

**Minutes**  
**Electrical Power Working Group**  
Friday 2 November 2001  
Rosen Centre Hotel  
Orlando, FL

**Chairmen:** Ken Vannice; NSI Corporation (Leviton Manufacturing Co.), Inc.; principal; producer  
Bob Luther; Lex Products Corp.; Lex Products Corp.; principal; producer

**Recording secretary:** Karl G. Ruling, ESTA

**Members attending:** Michael Amorelli; AC Power Distribution Inc.; principal;  
gen. interest (joined at this meeting)  
James Davey; AC Power Distribution Inc.; alternate; gen. interest (joined at this  
meeting)  
Jeff deRecat; Advanced Devices, Inc.; principal; producer  
Joe Boardman; Bender Inc. (Bender GmbH & Co. KG); alternate; producer  
Ron Dahlquist; Dadco; observer; producer  
Steve Terry; Electronic Theatre Controls; observer; producer  
Edwin S. Kramer; IATSE, Local 1; principal; user  
Roger Lattin; IATSE Local 728; principal; user  
Tim Bachman; Leviton/Colortran (Leviton Manufacturing Co., Inc.); alternate;  
producer  
Louis Bradfield; individual; user  
Jim Holladay; Luxence; observer; gen. interest  
Tim Cox; PLASA; principal; gen. interest  
Robert Barbagallo; Proximo Inc.; principal; gen. interest (voting status change at  
this meeting)  
Douglas Franz; QVC Network; observer; user  
William N. Masten; SMS Inc. / PGS LLC; principal; producer  
Richard A. Prey; SMS Inc. / PGS LLC; alternate; producer  
Paul Menetrey; Power Guard Systems, LLC; observer; gen. interest (joined at this  
meeting)  
Michael Lay; Strand Lighting, (Strand Lighting Ltd.); principal; producer  
Brian Dowd; TMB Associates; principal; producer  
Richard Wolpert; Union Connector Company; observer; producer

**Visitors:** Carlos Baker; Dadco  
Baer Long; MGM Grand Productions

**1 Opening remarks**

Ken Vannice called the meeting to order at 19:01.

**2 Attendance and membership**

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

Vannice asked those present to introduce themselves, which they did. Ruling asked people to sign the screaming pink attendance sheet.

**2.2 Determination of quorum**

Vannice asked the principals present to raise their hands. They did, Bob Luther counted them, and announced that a quorum was present and the meeting could proceed.

### 2.3 Recognition of alternate voting members

Vannice said that Tim Bachman would be voting for Leviton.

### 2.4 Requirements for membership

Vannice announced that working group membership is open to all who have a material interest in the work of the group. Membership in ESTA is not a requirement. He noted that voting members need to attend meetings, and that persistent absenteeism will result in a change of voting status to observer. Voting members also must respond to letter ballots. Bob Luther said that the working group is particularly interested in having parties that are not producers join. We need to balance interests in the group.

### 2.5 Processing of new membership requests

Bob Barbagallo asked to be restored to voting status. Mike Lay moved that Bob Barbagallo be voted back in as a voting member. The motion was seconded. The motion was accepted unanimously with a voice vote.

Michael Amorelli, James Davey, and Paul Menetrey filled out applications. Michael Amorelli applied as the principal for AC Power Distribution in the general interest category. James Davey applied as Amorelli's alternate. Paul Menetrey of Power Guard Systems applied as an observer in the general interest category.

Roger Lattin moved that they all be accepted as members of the EPWG. The motion was seconded. The motion was accepted unanimously by a show of hands.

The full list of voting members (present and absent) for the EPWG was therefore:

| Name                  | Company   | Representing                    | Voting status | Int. cat.         |
|-----------------------|---|---------------------------------|---------------|-------------------|
| Michael Amorelli      | AC Power Distribution Inc.                      | AC Power Distribution Inc.      | P             | G                 |
| James Davey           | AC Power Distribution Inc.                      | AC Power Distribution Inc.      | A             | G                 |
| Jeff deRecat          | Advanced Devices, Inc.                          | Advanced Devices, Inc.          | P             | P                 |
| Bud Toly              | Advanced Devices, Inc.                          | Advanced Devices, Inc.          | A             | P                 |
| George Long           | Aggreko Event Services                          | Aggreko                         | P             | U                 |
| Wolfgang Hofheinz     | Bender GmbH & Co. KG                            | Bender GmbH & Co. KG            | P             | P                 |
| Joe Boardman          | Bender Inc.                                     | Bender GmbH & Co. KG            | A             | P                 |
| Edwin S. Kramer       | IATSE, Local 1                                  | I.A.T.S.E. Local 1              | P             | U                 |
| Roger Lattin          | IATSE Local 728                                 | I.A.T.S.E. Local 728            | P             | U                 |
| R. Bruce Prochal      | I.A.T.S.E. Local 728                            | I.A.T.S.E. Local 728            | A             | U                 |
| Patric J. Abaravich   | IATSE Local 728                                 | I.A.T.S.E. Local 728            | A             | U                 |
| Ken Vannice           | NSI Corporation                                 | Leviton Manufacturing Co., Inc. | P             | P                 |
| Mitchell Stein        | Leviton Manufacturing Co., Inc.                 | Leviton Manufacturing Co., Inc. | A             | P                 |
| Tim Bachman           | Leviton/Colortran                               | Leviton Manufacturing Co., Inc. | A             | P                 |
| Bob Luther            | Lex Products Corp.                              | Lex Products Corp.              | P             | P                 |
| Louis Bradfield       | Louis Bradfield                                 | Louis Bradfield                 | I             | U                 |
| W. G. Krokaugger P.E. | Mole-Richardson Co.                             | Mole-Richardson Co.             | P             | P                 |
| Brian Parker          | Mole-Richardson Co.                             | Mole-Richardson Co.             | A             | P                 |
| Tim Cox               | PLASA   | PLASA                           | P             | G                 |
| Robert Barbagallo     | Proximo Inc.                                    | Proximo Inc.                    | P             | G                 |
| William N. Masten     | SMS Inc. / PGS LLC                              | SMS Inc. / PGS LLC              | P             | P                 |
| Richard A. Prey       | SMS Inc. / PGS LLC                              | SMS Inc. / PGS LLC              | A             | P                 |
| Michael Lay           | Strand Lighting                                 | Strand Lighting Ltd.            | P             | P                 |
| Brian Dowd            | TMB Associates (NJ)                             | TMB Associates                  | P             | P                 |
| Colin Waters          | TMB Associates                                  | TMB Associates                  | A             | P                 |
| Mitch Hefter          | Entertainment Technology (Genlyte Thomas Group) | USITT                           | P             | G                 |
|                       |   |                                 | 16 votes      | 8 P<br>4 U<br>4 G |

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

Eddie Kramer moved that the draft minutes of the July meeting be approved as written. The motion was seconded. The motion was approved unanimously by a show of hands.

### **4 Ken Vannice read the call for patents**

"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."

No issues were brought to the attention of the assembled body.

### **5 Ken Vannice 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 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 ESTA president immediately.

"ESTA 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 \$100,000 and imprisoned for up to three years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

No issues were brought to the attention of the chairmen.

### **6 Approval of agenda**

Steve Terry asked that the BSR E1.19 project be addressed early in the meeting. A reordered schedule was proposed. Tim Bachman moved that the agenda be approved with this reordering. Seconded. Unanimous by voice vote.

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

#### **7.1 EMC task group**

Ken Vannice reported on Ed Yandek's idea for dealing with harmonics issues in this country. Yandek wrote and managed to get adopted a harmonics standard, ANSI C82.77-2001, that is essentially a documentation of a current practice of harmonics control and mitigation used here in the US. Vannice read the parts of the standard that are relevant to our industry. The standard has no requirement for testing, but if there is a problem with harmonics and the power company, the solution has to be worked out by mutual agreement with the user and power company and the mitigation shall be done per IEEE 519. There are more stringent standards for general lighting than there are for entertainment lighting, but the ballast manufacturers and other affected parties have been involved in the standard's writing and have supported it.

#### **7.2 Expanding the USITT stage pin standard project – What has UL done with the standard?**

Vannice reported that a UL representative he had spoken to said that UL could work the USITT standard into the UL multipin standard. However, the UL staff member who is in charge of the multipin connector standard was unaware of the USITT standard.

There was a discussion of what we want to do with the USITT standard. Should we fix it or send it off to UL as it is?

Brian Dowd moved that we form a task group to investigate the reported problems with pin connectors. The motion was seconded. The motion passed unanimously with a show of hands. Brian Dowd was appointed as the task group chair. The task group was appointed as follows:

Brian Dowd -- chairman  
Ron Dahlquist  
Richard Wolpert  
Jeff de Recat  
Roger Lattin  
Bob Luther

### **7.3 Reasons for NEC rules article**

Vannice reported that he'd written about half the article. He said he will finish it and submit it to the group. Then we can publish it in Protocol or elsewhere.

### **7.4 BSR E1.19 RCD task group**

The EP/2001-7012 document was discussed. Steve Terry felt that it's direction is unclear and flawed. It mandates GFCI devices anywhere moisture might be present, which is everywhere. He said the document needs a lot more explanatory stuff to offer guidance on how to decide when to use or not use GFP. He said that there are existing codes that say when certain devices are needed, but our industry is not well covered in these codes. The industry could use a document that gives guidance on the gray areas, and guidance on how to use the devices effectively with the odd situations we have. Terry volunteered to work with the task group, since he has both an interest and experience.

Complaints were voiced that not all the task group members had been involved or consulted in writing the draft EP/2001-7012 document. The chairmen urged Masten and Boardman to circulate their documents to the entire task group for comments, criticism, and additions before submitting the documents to the larger working group. Several people expressed interest in working on the document, and a sign-up sheet was passed around.

### **7.5 BSR E1.18 portable feeder cable selection and use task group**

Eddie Kramer explained his summarization of the power feeder survey. He also explained his efforts to find out what defines "extra hard usage" cable. He is looking for clarification of what this means so that he can call out in more detail than simply stating "extra hard usage" in a standard.

Kramer also asked if stating that the conductors shall be copper rather than copper or aluminum is okay. No formal vote was taken, but the sense of the group was that it was okay.

### **7.6 BSR E1.16 configuration standard for HMI power cables status report**

Karl Ruling reported that the draft E1.16 standard will go to public review

### **7.7 Task group on troubleshooting power quality problems**

Andy Topinka was not present so there was no report.

Tim Bachman moved that we remove the power quality book from the project list . The motion was seconded. By a show of hands, 12 were in favor, and one against the motion. The motion passed.

Tim Cox reported that there is lots of information about harmonics and the efficient use of copper wire on the web at <http://www.cda.org.uk>

## **8 New business**

Tim Cox reported on chain hoist control connector problem in the UK. The problem is that the connector commonly used for the control circuits to the pendant controller (a.k.a. "the pickle") is rated as a power connector and the contact that is formally designated as being for the grounding conductor is being used to carry control current at about 120V. Cox asked for suggestions for solutions. Eddie

Kramer stated that a similar problem exists in the US; connectors commonly used here are not rated for their use.

**9 Other business**

None.

**10 Schedule for future meetings**

It was announced that the next working group meeting will be on February 13 from 08:00 to noon at the Hyatt Regency New Orleans at the Louisiana Superdome (500 Poydras Plaza, New Orleans, Louisiana). The superdome is the site of the concurrent USITT Conference.

The following working group meeting will be on May 3 from 08:00 to noon at the Dallas/Ft. Worth Marriott South (4151 Centrepoint Drive, Ft. Worth, Texas). This is a different Marriott Hotel than had been used in the past when meetings were held in the Dallas/Ft. Worth area.

**11 Adjournment**

Tim Bachman moved that the meeting adjourn. The motion was seconded. The motion was approved unanimously with a voice vote. Bob Luther declared the meeting adjourned at 21:24.



## Electrical Power Working Group Membership at the End of the 2 November 2001 Meeting

| Name                   | Company                      | Representing                      | Vote status | Int. cat. |
|------------------------|------------------------------|-----------------------------------|-------------|-----------|
| Michael Amorelli       | AC Power Distribution Inc.   | AC Power Distribution Inc.        | P           | G         |
| James Davey            | AC Power Distribution Inc.   | AC Power Distribution Inc.        | A           | G         |
| Jeff deRecat           | Advanced Devices, Inc.       | Advanced Devices, Inc.            | P           | P         |
| Bud Toly               | Advanced Devices, Inc.       | Advanced Devices, Inc.            | A           | P         |
| George Long            | Aggreko Event Services       | Aggreko                           | P           | U         |
| Arnold Tang            | Arnold Tang Productions      | Arnold Tang Productions           | O           | G         |
| David Evaniew          | B. I. M. Limited             | B. I. M. Limited                  | O           | P         |
| Wolfgang Hofheinz      | Bender GmbH & Co. KG         | Bender GmbH & Co. KG              | P           | P         |
| Joe Boardman           | Bender Inc.                  | Bender GmbH & Co. KG              | A           | P         |
| Lee J. Bloch           | Bloch Design Group Inc.      | Bloch Design Group Inc.           | O           | G         |
| Jeffrey Measley        | Crouse-Hinds Molded Products | Crouse-Hinds Molded Products Inc. | O           | P         |
| Ron Dahlquist          | Dadco                        | Dadco                             | O           | P         |
| Steve Terry            | Electronic Theatre Controls  | Electronic Theatre Controls, Inc. | O           | P         |
| Trevor Forrest         | Helvar Lighting Control      | Helvar Lighting Control           | O           | P         |
| Edwin S. Kramer        | IATSE, Local 1               | I.A.T.S.E. Local 1                | P           | U         |
| Roger Lattin           | IATSE Local 728              | I.A.T.S.E. Local 728              | P           | U         |
| R. Bruce Prochal       | I.A.T.S.E. Local 728         | I.A.T.S.E. Local 728              | A           | U         |
| Patric J. Abaravich    | IATSE Local 728              | I.A.T.S.E. Local 728              | A           | U         |
| Richard Thornton Brown | Zero 88 Ltd.                 | i Light Group PLC                 | O           | P         |
| Bill Kanne             | Illumination Dynamics        | Illumination Dynamics             | O           | U         |

| Name                  | Company                         | Vote status | Int. cat. |
|-----------------------|---------------------------------|-------------|-----------|
| Kevin Stolpe          | Illumination Dynamics           | O           | U         |
| Jose J. Flores        | Kino Flo, Inc.                  | O           | P         |
| Don Gray              | Kohler Event Services           | O           | U         |
| Ken Vannice           | NSI Corporation                 | P           | P         |
| Mitchell Stein        | Leviton Manufacturing Co., Inc. | A           | P         |
| Tim Bachman           | Leviton/Colortran               | A           | P         |
| Bob Luther            | Lex Products Corp.              | P           | P         |
| Louis Bradfield       | Louis Bradfield                 | I           | U         |
| Jim Holladay          | Luxence                         | O           | G         |
| Phil Fram             | Marinco                         | O           | P         |
| Hiroshi Kita          | Marumo Electric Co., Ltd.       | O           | P         |
| W. G. Krokaugger P.E. | Mole-Richardson Co.             | P           | P         |
| Brian Parker          | Mole-Richardson Co.             | A           | P         |
| Tim Cox               | PLASA                           | P           | G         |
| Mac Perkins           | PNTA                            | O           | G         |
| Paul Menetrey         | Power Guard Systems, LLC        | O           | G         |
| Robert Barbagallo     | Proximo Inc.                    | P           | G         |
| Paul F. Mardon        | Pulsar Ltd.                     | O           | P         |
| Douglas Franz         | QVC Network                     | O           | U         |
| Andre Broucke         | ADB - TTV Technologies          | O           | P         |
| William N. Masten     | SMS Inc. / PGS LLC              | P           | P         |
| Richard A. Prey       | SMS Inc. / PGS LLC              | A           | P         |

| Name            | Company   | Vote status | Int. cat.          |
|-----------------|---|-------------|--------------------|
| Michael Lay     | Strand Lighting                                 | P           | P                  |
| Andy Topinka    | Technical Group Services, Inc.                  | O           | G                  |
| Brian Dowd      | TMB Associates (NJ)                             | P           | P                  |
| Colin Waters    | TMB Associates                                  | A           | P                  |
| Richard Wolpert | Union Connector Company                         | O           | P                  |
| Mitch Hefter    | Entertainment Technology (Genlyte Thomas Group) | P           | G                  |
| Eckart Steffens | SOUNDLIGHT                                      | O           | G                  |
| Bruce Whitehead | Whitehead Engineering Services                  | O           | G                  |
|                 | Voting members                                  | 16          | 8 P<br>4 U<br>4 G  |
|                 | Observing companies or organizations            | 23          | 12 P<br>8 U<br>3 G |

#### 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 power distribution equipment
- U User of power distribution equipment
- G General interest in power distribution equipment