

**Minutes**  
**Electrical Power Working Group**  
Friday, 19 January 2001  
Dallas/Ft. Worth Airport Marriott  
Irving, TX

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

**Recording secretary:** Karl G. Ruling

**Members attending:** Edwin S. Kramer; IATSE, Local 1; principal; user  
Jeff deRecat; Advanced Devices, Inc.; alternate; producer  
Joe Boardman; Bender GmbH & Co. KG (Bender Inc.); alternate; producer  
Louis Bradfield; Louis Bradfield (Bally's); individual; user  
Mitch Hefter; USITT (Rosco/Entertainment Technology) principal; gen. interest  
Richard Thornton Brown; Zero 88 Ltd.; Observer; producer  
Roger Lattin; IATSE Local 728; principal; user  
Warren Mays; TMB Associates; alternate; producer  
William N. Masten; SMS Inc. / PGS LLC; principal; producer

**1 Opening remarks**

Ken Vannice called the meeting to order at 08:09.

**2 Attendance and membership**

**2.1 Introduction of those present**

Ken Vannice asked people to introduce themselves, which they did.

**2.2 Determination of quorum (8 needed)**

Vannice noted that there were more than eight voting members present, so the meeting could continue with a quorum.

**2.3 Recognition of alternate voting members**

Warren Mays and Jeff deRecat were the only alternates present, and would be voting for TMB and Advanced Devices respectively.

**2.4 Requirements for membership**

Vannice said that working group is open to all who have a vested interest in the subject matter, but he noted that we do need to keep a balance of interest.

**2.5 Processing of new membership requests**

None. However, Roger Lattin says we need to check on Hollywood Rental Co. because the working group members listed as working for Hollywood Rental Co. no longer work there.  
[Investigation after the meeting shows that Lattin was right. Bill Kanne and Kevin Stolpe have been removed from the EPWG membership roll because they are no longer with Hollywood Rental Co.]

The voting body for this meeting was thus:

Name	Representing (Company, if different)	Voting status	Interest category
Doug Kraus	Advanced Devices, Inc..	principal	producer
Bud Toly	Advanced Devices, Inc.	alternate	producer
Jeff deRecat	Advanced Devices, Inc.	alternate	producer
George Long	Aggreko (Aggreko Event Services)	principal	producer
David Evaniew	B. I. M. Limited	principal	producer
Wolfgang Hofheinz	Bender GmbH & Co. KG	principal	producer
Joe Boardman	Bender GmbH & Co. KG (Bender Inc.)	alternate	producer
Jeffrey Measley	Crouse-Hinds Molded Products Inc.	principal	producer
Trevor Forrest	Helvar Lighting Control	principal	producer
Bill Kanne	Hollywood Rental Co.	principal	user
Edwin S. Kramer	I.A.T.S.E. Local 1	principal	user
Roger Lattin	I.A.T.S.E. Local 728	principal	user
R. Bruce Prochal	I.A.T.S.E. Local 728	alternate	user
Patric J. Abaravich	I.A.T.S.E. Local 728	alternate	user
Earl Williman	I.A.T.S.E. Local 728	alternate	user
Jose J. Flores	Kino Flo, Inc.	principal	producer
Don Gray	Kohler Co. (Kohler Event Services)	principal	user
Ken Vannice	Leviton Manufacturing Co., Inc. (NSI Corporation)	principal	producer
Mitchell Stein	Leviton Manufacturing Co., Inc.	alternate	producer
Bob Luther	Lex Products Corp.	principal	producer
Louis Bradfield	Louis Bradfield	individual	user
Phil Fram	Marinco	principal	producer
W. G. Krokaugger P.E.	Mole-Richardson Co.	principal	producer
Brian Parker	Mole-Richardson Co.	alternate	producer
Tim Cox	PLASA	principal	gen. interest
Robert Barbagallo	Proximo Inc.	principal	gen. interest
Mitch Hefter	USITT (Rosco/Entertainment Technology)	principal	gen. interest
William N. Masten	SMS Inc. / PGS LLC	principal	producer
Richard A. Prey	SMS Inc. / PGS LLC	alternate	producer
Andy Topinka	Technical Group Services, Inc.	principal	gen. interest
Colin Waters	TMB Associates	principal	producer
Warren Mays	TMB Associates	alternate	producer
Brian Dowd	TMB Associates	alternate	producer
Richard Wolpert	Union Connector Company	principal	producer
		22 voting members	14 producers 4 users 4 gen. interest

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

Mitch Hefter moved that the minutes be corrected to show that Roger Lattin is with local 728, and not 729 in section 2.5. The motion was seconded. There was no discussion. The motion was accepted unanimously by a show of hands.

Eddie Kramer moved that the corrected minutes be accepted. The motion was seconded. The motion was accepted unanimously by a show of hands.

#### **4 Call for patents**

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 items were identified by the working group, noted Vannice.

#### **5 Anti-trust statement**

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 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.”

No comments were offered.

#### **6 Approval of agenda**

Mitch Hefter moved that the agenda be approved. The motion was seconded. There was no discussion. The motion was accepted unanimously by a show of hands

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

##### **7.1 Task group on a recommended practice for selection, installation, and use of portable feeder cable.**

Lattin said discussed the results of the power breakfast at which the survey was discussed. The task group decided that they need to get rid of AHJ questions on the back because they don't address what we need to know.

The working group went into task group mode lead by Bob Luther and Ken Vannice to discuss the formatting of the survey form and the specific questions. This created a version 3 of the form, which is to be distributed with these minutes.

##### **7.2 Task group for a recommended practice for use of GFCI (Residual Current Devices) in entertainment applications.**

Masten and Boardman distributed "Personnel Protection Devices for Specific Applications" by EPRI to the working group attendees. The also reported that a draft document is being developed, and that progress has been made, but that the document was not yet ready for vetting by the working group.

A number of interesting issues dealing with carnivals were identified. For example, it is reasonable for GFI equipment to shut down the lighting on rides during a thunderstorm, but it's important to keep power to the motors on so that the people in elevated rides can be evacuated.

Ruling was directed to ask Scott Longberry to set up an email alias, EPWG@esta.org, with all the email addresses of the whole working group.

### **7.3 Task group to write a configuration standard for HMI power cables and/or head to ballast cables.**

Mays read the draft document. Hefter suggested that the VG95234 coupling mechanism needs to be better specified.

Bill Masten moved that this document be sent to public review after language is inserted to provide cross-references to the referenced standards and that a schematic is provided. The motion was seconded. Since this is a motion for a first public review, the question will be decided by letter ballot.

Mays reported that he is still working on the documentation of head to ballast connectors.

### **7.4 EMC task group**

Ken Vannice reported that amendments to the 61000 standard were accepted at beginning of the year. He said that there is the argument advanced in the industry that these stringent harmonic limits are a restraint of trade. However, some say that since the standard is voluntary, it is not a barrier to trade. The US response is that no competent body will certify a product unless it complies with the standard, so this standard is in fact, not voluntary. Vannice has sent this argument to UL for a response.

IBM wrote up a legal brief of how suit could be brought, but the suit would cost \$100,000 to carry out and would take so long as to be useless.

The Low Frequency Emissions Industry Coalition's effort to start a public relations campaign has dissolved in indecision over the initial press release. The LFEIC is having a major meeting in February to decide how to regroup, reported Vannice.

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

Andy Topinka was not present.

Ken Vannice directed the working group to read it and offer comments to Topinka. The working group discussed it briefly and by consensus agreed that it needs to address the needs of the entertainment industry more specifically.

## **8 New business – NEC report**

Mitch Hefter gave an oral report and asked that the following written version be recorded in the minutes:

### **Report on the 2002 NEC Report on Comments meetings (Panel 15) - December 2000**

Panel 15 of the NEC Technical Committee address Articles which include Places of Assembly, Theatres, Carnivals, TV & Motion Picture Studios, Generators, Emergency Systems, Storage Batteries, and Fire Pumps.

Our industry is represented by Ken Vannice - Principle for USITT, Steve Terry - Alternate for USITT, Eddie Kramer - Principle for IATSE, Mitch Hefter - Alternate for IESNA, George Howard - as a Special Expert (who unfortunately was unable to make it to the last meetings), a Principle and an Alternate from the Alliance of Motion Picture and Television Producers, and the Principle from the IESNA.

There is no earth shaking news coming out of the NEC Comment period in December. However, the color of your grounded conductor may change. And we didn't get arrested poking around a bad electrical installation near the hotel, but we sure got a security guard bothered.

**Highlights:**

The format of the 2002 NEC will be more international - e.g., 520-27 will become 520.27. A more consistent structure will be used. The Scope of an article is always xxx.1. Definitions will be xxx.2. Cross-references will be xxx.3. Wiring practices will normally start at xxx.10. This is not universal, but the Code will be moving towards that approach everywhere (e.g., 518 doesn't follow this new style - yet).

The use of the term "lighting fixture" is being phased out of the NEC. It is being replaced by the term "luminaire" which is the international and now UL usage. The 2002 edition will say "luminaire (lighting fixture)" or some equivalent phrase. It will be interesting to see if luminaire stands alone in 2005 or we wait another cycle.

In the past, natural Gray neutrals have been permitted, but now "natural" will no longer be used to describe gray. Since original rubber insulation couldn't be found in true white, the term Natural Gray - really meaning Off White - was used. A new Fine Print Note will provide some cautionary notice. "FPN: The color gray may have been used in the past as an ungrounded conductor. Care should be taken when working on existing systems."

Article 525 - Carnivals, Circuses, Fairs, and Similar Events - has been totally reorganized. Ken and Mitch deserve battle pay for getting this one down.

Part G of Article 530, commonly known as Tech Power, is now its own article: 647 - Sensitive Electronic Equipment. It's not clear if Panel 15 will still have jurisdiction over this.

Proposals to add Non-Metallic sheathed cable ("Romex") to Places of Assembly (518) and Theatres (520) were defeated.

The Proposal to strike the List of Examples for Places of Assembly (518) was put on Hold - this part of the 2002 NEC will read as it does in the 1999 Edition. This list has been a constant source of confusion and debate over the years. Striking it, since it was only a list, seemed reasonable at the time. However, because the Scope doesn't actually define Places of Assembly other than saying 100 or more people, this would mean that 518 would apply to offices and factories where 100 or more people work. This was not the intent. However, resolving it would introduce new material which is not permitted at this point of the cycle.

Much heated debate was had on the topic of Non-Metallic Conduits and expanding their use in Places of Assembly. The proposals and subsequent comments were rejected, but the Panel's statements are not as strong as they could be, and it is possible that we will be overruled by the NFPA Annual Meeting or the Standards council. A number of us have put forth strong arguments as Comments in the Affirmative on the Letter Ballot ratifying the Panel's actions - hopefully these will reinforce our case.

As part of our efforts to educate the Panel members about how some of these Places of Assembly actually operate, Ken and Mitch contacted Jerry Gorrell, Technical Director for the City of Phoenix (Jerry is an ESTA member and TSP participant) about arranging a tour of some of his facilities. Ken invited members of Panel 15, and Jerry conducted a tour of Symphony Hall (a proscenium theatre) and the Phoenix Civic Plaza (a large convention center). We believe a number of panel members were enlightened. Unfortunately, the most vocal NM Conduit proponents could not make the tour.

This area should continue to be an "interesting" one for the 2005 Cycle.

**9 Other business**

None.

**10 Schedule for future meetings**

Vannice announced that the next meeting will be from 08:00 to noon on Wednesday, March 21 at the Westin Hotel in Long Beach, CA. This is in association with the USITT Conference and Stage Expo.

**11 Adjournment**

Eddie Kramer moved that the meeting adjourn. The motion was seconded. The motion was accepted unanimously by a show of hands. Vannice declared the meeting adjourned at 12:12.

## Electrical Power Working Group Membership at End of 19 January 2001 Meeting

Name	Company	Parent comp./Org. represented	Voting status	Int. 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
George Long	Aggreko Event Services	Aggreko	P	P
David Evaniew	B. I. M. Limited	B. I. M. Limited	P	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.	P	P
Ron Dahlquist	Dadco	Dadco	O	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
Earl Williman	IATSE Local 728	I.A.T.S.E. Local 728	A	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
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	P	P
Don Gray	Kohler Event Services	Kohler Co.	P	U
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
W. G. Krokogger 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
Mac Perkins	PNTA	PNTA Inc.	O	G
Steve Terry	Fourth Phase New Jersey	PRG	O	U
George Sabbi	PRG Lighting and Audio Group	PRG	O	U
Robert Barbagallo	Proximo Inc.	Proximo Inc.	P	G
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	P
Andre Broucke	ADB - TTV Technologies	Siemens	O	P
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
Andy Topinka	Technical Group Services, Inc.	Technical Group Services, Inc.	P	G
Colin Waters	TMB Associates	TMB Associates	P	P
Warren Mays	TMB Associates	TMB Associates	A	P
Brian Dowd	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	O	G
Bruce Whitehead	Whitehead Engineering Services	Whitehead Engineering Services	O	G
Richard Thornton Brown	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 power distribution equipment
- U User of power distribution equipment
- G General interest in power distribution equipment