

**Minutes**  
**Technical Standards Committee**  
Friday, 3 May 2002  
Dallas/Ft. Worth Airport Marriott South

**Chairpersons:** Bill Groener; Fourth Phase New Jersey; (PRG); principal  
Steve Terry; Electronic Theatre Controls; principal  
Paul Vincent; Vincent Lighting Systems; principal

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

**Members attending:** William Conner; Schuler & Shook Inc., representing Amer. Society of Theatre Consultants; principal  
Robin Crews; Wrightson, Johnson, Haddon & Williams, Inc., representing Amer. Society of Theatre Consultants; alternate  
Mitch Hefter; Entertainment Technology (Genlyte Thomas Group LLC); principal  
Mike Wood; High End Systems Inc.; principal  
Edwin S. Kramer; I.A.T.S.E, Local 1; principal  
Larry Schoeneman; Interesting Products, Inc.; principal  
Mike Garl; James Thomas Engineering, Inc.; principal  
Edward Paget; Jones & Phillips Associates, Inc.; principal  
Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); principal  
Tim Cox; PLASA; principal  
Frank Stewart; Specialty Tech Services; principal  
Tera Johnson; The Starfish Group (new company name); principal  
Colin Waters; TMB; principal  
Rodney F. Kaiser; J.R. Clancy Inc., representing USITT; principal  
Lori Rubinstein; ESTA; ex officio  
Bill Maiman; ESTA; ex officio

**Visitors:** Peter Willis; Howard Eaton Lighting Ltd.  
Matthew Griffiths; PLASA  
Roger L. Lattin; IATSE Local 728  
Rick Berry; Bandit Lights  
Richard D. Thompson; Thompson Associates  
Tim Hansen; Oasis Stage Werks  
Steve Carlson, High Speed Design (present for his report, only)

**1 Opening remarks**

Bill Groener called the meeting to order at 13:00 CDT. He welcomed all to the new Marriott South hotel, and noted that this is one of the quarterly meetings not held at a trade show.

Groener explained that the newly appointed co-chairs, Steve Terry and Paul Vincent, will take over in a few minutes, after he has finished the introductory material. Groener explained that he is resigning from the TSC so that he will have more time for professional work and family, and that this will be his last meeting.

He explained to the visitors that the TSC is an oversight committee, and that the actual standards production is done in the working groups elsewhere in the TSP. He then turned the meeting over to Paul Vincent.

**2 Attendance and membership**

Paul Vincent noted that more than enough people were present for a quorum.

## 2.1 Taking attendance

Paul Vincent asked people to sign-in on the chartreuse and dusty rose attendance sheets.

Vincent also noted that visitors can have their issues added to the agenda for a meeting by contacting one of the co-chairs, Steve Terry or Paul Vincent, or Karl Ruling.

## 2.2 Welcome to visitors

Paul Vincent welcomed all the visitors.

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

Name	Company	Representation	Voting status
William Conner	Schuler & Shook Inc.	ASTC	P
Robin Crews	Wrightson, Johnson, Haddon & Williams, Inc.	ASTC	A
Tera Johnson	The Starfish Group		P
Steve Terry	Electronic Theatre Controls		P
Mitch Hefter	Entertainment Technology (Genlyte Thomas Group LLC)		P
Mike Wood	High End Systems Inc.		P
Edwin S. Kramer	I.A.T.S.E, Local 1		P
Larry Schoeneman	Interesting Products, Inc.		P
Mike Garl	James Thomas Engineering, Inc.		P
Edward Paget	Jones & Phillips Associates, Inc.		P
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)		P
Tim Cox	PLASA	PLASA	P
Tony Douglas-Beveridge	PLASA	PLASA	A
Bill Groener	Fourth Phase New Jersey (PRG)		P
Frank Stewart	Specialty Tech Services		P
Colin Waters	TMB		P
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	P
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	A
Paul Vincent	Vincent Lighting Systems		P
Florian von Hofen	VPLT	VPLT	P
Eckart Steffens	SOUNDLIGHT	VPLT	A
			17

## 3 Approval of minutes from the previous meeting

Mitch Hefter moved that the minutes of the February meeting be approved as written. The motion was seconded. The motion was approved unanimously by a show of hands.

## 4 Call for patents and anti-trust statement

The following two statements were read aloud by Paul Vincent

“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 disclosures 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 Technical Standards Committee of the existence of a patent or copyright that might protect material in a standard being developed by a working group. You need not be the holder of the patent or copyright in order to notify the TSC of its existence.”

No issues were brought to the attention of the TSC.

“The ESTA Board of Directors and the leadership of this Technical Standards Committee 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 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 identified.

## **5 Approval of agenda**

Ted Paget moved that the draft agenda be accepted. The motion was seconded. The motion was approved by a show of hands.

## **6 Distribution of ESTA committee contact information**

Lori Rubinstein apologized for not including Bill Conner and Robin Crews on the contact list. They will be there in the future. No corrections were offered.

## **7 Old business**

### **7.1 Financial reports**

#### **7.1.1 Treasurer's report**

Frank Stewart said the report is brief because we are not far into the year. Asked if there were any questions. There were none.

Stewart asked for budget requests from the working groups because we are beginning work on a two-year budget.

Lori Rubinstein noted that the financial report by month now includes salary figures so we can see how much the program is really costing. One-hundred percent of Karl Ruling's salary and 25% of Bill Maiman's salary is being charged against the Technical Standards Program.

#### **7.1.2 Status of contributions and pledges**

Lori Rubinstein remarked that the high level of contributions from the general membership – done without a special request – was surprising and pleasing. Groener noted the large number of new contributions (showed in black boxes) and the increased contributions (gray boxes), which is good. Groener said that it seems likely that we can continue to raise significant amounts of money in this way, although it takes time, and it will not take us where we want to go. If at some time in the future we need to hire additional staff, we will need lots more money.

#### **7.1.3 Accounting of TSP documents sold and on-hand**

Lori Rubinstein reported that we have signed an agreement to have ANSI sell our documents in electronic format through the ANSI webstore.

### **7.2 Working group reports**

Steve Terry took over as chair for this portion.

#### **7.2.1 Camera Cranes**

Ruling said there had been no reported activity since the last TSP meeting. There is a meeting scheduled for early June at the ShowBiz Expo show.

## **7.2.2 Control Protocols**

### **7.2.2.1 E1.11 (DMX)**

Mitch Hefter reported a revision 5.1 of BSR E1.11 will be presented to the working group. Reported that there is continued controversy in the task group about one section.

Steve Terry stated that the pain and suffering of the E1.11 project has outlined problems with our way of moving projects forward. A few can derail the work of the many in creating a deliverable. He said that the CPWG will make some recommendations to the TSC when the E1.11 project is over to help expedite the process.

### **7.2.2.2 E1.17 (ACN)**

#### **7.2.2.2.1 Steve Carlson's report**

Carlson reported that the task group is working on slimming and optimizing the protocol and is using one teleconference meeting a week to work on the project. This procedure has been useful. The task group will present a draft of the SDT (Session Data Transport) document for working group review at the July working group meeting (July). Three versions of SDT exist now and are being evaluated.

Device Management Protocol (DMP) is the next thing on the agenda. A review document is expected by LDI.

DDL (Device Description Language) should be available for working group review at the first meeting of 2003.

There will be two other documents describing ACN. One will be an overview and requirements document. The document will outline the other public domain protocols that will be needed to support our special ACN protocol. There will also be a template offered showing how data should be formatted for use by SLP, one of the public domain protocols that will be used. The second document will be a set of PICSSs (Protocol Interface Compliance Statements) for all the protocols. These will point to other performance and test documents that will outline how conformance can be confirmed.

#### **7.2.2.2.2 Mike Wood, Steve Terry, and Karl Ruling's report**

Steve Terry reported that we discussed the problem of slow progress with ACN and decided that it needs to be run more like a commercial project with a project manager. Dan Antonuk has been appointed as that manager. His first task was to create a task list showing tasks, who is on it, current state, and the expected completion date. Dan has produced this and Terry will distribute this.

Terry said that Antonuk has been sending him the minutes of the weekly conference calls and he found them very informative for understanding the complexity of the problem and the amount of effort being applied to the project. He said that he has a renewed level of confidence that this project will be delivered. He said that it is an order of magnitude or two more difficult than anything else we have undertaken.

There was a discussion of the need to explain to the market the current state of the ACN project. Tera Johnson was appointed by Steve Terry as the ACN public relations person. Tera asked for a technical person to work with her, and she was assured that Steve Carlson and Dan Antonuk will be useful and informative sources.

The sense of the body was that the Wood, Terry, Ruling, and the ACN task group shall oversee the ACN public relations project.

### **7.2.2.3 E1.20 (Remote Device Management)**

Karl Ruling reported good progress. He read the intellectual property licensing letter from High End Systems.

Peter Willis said he has developed an RDM device model.

### **7.2.3 Fog and Smoke**

Larry Schoeneman reported that the working group is working on resolutions to the comments from the first public review of the glycol standard.

Schoeneman also described the work being done on the fog testing campaign, although this is not a working group or TSP project, but it draws on the work of the TSP. Lori Rubinstein described the poster to be posted backstage and the brochure that will be sent to theatres. The League of Chicago theatres has been very interested.

Lori Rubinstein described the testing program and noted that Karl Ruling will be writing the testing protocol instructions. She noted that we will be able to do some testing at Madison Square Garden.

Schoeneman ticked off the successes of the working group:

- An informative book on fog technology
- A standard for glycol fog in draft
- An American National Standard for fog machine manuals
- A product stewardship program

He noted that we have a request to work on a dust standard, but he doubts that that will go forward.

Schoeneman said that the working group is considering developing a standard for cryogenic fogs or for fog effects in general. He noted that Karl Ruling had provided copies of the tables of contents for the NFPA flame effects and close proximity pyro standards to consider as models.

### **7.2.4 Photometrics**

Ruling reported that there was no meeting this weekend. The major project now is to see if the IESNA's draft standard for measuring stage and studio luminaire performance will work to support our ANSI E1.9 standard. We're still waiting for that document to be released.

### **7.2.5 Rigging**

#### **7.2.5.1 E1.4 – Manual Rigging Systems Standard**

Rodney Kaiser reported that many comments were answered at meetings held during the USITT Conference, and that more work has been done since then. There will be more task group work done after this evening's Rigging meeting. He expects that they will complete the work on the comment resolutions at that evening meeting.

#### **7.2.5.2 E1.6 – Powered Rigging Systems**

Ted Paget reviewed the state of the comment resolutions. He said that the resolutions should be ready for acceptance by the working group at the July meeting.

#### **7.2.5.3 E1.7 – Recommended Practice for Flying Performers**

Ruling reported that it's in public review, and the review will end in a few days.

#### **7.2.5.4 E1.8 – Speaker Enclosures Rigging Standard**

Ted Paget moved that the revised E1.8 document shall be sent to public review. The motion was seconded. There was a discussion of the comment resolutions from the last public review. By roll call ballot, the motion was defeated with one voting in favor and the rest present voting against the motion.

Name	Company	Representation	Voting status	Accept	Accept in part	Accept in principle	Reject	Abstain
William Conner	Schuler & Shook Inc.	ASTC	P				1	
Robin Crews	Wrightson, Johnson, Haddon & Williams, Inc.	ASTC	A					
Tera Johnson	The Starfish Group		P				1	
Steve Terry	Electronic Theatre Controls		P				1	
Mitch Hefter	Entertainment Technology (Genlyte Thomas Group LLC)		P				1	
Mike Wood	High End Systems Inc.		P				1	
Edwin S. Kramer	I.A.T.S.E, Local 1		P				1	
Larry Schoeneman	Interesting Products, Inc.		P				1	
Mike Garl	James Thomas Engineering, Inc.		P					
Edward Paget	Jones & Phillips Associates, Inc.		P	1				
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)		P				1	
Tim Cox	PLASA	PLASA	P				1	
Tony Douglas-Beveridge	PLASA	PLASA	A					
Bill Groener	Fourth Phase New Jersey (PRG)		P				1	
Frank Stewart	Specialty Tech Services		P				1	
Colin Waters	TMB		P				1	
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	P				1	
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	A					
Paul Vincent	Vincent Lighting Systems		P				1	
Florian von Hofen	VPLT	VPLT	P					
Eckart Steffens	SOUNDLIGHT	VPLT	A					
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By consensus, the following response to the working group explaining the outcome of the vote was drafted:

"The TSC believes that E1.8 is a requirement, safety standard and as such needs to contain mandatory directives for safety-related issues. Please re-examine the comments from Mitch Hefter and reexamine the document to remove the word should and replace it with shall wherever safety-related issues are involved. If it is the intent of the working group to produce a standard for minimum requirements, then the requirements shall be reduced and not made optional. In general, the TSC believes that safety standards need to specify definite minimum performance requirements."

#### **7.2.5.5 E1.15 – Manufacture, Assembly, and Use of Theatrical Boom & Base Assemblies**

Ruling reported that Richard Nix was continuing to revise the document, and that it had gone through several iterations.

#### **7.2.5.6 E1.21 – Portable roof systems**

Ruling report that progress is being made. A scope statement and the first draft of an outline have been created.

### **7.2.6 Electrical Power**

#### **7.2.6.1 E1.17 - Recommended practice for selection, installation, and use of portable feeder cable.**

Ken Vannice reported that they had a 6 or 7-page outline. It was discussed at the meeting and the task group is beginning fill it out.

#### **7.2.6.2 E1.18 - Recommended practice for use of residual current devices in entertainment applications.**

Vannice reported again. The task group has developed an outline, but no new version was presented at the morning's meeting.

### 7.2.6.3 E1.16 – HMI ballast power cables

Mitch Hefter moved that BSR E1.16 shall be accepted as an American National Standard. The motion was seconded. By roll call ballot, the motion was accepted with all present (a supermajority) voting in favor.

Name	Company	Representation	Voting status	Accept	Accept in part	Accept in principle	Reject	Abstain
William Conner	Schuler & Shook Inc.	ASTC	P	1				
Robin Crews	Wrightson, Johnson, Haddon & Williams, Inc.	ASTC	A					
Tera Johnson	The Starfish Group		P	1				
Steve Terry	Electronic Theatre Controls		P	1				
Mitch Hefter	Entertainment Technology (Genlyte Thomas Group LLC)		P	1				
Mike Wood	High End Systems Inc.		P	1				
Edwin S. Kramer	I.A.T.S.E, Local 1		P	1				
Larry Schoeneman	Interesting Products, Inc.		P	1				
Mike Garl	James Thomas Engineering, Inc.		P					
Edward Paget	Jones & Phillips Associates, Inc.		P	1				
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)		P	1				
Tim Cox	PLASA	PLASA	P	1				
Tony Douglas-Beveridge	PLASA	PLASA	A					
Bill Groener	Fourth Phase New Jersey (PRG)		P	1				
Frank Stewart	Specialty Tech Services		P	1				
Colin Waters	TMB		P	1				
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	P	1				
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	A					
Paul Vincent	Vincent Lighting Systems		P	1				
Florian von Hofen	VPLT	VPLT	P					
Eckart Steffens	SOUNDLIGHT	VPLT	A					
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### 7.2.6.4 EMC task group

Ken Vannice reported that things were fairly quiet. An American National Standard for dealing with power line harmonic emissions from lighting equipment working on 120V systems had been published, and it essentially codifies current practice, which is to fix problems only when they happen. Problems are rare.

### 7.2.7 Floors

Tim Hansen reported that the working group is developing the scope for a standard. They have identified some existing standards and an expert who can advise which are relevant. Some test data using a DIN standard for testing floors has been released for evaluation.

## 7.3 Report on liaisons to other industry groups

### 7.3.1 ASTC

Nothing to report. ASTC now has representation on the TSC.

### 7.3.2 NFPA

Standards for fire curtains are an issue. Bill Conner described the situation, with Ted Paget and Karl Ruling adding details. There was a discussion of the need for a position on the NFPA standard.

Mike Garl moved that the TSC support Karl Ruling's letter to the NFPA in which he urged the NFPA to draft a performance-based standard for fire curtains if they are going to write any standard at all, and to involve people who make, install, inspect, specify, and use fire curtains in the drafting. The motion was seconded. By show of hands the motion was approved unanimously.

Ted Paget moved that we draft a letter expressing unhappiness over the delay in processing the applications of our members and the resulting lack of representation on the NFPA 80 committee, which is still proceeding with a standard that affects our industry. The motion was seconded. By show of hands the motion was approved unanimously.

By a unanimous show of hands, the consensus of the TSC is that the Rigging working group should continue to work on its fire curtain standard.

By a unanimous show of hands, the consensus of the TSC was expressed that those members of the Rigging Working Group who had applied to work on the NFPA 80 committee should not withdraw their applications and should accept the positions if offered.

### **7.3.3 UL**

Karl Ruling reported that there has been some action to organize the technical committees dealing with UL 1640 (portable power distribution devices) and UL 1573 (stage and studio luminaires).

Ken Vannice reported on the pin connector issue. The 100-amp connector is proving to be unreliable when males and females from different manufacturers are connected. UL is not using the USITT connector standard, so there is no test being used by UL to ensure inter-brand compatibility. The EPWG has voted to write to UL to point out the incompatibility problem and to point out the obvious solution. If the USITT standard must become an American National Standard for UL to use it, USITT has agreed to let us undertake the project of making it an ANS.

### **7.4 Review of action items from last meeting not covered above**

None.

## **8 New Business**

### **8.1 Consideration of noise standard**

Bill Groener chaired this part of the meeting and asked Ruling to read the request.

From: Gregory Miller <greg@talaske.com>  
To: "'standards@esta.org'" <standards@esta.org>  
Subject: ESTA Lighting Noise Standard?  
Date: Mon, 4 Mar 2002 17:37:58 -0600

Mr. Ruling:

I understand that you are the person to contact regarding potential new technical standards for theatrical equipment. I would like to propose that standards be written for the acoustic testing of lighting equipment, and would like to volunteer the services of my firm to assist in the preparation of such a standard.

As acousticians, we find that even when all other noise sources (HVAC, outdoor noise etc.) are made inaudibly quiet we are often frustrated by noise emanating from lighting fixtures within a theater or concert hall. While we know a number of steps to take to reduce the resultant noise level, the precise level of noise can not be predicted. We regularly request sound output data from lighting manufacturers, but we can never obtain any due to the lack of any standardized method for testing lighting equipment (which leads to no testing of any kind).

Standards for measuring sound power output exist for all kinds of other devices, but none has ever been prepared for theatrical lighting equipment: specifically for lighting fixtures, light bulbs, dimmers, and accessories such as gel scrollers. Rather than remain frustrated, we would like to develop a standardized test method so that the acoustic performance of competitive lighting devices can be compared side by side, and so that lighting noise levels can be predicted for theatrical spaces.

Please let me know how best to proceed with the development of such a standard.

Best regards,

Gregory Miller.

.....  
This message sent by:  
Gregory A. Miller, INCE  
The Talaske Group, inc.  
E: <mailto:greg@talaske.com>  
W: <http://www.talaske.com>

Groener explained the scope of the Technical Standards Program. It is written into the P&P that our standards work is to ensure compatibility between equipment and to ensure safety. He pointed out that this proposal appears to be neither for compatibility nor safety.

Ted Paget moved that Gregory Miller and the project's proponents be directed to approach the ASA with the proposal. The TSC notes that this is not a bad project, but that it falls outside of the scope of the TSP and the skills set that the TSP has. The motion was seconded. The motion was approved unanimously by a show of hands.

## **8.2 Demand factor for lighting systems**

Paul Vincent asked if the EPWG would want to address the demand factor issue with lighting systems. There was a discussion of the problem of engineers using the load table out of article 530 of the National Electrical Code. Terry noted that he has written an article that appeared in *Lighting Dimensions* that explained the proper sizing of the feed for theatrical dimming systems. Vincent concluded that this is not an issue that the EPWG needs to address. It was agreed that Terry's article should appear in Protocol, if permission can be gained from Primedia Business.

## **8.3 Panel comments**

Eddie Kramer asked if it was proper under our procedures for a task group to make any changes to a draft standard that are not directly the result of a public review comment. He noted that the NFPA only allows the technical committee to make changes to a document by submitting a formal comment to itself. The consensus was that changes not in response to public review comments are acceptable, but that any substantive changes will require another public review of the document.

## **9 Other business**

Steve Terry stated that Bill Groener has really helped define what a good committee chair is, and thanked him for the work he has done on behalf of the TSC and ESTA.

Lori Rubinstein said that the ESTA hospitality suite this weekend is the concierge lounge on the 8<sup>th</sup> floor.

## **10 Schedule for future meetings**

Lori Rubinstein reported that the July meetings will be on the Friday and weekend of the 26<sup>th</sup> through the 28<sup>th</sup>. The schedule will be the same as this weekend, with the possible addition of a Photometrics Working Group meeting on Saturday afternoon. The location will be this hotel.

Rubinstein asked us to review the LDI schedule. Last minute changes will be extremely difficult to make.

**11 Adjournment**

Larry Schoeneman moved that the meeting adjourn. The motion was seconded. The motion was approved with a voice vote. Steve Terry declared the meeting adjourned at 16:50.

### Membership List and Contact Information as of 3 July 2002

Name	Company	Parent company or representation (Sort field)	Voting status
William Conner	Schuler & Shook Inc.	Amer. Society of Theatre Consultants	P
Robin Crews	Wrightson, Johnson, Haddon & Williams, Inc.	Amer. Society of Theatre Consultants	A
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P
Mitch Hefter	Entertainment Technology	Genlyte Thomas Group LLC	P
Mike Wood	High End Systems Inc.	High End Systems Inc.	P
Edwin S. Kramer	I.A.T.S.E, Local 1	I.A.T.S.E. Local 1	P
Larry Schoeneman	Interesting Products, Inc.	Interesting Products, Inc.	P
Mike Garl	James Thomas Engineering, Inc.	James Thomas Engineering, Inc.	P
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	P
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P
Tim Cox	PLASA	PLASA	P
Tony Douglas-Beveridge	PLASA Standards Office	PLASA	A
Frank Stewart	Specialty Tech Services	Specialty Tech Services	P
Tera Johnson	The Starfish Group	The Starfish Group	P
Colin Waters	TMB	TMB	P
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	P
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	A
Paul Vincent	Vincent Lighting Systems	Vincent Lighting Systems	P
Eckart Steffens	SOUNDLIGHT	VPLT	A
Florian von Hofen	VPLT	VPLT	P