurement techniques are ambiguous resulting in different results from the same test. Some tests are overly complex, requiring 2900 passes to adequately demonstrate compliance. The US believes that many of these standards are in poor shape and not ready for implementation.

The Low Frequency Emissions Industry Coalition (LFEIC), of which ESTA is a founding member, reported on their work. This is covered separately below.

One of the purposes of this workshop was to begin to form a US position. Under discussion was a “strawman” created by Ed Yandek of GE proposing limits for the lighting industry. Contained therein was a proposal for the entertainment industry that supported no limits with a maximum V<sub>rms</sub> of 5%. Upon the advice of the Harmonics Task Group of the Electrical Power Working Group I went to the meeting in support of this proposal. The plan was to produce evidence that this level was appropriate for our industry based on the size of power consumption in comparison with the total power consumed. This “strawman” has been temporarily set aside in order to pursue an opportunity in SC77A/WG1/TF5a. In that body a task group has been formed to define a product “impact factor” matrix and product parameter input to that matrix. They are issuing their own survey. The target date for the first draft is 3/00. This is an opportunity for our industry and product mix to position itself within the standards process.

Our energy has been on 61000-3-2 because of its immediacy; however other standards are looming in the distance. IEC61000-3-3, Voltage Fluctuations (Inrush) and Flicker <16A/Phase has the potential of being

equally as onerous. Its main objective is to reduce the inrush on the power lines after a power outage and to reduce the complaints to the utilities about dips at home caused by such things as air conditioners turning on. In the direction it is going all the light switches in your house will have to be changed to microprocessor-controlled devices to ramp on the cold tungsten inrush of your incandescent lights. This process will cause harmonics to be generated which will then have to be mitigated. If this is required in your home, imaging what will be required for stage lighting.

We created four workshop task groups, one to deal with impact factor matrix mentioned above, one to deal with the flicker issue mentioned above, one to deal with another looming issue, interharmonics, and one to deal with EMC safety issues. Interharmonics is a topic of discussion because the Europeans use ripple control systems on the AC lines to control such things as traffic lights and train signals.

The final item before we broke into task groups was to deal with a request from our TA, Dr. Showers. There exists a technical report on EMC safety. It lists safety issue items to consider when writing EMC standards. At the time it was issued the US and 75% of the rest of the world supported it as a technical report. Now there is a group that wants to make it a standard to give it more prestige. The workshop unanimously voted to keep it a technical report based on what other bodies might do with it (like mandate it).

I, along with Karl Ruling, have been involved with the LFEIC. The LFEIC was formed by the following trade organizations:

- Air-Conditioning and Refrigeration Institute
- American Electronics Assoc.
- Consumer Electronics Assoc.
- Copper Development Assoc.
- Electronic Industries Alliance
- ESTA
- Information Technology Industry Council
- National Electrical Manufacturers Assoc.
- Telecommunications Industry Assoc.

Supporting the LFEIC goals are:

- IEC National Committee of Mexico
- European Computer Manufacturers Assoc.
- Information Technology Assoc. of Canada
- Lighting Industry Federation Ltd. (UK)
- Arcarcelyk A.S. (Turkey)
- Carrier s.p.A. (Italy)
- Daikin Europe NV – Design Dept. (Japan)
- American Electronics Assoc. Europe

One of the LFEIC goals is to encourage the EU to postpone implementation of the LFE requirements to 1/1/04 based on the fact that the standards are not ready yet, and that in their present form, constitute a trade barrier. The US Dept. of Commerce and State have become actively involved. The LFEIC has also been working with the Simpler Legislation for the Single Market working group which is currently reviewing the EMC Directive.

The LFEIC is also working towards the revision of the EMC standards. They have issued a Harmonic Emissions Product Impact Assessment Survey that they would like all manufacturers to fill out. The ESTA Harmonics Task Group has been looking at the document and is leaning towards collecting data for an abbreviated survey rather than widely distribute the whole survey for direct submission.

Electrical Power Working Group Roster  
at End of 19 November 1999 Meeting

Name	Company	Parent co./ org represented	Voting Status	Interest cat.
Doug Kraus	Advanced Devices, Inc.	Advanced Devices, Inc.	P	P
Bud Toly	Advanced Devices, Inc.	Advanced Devices, Inc.	A	P
Jeff deRecat	Advanced Devices, Inc.	Advanced Devices, Inc.	A	P
David Evaniew	B. I. M. Limited	B. I. M. Limited	P	P
Tim Bachman	Barbizon Light	Barbizon Companies	P	U
Lee J. Bloch	Bloch Design Group Inc.	Bloch Design Group Inc.	O	G
Ron Dahlquist	Dadco	Dadco	P	P
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	P	P
Edwin S. Kramer	IATSE, Local 1	I.A.T.S.E. Local 1	P	U
R. Bruce Prochal	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Roger Lattin	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	P	P
Ken Vannice	NSI Corporation	Leviton Manufacturing Co., Inc.	P	P
Mitchell Stein	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	P
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	P
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Phil Fram	Marinco	Marinco	P	P
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	P
Brian Parker	Mole-Richardson Co.	Mole-Richardson Co.	A	P
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	P
Tim Cox	PLASA	PLASA	P	G
Steve Terry	PRG Lighting Division	PRG	P	U
George Sabbi	PRG Lighting Group	PRG	O	U
Teddy Van Bommel	PRG Lighting Division	PRG	A	U
Robert Barbagallo	Proximo Inc.	Proximo Inc.	P	G
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	P	P
Andre Broucke	ADB - TTV Technologies	Siemens	O	P
Andy Topinka	Technical Group Services, Inc.	Technical Group Services, Inc.	P	G
Colin Waters	TMB Associates	TMB Associates	P	P
Brian Dowd	TMB Associates (NJ)	TMB Associates	A	P
Warren Mays	TMB Associates	TMB Associates	A	P
Richard Wolpert	Union Connector Company	Union Connector Company	P	P
Mitch Hefter	Rosco/Entertainment Technology	USITT	P	G
Eckart Steffens	SOUNDLIGHT	VPLT	P	G
Bruce Whitehead	Whitehead Engineering Services	Whitehead Engineering Services	O	G
Peter Brooks	Zero 88 Ltd.	Zero 88 Ltd.	O	P

Voting Status

- P Principal voting representative for a company or organization
- A Alternate voting representative for a company or organization
- I Individual representing no organization other than himself or herself
- O Observer; non-voting

Interest Categories

- P Producer (manufacturer) of electrical power devices or products
- U User of electrical power devices
- G General interest in electrical power devices