

**Minutes**  
**Rigging Working Group**  
Wednesday, 15 November 2017  
The Tropicana  
Las Vegas, NV

**Presiding co-chairs:**

Bill Sapsis; Sapsis Rigging; P; U  
Christine L. Kaiser; Syracuse Scenery & Stage Lighting Co., Inc.; P; DR

**Recording secretaries:** Karl Ruling and Erin Grabe; ESTA

**Members in attendance:**

Jacob Abbott; PSAV Presentation Services; O; U  
Jesse Adams; Rose Brand; P; DR  
Dana Bartholomew; I; G  
William Beautyman; Limelight Productions, Inc.; P; DR  
Ian Bevan; Walt Disney Parks and Resorts; Walt Disney Company; P; U  
Keith Bohn; I; G  
Bennett Brian; Reed Rigging Inc.; P; DR  
Joseph Champelli; Entertainment Project Services, LLC; P; DE  
Jay Cid; R&M Materials Handling / Stagemaker; A; MP  
Daniel J. Clark; Clark-Reder Engineering, Inc.; O; G  
Dan Culhane; J.R. Clancy, Inc.; Wenger Corp.; A; CP  
Bruce Darden; InterAmerica Stage, Inc.; P; CP  
Jonathan Deull; JSD Projects LLC; I; U  
Brad Dittmer; Stage Labor of the Ozarks; P; U  
Don Earl; Earl Girls, Inc.; P; DR  
Jack Gallagher; R&M Materials Handling / Stagemaker; A; MP  
Mike Garl; Mike Garl Consulting LLC; P; DE  
Sanford P. Gilzow; Shur-Rig LLC; P; G  
William B. Gorlin; McLaren Engineering Group; M.G. McLaren, P.C.; P; G  
Jerry Gorrell; Theatre Safety Programs; P; G  
Pat Grenfell; Hoist Sales & Service; P; DR  
Rod Haney; I.A.T.S.E. Local 891; P; U  
Tim Hansen; Oasis Stage Werks; P; DR  
Pete Happe; O; G  
Donald Hoffend\_III; Avista Designs, LLC; P; G  
Joseph Jeremy; Niscon Inc.; Show Distribution Group, Inc.; P; MP  
Ted Jones; Art Drapery Studios; Grand Stage; P; U  
Gary Justesen; Oasis Stage Werks; O; DR  
Theresa Kelley; Full Throttle Films/ VER; P; DR  
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U  
Kyle Kusmer; Entertainment Structures Group; Steven Schaefer Associates; P; G  
Tom Lapp; Cirque Du Soleil, Inc.; A; U  
Roger Lattin; I.A.T.S.E. Local 728; P; U  
Dan Lisowski; Dept. Of Theatre and Drama; University of Wisconsin - Madison; P; U  
Jacob E. Loretto; Musson Theatrical Inc.; P; DR  
Daniel H. Louis; Theta Consulting LLC; P; G  
Sam Michael; Thern, Inc.; P; MP  
Orestes Mihaly; Production Resource Group; P; DR  
Rick Montgomery; Motion Laboratories, Inc.; P; MP  
Bartholomew J. Mueller; Recreation Engineering Inc.; P; DE  
Reid Neslage; H & H Specialties Inc.; P; MP  
Jim Niesel; Theatre Projects Consultants, Inc.; P; DE

Richard J. Nix; I; G  
Tracy Nunnally; Vertigo; P; CP  
Carlos Ortega; PSAV Presentation Services; P; U  
Jonathan Osland; I.A.T.S.E. Local 891; A; U  
Miriam Paschetto; Geiger Engineers; P; G  
Demian Purdy; PSAV Presentation Services; A; U  
Steven Ricks; Electronic Theatre Controls, Inc.; P; MP  
John Ringelman; Stage Rigging, Inc.; Freeman Companies; P; DR  
Eric Rouse; Chicago Flyhouse; P; CP  
Tim Salamon; PSAV Presentation Services; O; DR  
Peter A. Scheu; Scheu Consulting Services, Inc.; O; DE  
Chris Schmidt; Stage Rigging, Inc.; Freeman Companies; A; DR  
Steven Serafin; Chubb Group of Insurance Companies; P; G  
Dave Sinkhorn; R&M Materials Handling / Stagemaker; P; MP  
Stephen G. Surratt; Texas Scenic Company; P; DR  
Jason Tello; Tyler Truss Systems; P; CP  
Elmer Veith; Total Structures, Inc.; P; MP  
Steve Walker; Steve A. Walker & Associates; P; G  
Mike Webb; Motion Laboratories, Inc.; A; MP  
Michael Wells; Xtreme Structures and Fabrication; P; MP  
Marty Wesstrom; Mountain Productions Inc.; P; DR  
Mike Weston; PSAV Presentation Services; O; DR  
Greg Williams; PSAV Presentation Services; O; G  
R. Duane Wilson; George C. Izenour Associates; Amer. Society of Theatre Consultants; P; DE  
Max A. Wilson; Applied Electronics; P; MP

#### **Visitors:**

Elizabeth Farris; BellaTex  
Ty Preweitt; BellaTex  
Jeff Reder; Clark Reder  
Michael Ohta Moscone; Local 16  
Brent Bohs; Dodd Technologies  
Ed Leahy; Chicago Flyhouse Inc.  
Siobhan Gee; VER

### **1 Opening remarks**

Bill Sapsis called the meeting to order at 7:08 p.m. by welcoming everyone to Las Vegas. He offered a sincere thanks for everyone's participation and efforts on behalf of the RWG and the TSP.

### **2 Attendance and membership**

#### **2.1 Introductions of those present and taking attendance**

A blue sign-in sheet was passed around the room while self-introductions took place.

#### **2.2 Call for quorum**

By a show of hands, Bill Sapsis announced a supermajority present.

#### **2.3 Requirements for membership**

The following statement was read aloud to the assembly by Bill Sapsis:

Membership is open to all who are materially affected by the work of the group. People who would be in the designer interest group category are particularly encouraged to join. There is an annual \$100 participation fee for all members. Voting members are required to attend meetings and to vote on letter ballots. Any principal member and voting alternate who both miss three consecutive meetings or letter ballots will have their membership status changed to observer.

## 2.4 Changes of membership status due to lack of attendance

Bill Sapsis said that the following voters have missed the last three meetings and are being moved to Observer status:

Joseph S. Schuster; Simpson Gumpertz & Heger; P; DE  
Gregory Orth; WNP Services, Inc.; P; DR

## 2.5 Processing of new membership and change in status requests:

Bill Sapsis announced the following new applications or status change requests:

Jonathan Osland; IATSE Local 891; A; U  
Mike Weston; PSAV Presentation Services; O; DR  
Dave Sinkhorn; R&M Materials Handling / Stagemaker; P; MP (change of status from observer)  
Jack Gallagher and Jay Cid; R&M Materials Handling / Stagemaker; A; MP  
Elmer Veith; Total Structures, Inc.; P; MP (Change of status to Principal)  
Tracie Allen; Tyler Truss Systems; A; CP  
Dana Bartholomew; I; G

Roger Lattin moved to approve the applications and changes in status. The motion was seconded and approved by a show of hands.

## 2.6 Consensus body

The full consensus body of this working group at the time of this meeting, including those not present, was:

Name	Representing	Voting status	Int cat
Ethan William Gilson	Advanced Lighting and Production Services	P	U
William Bradburn	Aerial Arts, Inc.	P	U
R. Duane Wilson	Amer. Society of Theatre Consultants	P	DE
Max A. Wilson	Applied Electronics	P	MP
Jon Lenard	Applied Electronics	A	MP
Donald Hoffend_III	Avista Designs, LLC	P	G
Eric Rouse	Chicago Flyhouse	P	CP
Steven Serafin	Chubb Group of Insurance Companies	P	G
Jeremy Hodgson	Cirque Du Soleil, Inc.	P	U
Tom Lapp	Cirque Du Soleil, Inc.	A	U
Ken Tilson	Columbus McKinnon Corp.	P	MP
Herb Hart	Columbus McKinnon Corp.	A	MP
Dan Gibbs	Crew One Productions	P	U
Dana Bartholomew	Dana Bartholomew	I	G
Don Earl	Earl Girls, Inc.	P	DR
Steven Ricks	Electronic Theatre Controls, Inc.	P	MP
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Joseph Champelli	Entertainment Project Services, LLC	P	DE
Steven Michelman	Entertainment Project Services, LLC	A	DE
Joseph McGeough	Foy Invenerprises, Inc.	P	CP
John Ringelman	Freeman Companies	P	DR
Rocky Paulson	Freeman Companies	A	DR
Chris Schmidt	Freeman Companies	A	DR

Name	Representing	Voting status	Int cat
Theresa Kelley	Full Throttle Films/ VER	P	DR
Miriam Paschetto	Geiger Engineers	P	G
Ted Jones	Grand Stage	P	U
Reid Neslage	H & H Specialties Inc.	P	MP
Pat Grenfell	Hoist Sales & Service	P	DR
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	P	U
Rod Haney	I.A.T.S.E. Local 891	P	U
Jonathan Osland	I.A.T.S.E. Local 891	A	U
Russ Dusek	I Weiss	P	MP
Bruce Darden	InterAmerica Stage, Inc.	P	CP
Stewart Stephens	JSAV	P	DR
Jonathan Deull	JSD Projects LLC	I	U
Jerald Kraft	JTH Lighting Alliance	P	CP
Keith Bohn	Keith Bohn	I	G
William Beautyman	Limelight Productions, Inc.	P	DR
William B. Gorlin	M.G. McLaren, P.C.	P	G
Frank Allison	M.G. McLaren, P.C.	A	G
Mike Adamovich	M.G. McLaren, P.C.	A	G
Mike Garl	Mike Garl Consulting LLC	P	DE
Will Todd	Milos Group	P	MP
Charlie Weiner	Milos Group	A	MP
Rick Montgomery	Motion Laboratories, Inc.	P	MP
Mike Webb	Motion Laboratories, Inc.	A	MP
Marty Wesstrom	Mountain Productions Inc.	P	DR
Jacob E. Loretto	Musson Theatrical Inc.	P	DR
Tim Hansen	Oasis Stage Werks	P	DR
Orestes Mihaly	Production Resource Group	P	DR
Shawn Nolan	Production Resource Group	A	DR
Carlos Ortega	PSAV Presentation Services	P	U
Demian Purdy	PSAV Presentation Services	A	U
Dave Sinkhorn	R&M Materials Handling / Stagemaker	P	MP
Jack Gallagher	R&M Materials Handling / Stagemaker	A	MP
Joaguin "Jay" Cid	R&M Materials Handling / Stagemaker	A	MP
Bartholomew J. Mueller	Recreation Engineering Inc.	P	DE
Bennett Brian	Reed Rigging Inc.	P	DR
Richard J. Nix	Richard J. Nix	I	G

Name	Representing	Voting status	Int cat
Jesse Adams	Rose Brand	P	DR
Bill Sapsis	Sapsis Rigging, Inc.	P	U
Joseph Jeremy	Show Distribution Group, Inc.	P	MP
Sanford P. Gilzow	Shur-Rig LLC	P	G
Brad Dittmer	Stage Labor of the Ozarks	P	U
Steve Walker	Steve A. Walker & Associates	P	G
Kyle Kusmer	Steven Schaefer Associates	P	G
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
Harold Ike Shippers	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
Stephan Jon Wood	Tait Towers Manufacturing LLC	P	CP
Stephen G. Surratt	Texas Scenic Company	P	DR
Russell Solomon	Texas Scenic Company	A	DR
Jim Niesel	Theatre Projects Consultants, Inc.	P	DE
Jerry Gorrell	Theatre Safety Programs	P	G
John C. Snook	Thermotex Industries Inc.	P	CP
Sam Michael	Thern, Inc.	P	MP
Jeff Wilkowski	Thern, Inc.	A	MP
Daniel H. Louis	Theta Consulting LLC	P	G
Elmer Veith	Total Structures, Inc.	P	MP
Jason Tello	Tyler Truss Systems	P	CP
Tracie Allen	Tyler Truss Systems	A	CP
Dan Lisowski	University of Wisconsin - Madison	P	U
Tracy Nunnally	Vertigo	P	CP
John P. Moore	Vertigo	A	CP
Ian Bevan	Walt Disney Company	P	U
Nick Fleming	Walt Disney Company	A	U
Peter V. Svitavsky	Wenger Corp.	P	CP
Dan Culhane	Wenger Corp.	A	CP
Paul Zagajeski	Wenger Corp.	A	CP
Michael Wells	Xtreme Structures and Fabrication	P	MP
Mark Newlin	Xtreme Structures and Fabrication	A	MP
Robert Dean	ZFX, Inc.	P	CP
Jason Schumacher	ZFX, Inc.	A	CP
<b>Voting Status Key: P = Principal voter, A = Alternate voter, I = Individual voter</b>			
<b>Votes by Interest Category:</b>			
Custom-market producer		CP	0
Designer		DE	5

<b>Voting Status Key: P = Principal voter, A = Alternate voter, I = Individual voter</b>		
Dealer or rental company	DR	14
General interest	G	12
Mass-market producer	MP	12
User	U	14
<b>Total votes possible:</b>		<b>67</b>

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

See *RIGmin07-2017r1.pdf*.

Dan Culhane moved to approve the minutes as distributed. The motion was seconded and approved by a show of hands with no objections.

### **4 ESTA declarations**

#### **4.1 Reading of the anti-trust statement**

The following statement was read aloud to the assembly by Bill Sapsis:

ESTA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all ESTA events, all discussions will be limited to those subjects that are permitted by the antitrust laws. All members should refrain from any discussion or mention of competitively sensitive subjects such as the current or future prices charged for any member product or services, current or future marketing plans or strategies, and current or future costs, including employee salaries. There also must be no agreement on the suppliers or customers that members will or will not do business with or the markets in which members will conduct business.

Violations of the antitrust laws can have serious consequences. If you have any questions or concerns about anything that is discussed at a ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

Karl Ruling held up a copy of the pamphlet. No other discussion was had.

#### **4.2 Reading of the call for patents**

The following statement was read aloud to the assembly by Bill Sapsis:

ESTA intends not to publish any standard that contains protected intellectual property, unless that information can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent and copyright disclosures to implement its intent. ESTA 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, patent application, 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.

There were no patent issues raised by any member.

### **5 Approval of the agenda**

Eddie Kramer moved to approve the agenda. The motion was seconded. An item was added to discuss ICOPER. The motion was approved as amended by a show of hands.

### **6 Old business**

**6.1 BSR E1.1 – 2012 (R201x), wire rope ladders** (open for revision)

Chris Schmidt said he missed the deadline, but the document will be distributed before NAMM. Perhaps with these minutes. [See [BSR\\_E1-1\\_201x\\_Rig2004-2029r5.pdf](#) and [BSR\\_E1-1\\_201x\\_Rig2004-2029r5\\_TrackedChanges.pdf](#)]

**6.2 BSR E1.2 - 20xx, Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers** (Last published in 2012 – Open for revision)

Keith Bohn said that the group is just ramping up and intends to bring something for discussion in March.

**6.3 ANSI E1.4-1 - 2016, Entertainment Technology--Manual Counterweight Rigging Systems** (Revise, reaffirm, or withdrawal by 11 October 2021)

No news or action at this time.

**6.4 BSR E1.4-2 - 201x, Entertainment Technology—Statically Suspended Rigging Systems**

Karl Ruling explained that the draft standard was erroneously offered for public review without a vote from the working group. He apologized to the group for the error in procedure. The review dates are 10 November 2017 through 25 December 2017.

To make the action official, Dan Culhane moved to offer the document for public review. The motion was seconded and approved by a show of hands.

**6.5 BSR E1.4-3 - 201x, Entertainment Technology - Manually Operated Hoist Rigging Systems**

See [DRAFTresols\\_r2\\_E1-4-3.pdf](#) and [BSR\\_E1-4-3-201x\\_Rig-2015-2022r6a.pdf](#).

Richard Nix addressed the group, saying that they've correlated and organized the annex references and verified the use of Design Load and Static Load for consistency. The task group believes that all proposed resolutions have been answered and - where applicable - have been properly implemented into the revised draft. He added that the group reconsidered the suggestion to add more to the installation section and are currently using the wording directly from E1.6. Hopefully that will be satisfactory, as it also helps satisfy the direction to maintain an alignment with E1.6, too.

Richard Nix then moved to approve the comment resolutions and offer the revised draft, as distributed, for public review. The motion was seconded. Bill Gorlin pointed out that 6.3.2 is redundant and should be struck before the public review. The motion, as amended, was approved by a unanimous show of hands. [The official ANSI public review period is 1 December 2017 through 15 January 2018.]

**6.6 BSR E1.6-1 - 201x, Entertainment Technology--Powered Hoist Systems** (last published in 2012-- revision, reaffirmation, or withdrawal by 20xx)

See [9-24-17 E1-6-1\\_Rig-2006-2011r7.pdf](#).

Bruce Darden moved to offer the draft for public review. The motion was seconded.

Dan Culhane pointed out the following non-substantive corrections to be made before public review:

A.6.2.5.8 should A.6.2.5.7

A.8.1 should be A.8.1.1

Bill Gorlin brought up the variances in the design factors in clauses 6.3 and 6.4. Bruce Darden explained the thinking and suggested that an annex note is needed. It was posited that Pete Svitavsky could offer a draft annex note during public review.

The motion and second to offer the revised draft for public review carried by a show of hands. The TSC must vote via letter ballot to offer this draft standard for a first public review.

**6.7 BSR E1.6-2 - 20xx, Entertainment Technology--Design, Inspection, and Maintenance of Electric Chain Hoists for the Entertainment Industry** (last published in 2013 – Open for revision)

*See Summary\_E1-6-2\_Review-NO\_COMMENTS.pdf. Public review ended 25 September 2017 with no comments received.*

Elmer Veith moved to accept the draft standard as an American National Standard, with a non-substantive clarification to clause 4.1.1. The motion was seconded. The change was made. A letter ballot to accept the draft, as amended, as an American National Standard will be issued to the working group.

**6.8 BSR E1.6-3 - 201x, The Use of Electric Chain Hoists in the Entertainment Industry** (Last published 2012 – Open for revision)

*From the draft July minutes:*

*Elmer Veith said that the group met for the first time today, where they went through about half of the document. They will meet again at LDI, with a chance of sending it to the RWG for consideration at the January meeting.*

The group met, says Elmer Veith. He will be working through notes and comments, with the intention of offering a draft for public review in January, possibly.

**6.9 BSR E1.6-4 - 201x, Control of Electric Chain Hoists in the Entertainment Industry** (Last published in 2013 – Open for revision)

Dan Lisowski said that the group was supposed to meet here, but had to cancel due to a scheduling conflict. They will ramp up efforts in January, but the group would like to consider an expansion of the scope to include variable speed.

Eddie Kramer recalls that the initial scope for this project was limited to get a document published, with the intention of possibly spinning off a separate document in the future. Bruce Darden said that the group should try to include variable speed in their edits to the draft, unless they find they are adding too many exceptions.

There was further discussion on whether to do one or two documents. Chris Kaiser suggested letting the task group discuss the issue and bring a recommendation back to the working group.

**6.10 BSR E1.8 – 20xx, Entertainment Technology—Loudspeaker Enclosures Intended for Overhead Suspension—Classification, Manufacture and Structural Testing** (Last published in 2013 – Open for revision)

Erin Grabe apologized for this draft not being included with the agenda, but it will go out with these minutes. [See BSR\_E1-8\_201x\_Rig1997-2021r17.pdf]

**6.11 ANSI E1.15 - 2006 (R2016), Entertainment Technology--Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies** (revision, reaffirmation, or withdrawal by 23 September 2021)

No news or action at this time.

**6.12 ANSI E1.21 - 2013, Entertainment Technology — Temporary Structures Used for Technical Production of Outdoor Entertainment Events** (revision, reaffirmation, or withdrawal by 19 December 2018)

Richard Nix said that the bulk of the OMP in context with structures, evacuation, etc. needs to be addressed, because code enforcement officials want to have OMP material that can be extracted and used in other codes. He moved to open the document for revision, ahead of the standard schedule. The motion was seconded and approved with two abstentions. A PINS for revision will be filed with ANSI.

**6.13 ANSI E1.22 - 2016, Entertainment Technology - Fire Safety Curtain Systems** (Revise, reaffirm, or withdrawal by 11 October 2021)

No news or action at this time.



**6.14 ANSI E1.39 - 2015, Entertainment Technology –Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry** (Revision, reaffirmation, or withdrawal by 28 January 2020)

No news or action at this time.

**6.15 ANSI E1.43 - 2016, Live performer flying effect standard** (Revise, reaffirm, or withdrawal by 12 February 2021)

No news or action at this time.

**6.16 ANSI E1.44 – 2014, Common Show File Exchange Format for Entertainment Industry Automation Control Systems -- Stage Machinery** (revision, reaffirmation, or withdrawal by 6 February 2019)

No news or action at this time.

**6.17 Rigging Glossary**

Chris Kaiser reiterated what was said at the 07-2017 meeting, that this document is still on hiatus, but that it may come to the surface soon.

**6.18 ANSI E1.47 – 2017, Recommended Guidelines for Entertainment Rigging System Inspections** (Revision, reaffirmation, or withdrawal by 28 April 2022)

Bart Mueller brought up the comments that were set aside when the document was approved and published, including the inspection of welds and references to additional standards. Ted Jones moved to open the document for revision. The motion was seconded and approved, with two opposed and four abstentions. [A reflector has been set up for this task group, see the reflector list at the end of these minutes.]

**6.19 ANSI E1.50-1 – 2017, Requirements for the Structural Support of Temporary LED, Video & Display Systems** (Revision, reaffirmation, or withdrawal by 14 August 2022)

Bill Sapsis noted that this standard is approved and published! No other news or action.

**6.20 BSR E1.56, Rigging Support Points Design, Fabrication, Installation, and Testing**

Chris Schmidt said that the task group is doing their due diligence and should have a document for consideration at NAMM.

**6.21 BSR E1.59 – 20xx, Automation Vector Transmission Protocol**

*See Dan Lisowski's Protocol article, Fall2017\_BSRE1-59\_DanLisowski.pdf. White-paper expected soon with the intention of offering it for an unofficial public review.*

Dan Lisowski said that the group met today. The Protocol article generated a lot of new interest from needed players. They hope to have a draft for internal review, soon.

## **7 New business**

**7.1 A discussion on hoist regulations: Material handling and storage hoists vs. entertainment hoists**

*From OSHA 29 CFR 1910.179(n)(3)(x) for cranes, hoists, and slings: The employer shall insure that the operator does not leave his position at the controls while the load is suspended; and personnel are never permitted directly under a suspended load.*

Karl Ruling explained the issue. There was some discussion. Eddie Kramer and John Ringleman pointed out quotes from OSHA.

The conversation led to a discussion started by Bill Beautyman about the state of Massachusetts requiring a crane operators license to use entertainment hoists. 520 CMR 6.0 and 6.10 – Need clarification from the state whether they intended to include entertainment hoists in this regulation. The consensus of the group was to keep an eye on actions from this regulation, but not to take action with the State legislators at this time.

**7.2 Rigging console protocol**

*From the draft March 2017 minutes:*

Joe Jeremy is drafting a new project form for this group to consider.

Nothing yet, said Joe Jeremy.

### 7.3 Task group coordination

The task group leader and members of each task group should be listed for each open project. See agenda items for each project and the reflector lists at the end of the minutes.

- **BSR E1.1 – 2012 (R201x), Wire Rope Ladders**  
Sandy Gilzow (Chair), Chris Schmidt, Chris Kaiser, and Dan Gibbs
- **BSR E1.2 – 201x, ANSI E1.2 - 2012, Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers**  
Keith Bohn (Chair), Jason Tello, Will Todd, Jacob Abbott, Jerry Gorrell, and Mike Garl
- **BSR E1.4-2 - 201x, Entertainment Technology—Statically Suspended Rigging Systems**  
Bart Mueller (Chair) Ethan Gilson, Ted Jones, Jesse Adams, and Brad Dittmer.
- **BSR E1.4-3 - 201x, Entertainment Technology—Manually Operated Hoist Rigging Systems**  
Richard Nix and Sam Michael
- **BSR E1.6-1 - 201x, Entertainment Technology—Powered Hoist Systems**  
Bruce Darden (chair), Chris Kaiser, Dan Culhane, Pete Svitavsky, Stephan Wood, Steve Ricks, Jim Niesel, Sandy Gilzow, Joe Champelli, and Steve Walker.
- **BSR E1.6-2 - 20xx, Entertainment Technology—Design, Inspection, and Maintenance of Electric Chain Hoists for the Entertainment Industry**  
Ken Tilson, John Ringleman, Ben Brian, Marty Westrom, Rick Montgomery, Chris Schmidt, Herb Hart, Sandy Gilzow, and Elmer Veith (Chair)
- **BSR E1.6-3 - 201x, The Use of Electric Chain Hoists in the Entertainment Industry**  
John Ringleman, Dan Lisowski, Herb Hart, Ben Brian, Pat Grenfell, Nick Fleming, Charlie Weiner, Rod Haney, Patrick Wallace, Greg Williams and Elmer Veith (Chair)
- **BSR E1.6-4 - 201x, Control of Electric Chain Hoists in the Entertainment Industry**  
Rick Montgomery, John Ringleman, and Dan Lisowski (Chair), Elmer Veith, Jim Hodgson, Steve Wood, Mike Webb, Joe Jeremy
- **BSR E1.8 – 2012 (R201x), Entertainment Technology--Loudspeaker Enclosures Intended for Overhead Suspension--Classification, Manufacture and Structural Testing**  
Sandy Gilzow and Jim Niesel
- **BSR E1.21 – 201x, Outdoor stages**  
Richard Nix (Chair), Kyle Kusmer, Miriam Paschetto, Bill Gorlin, Dan Louis, Steve Serafin, Elmer Veith, Sandy Gilzow, and Rod Haney
- **BSR E1.47, Rigging systems inspections**  
Bart Mueller, Chris Kaiser (chair), Tracy Nunally, Ted Jones, Duane Wilson, Pete Svitavsky, Eric Rouse, Ian Bevan, Russell Solomon
- **BSR E1.56, Rigging Support Points Design, Fabrication, Installation, and Testing**  
Carlos Ortega (Chair), Demian Purdy, Mike Wells, Shawn Nolan, Jonathan Duell, and Chris Schmidt.
- **BSR E1.59 – 20xx, Automation Vector Transmission Protocol**  
[RWG] Jem Hodgson, Joe Jeremy, Jim Love, Michael Lichter, and Dan Lisowski (Chair)  
[CPWG] Julian Hoare, Roger Lattin, Scott Blair, Dan Murfin, Kevin Loewen, and Rich Dionne

## 8 Other business and announcements

### 8.1 Above & Beyond Awards

Bill Sapsis said that the nomination site is open year round at [estalink.us/aboveandbeyond](http://estalink.us/aboveandbeyond). Everyone is encouraged to make nominations for the Above & Beyond Awards.

### 8.2 CEN standards update

No news or action at this time, with no one present to offer a report.

### **8.3 Investors in Innovation**

Mike Garl said that the Investors in Innovation has made a successful start at funding this program. He said that the TSP is doing a lot of good things and wants to continue doing good things. If you or your company are on the list, thank you, if you or your company are not, there is plenty of room.

### **8.4 NWRS**

Bill Sapsis said to see the ESTA website for information on the New World Rigging Symposium, taking place in conjunction with USITT in Ft. Lauderdale.

### **8.4 ICOPER guidance document**

*See International Code of Practice for Entertainment Rigging Now Available.pdf.*

Bill Sapsis said that, after 20 months of hard work, ESTA and PLASA have announced the release of the International Code of Practice for Entertainment Rigging (ICOPER) document, which is available as a free download at [www.esta.org/icoper](http://www.esta.org/icoper) or [www.plasa.org/icoper](http://www.plasa.org/icoper).

## **9 Schedule for future meetings**

Bill Sapsis noted that the full meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>.

### **9.1 January meetings**

Bill Sapsis said that the January meetings will take place in conjunction with the NAMM Show at the Anaheim Convention Center, which is scheduled for 25-28 January 2018. The Rigging Working Group meeting is tentatively scheduled for Saturday, 27 January 2018 at the Anaheim Hilton.

Show registration information and a full schedule of educational sessions may be found at [esta.org/namm](http://esta.org/namm).

### **9.2 March meetings**

*The March meetings will take place in conjunction with USITT 2018 in Fort Lauderdale, FL. The show dates are 14-17 March 2018.*

Mike Garl noted that the dates coincide with spring break and the ESTA room block is booked. He urged members to make reservations as soon as possible.

Dan Culhane said that there are still rooms in the USITT block.

### **9.3 July meetings**

*The July meetings are tentatively scheduled to be held at the D/FW Marriott Solana in Westlake, TX.*

There was discussion of whether or not to do meetings at LDI. General consensus is that everyone is here already, they don't want to do a WebEx-only meeting.

## **10 Adjournment**

Pat Grenfell moved to adjourn. The motion was seconded. Hearing no objections, Bill Sapsis declared the meeting adjourned at 8:46 p.m. PST.

Name	Company	Representing	Voting status	Int cat
Jacob Abbott	PSAV Presentation Services	PSAV Presentation Services	O	U
Mike Adamovich	McLaren Engineering Group	M.G. McLaren, P.C.	A	G
Jesse Adams	Rose Brand	Rose Brand	P	DR
Tracie Allen	Tyler Truss Systems	Tyler Truss Systems	A	CP
Frank Allison	McLaren Engineering Group	M.G. McLaren, P.C.	A	G
Matthew Antonucci	Contract Services Administration Trust Fund	Contract Services Administration Trust Fund	O	U
Brent Armstrong	Alpine Rigging & Structural Design	Alpine Rigging & Structural Design	O	CP
William Ian Auld	Auld Entertainment	Auld Entertainment	O	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Roger Barrett	Star Events Group Ltd.	Star Events Group Ltd.	O	DR
Dana Bartholomew	Dana Bartholomew	Dana Bartholomew	I	G
William Beautyman	Limelight Productions, Inc.	Limelight Productions, Inc.	P	DR
Ian Bevan	Walt Disney Parks and Resorts	Walt Disney Company	P	U
Roy Bickel	Roy Bickel	Roy Bickel	O	G
Scott M. Blair	Full Throttle Films/ VER	Full Throttle Films/ VER	O	DR
Keith Bohn	Keith Bohn	Keith Bohn	I	G
William Bradburn	Aerial Arts, Inc.	Aerial Arts, Inc.	P	U
Louis Bradfield	Louis Bradfield	Louis Bradfield	O	U
Bennett Brian	Reed Rigging Inc.	Reed Rigging Inc.	P	DR
David M. Campbell	Geiger Engineers	Geiger Engineers	O	G
Joseph Champelli	Entertainment Project Services, LLC	Entertainment Project Services, LLC	P	DE
Joaguin "Jay" Cid	R&M Materials Handling / Stagemaker	R&M Materials Handling / Stagemaker	A	MP
Daniel J. Clark	Clark-Reder Engineering, Inc.	Clark-Reder Engineering, Inc.	O	G
Benjamin Cohen	Chicago Flyhouse Inc.	Chicago Flyhouse Inc.	O	CP
Dan Culhane	J.R. Clancy, Inc.	Wenger Corp.	A	CP

Name	Company	Representing	Voting status	Int cat
Bruce Darden	InterAmerica Stage, Inc.	InterAmerica Stage, Inc.	P	CP
David Darland	PSAV Presentation Services	PSAV Presentation Services	O	U
Robert Dean	ZFX, Inc.	ZFX, Inc.	P	CP
Jonathan Deull	JSD Projects LLC	JSD Projects LLC	I	U
Jim Digby	Event Safety Alliance	Event Safety Alliance	O	U
Brad Dittmer	Stage Labor of the Ozarks	Stage Labor of the Ozarks	P	U
Russ Dusek	I Weiss	I Weiss	P	MP
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	P	DR
Nick Fleming	Walt Disney Parks and Resorts U.S.	Walt Disney Company	A	U
Tim Franklin	Theta Consulting LLC	Theta Consulting LLC	O	G
Jack Gallagher	R&M Materials Handling / Stagemaker	R&M Materials Handling / Stagemaker	A	MP
Mike Garl	Mike Garl Consulting LLC	Mike Garl Consulting LLC	P	DE
James M. Garner	Walt Disney Studios - Disney Theatrical Group	Walt Disney Company	O	G
Dan Gibbs	Crew One Productions	Crew One Productions	P	U
Ethan William Gilson	ALPS	Advanced Lighting and Production Services	P	U
Sanford P. Gilzow	Shur-Rig LLC	Shur-Rig LLC	P	G
William B. Gorlin	McLaren Engineering Group	M.G. McLaren, P.C.	P	G
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	G
Michael P. Gosenski	Rigging Systems LLC	Rigging Systems LLC	O	U
Erin Grabe	ESTA	ESTA	exf	G
Pat Grenfell	Hoist Sales & Service	Hoist Sales & Service	P	DR
Rod Haney	I.A.T.S.E. Local 891	I.A.T.S.E. Local 891	P	U
Tim Hansen	Oasis Stage Werks	Oasis Stage Werks	P	DR
Pete Happe	Pete Happe	Pete Happe	O	G
Sean Harding	Port Lighting Systems	Port Lighting Systems	O	G

Name	Company	Representing	Voting status	Int cat
Herb Hart	Columbus McKinnon Corp.	Columbus McKinnon Corp.	A	MP
Chris Higgs	Total Solutions Group	Total Solutions Group	O	G
Jeremy Hochman	Full Throttle Films/ VER	Full Throttle Films/ VER	O	DR
Jeremy Hodgson	Cirque Du Soleil, Inc.	Cirque Du Soleil, Inc.	P	U
Donald Hoffend_III	Avista Designs, LLC	Avista Designs, LLC	P	G
Joseph Jeremy	Niscon Inc.	Show Distribution Group, Inc.	P	MP
Ted Jones	Art Drapery Studios	Grand Stage	P	U
Kent H. Jorgensen	IATSE Local 80	IATSE Local 80	O	G
Gary Justesen	Oasis Stage Werks	Oasis Stage Werks	O	DR
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
Theresa Kelley	Full Throttle Films/ VER	Full Throttle Films/ VER	P	DR
Jerald Kraft	JTH Lighting Alliance	JTH Lighting Alliance	P	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Kyle Kusmer	Entertainment Structures Group	Steven Schaefer Associates	P	G
Tom Lapp	Cirque Du Soleil, Inc.	Cirque Du Soleil, Inc.	A	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Jon Lenard	Applied Electronics	Applied Electronics	A	MP
Michael Lichter	Electronic Theatre Controls, Inc. (DE)	Electronic Theatre Controls, Inc.	A	MP
Dan Lisowski	Dept. Of Theatre and Drama	University of Wisconsin - Madison	P	U
Jacob E. Loretto	Musson Theatrical Inc.	Musson Theatrical Inc.	P	DR
Daniel H. Louis	Theta Consulting LLC	Theta Consulting LLC	P	G
Wendy Manson	Cirque Du Soleil, Inc.	Cirque Du Soleil, Inc.	O	U
Joseph McGeough	Flying by Foy	Foy Invenerprises, Inc.	P	CP
Sam Michael	Them, Inc.	Them, Inc.	P	MP
Steven Michelman	Entertainment Project Services, LLC	Entertainment Project Services, LLC	A	DE

Name	Company	Representing	Voting status	Int cat
Orestes Mihaly	Production Resource Group	Production Resource Group	P	DR
Rick Montgomery	Motion Laboratories, Inc.	Motion Laboratories, Inc.	P	MP
John P. Moore	Vertigo	Vertigo	A	CP
Bartholomew J. Mueller	Recreation Engineering Inc.	Recreation Engineering Inc.	P	DE
Reid Neslage	H & H Specialties Inc.	H & H Specialties Inc.	P	MP
Mark Newlin	Xtreme Structures and Fabrication	Xtreme Structures and Fabrication	A	MP
Jim Niesel	Theatre Projects Consultants, Inc.	Theatre Projects Consultants, Inc.	P	DE
Richard J. Nix	Richard J. Nix	Richard J. Nix	I	G
Shawn Nolan	Production Resource Group	Production Resource Group	A	DR
Tracy Nunnally	Vertigo	Vertigo	P	CP
Carlos Ortega	PSAV Presentation Services	PSAV Presentation Services	P	U
Gregory Orth	WNP Services, Inc.	WNP Services, Inc.	O	DR
Jonathan Osland	I.A.T.S.E. Local 891	I.A.T.S.E. Local 891	A	U
Miriam Paschetto	Geiger Engineers	Geiger Engineers	P	G
Rocky Paulson	Stage Rigging, Inc.	Freeman Companies	A	DR
Kurt Pragman	Pragman Associates, LLC	Pragman Associates, LLC	O	G
Demian Purdy	PSAV Presentation Services	PSAV Presentation Services	A	U
Steven Ricks	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Mark Riddlesperger	LA ProPoint, Inc.	LA ProPoint, Inc.	O	CP
John Ringelman	Stage Rigging, Inc.	Freeman Companies	P	DR
Eric Rouse	Chicago Flyhouse	Chicago Flyhouse	P	CP
Karl G. Ruling	ESTA	ESTA	exf	G
Tim Salamon	PSAV Presentation Services	PSAV Presentation Services	O	DR
Bill Sapsis	Sapsis Rigging, Inc.	Sapsis Rigging, Inc.	P	U
Peter A. Scheu	Scheu Consulting Services, Inc.	Scheu Consulting Services, Inc.	O	DE

Name	Company	Representing	Voting status	Int cat
Chris Schmidt	Stage Rigging, Inc.	Freeman Companies	A	DR
Jason Schumacher	ZFX, Inc.	ZFX, Inc.	A	CP
Joseph S. Schuster	Simpson Gumpertz & Heger	Simpson Gumpertz & Heger	O	DE
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP
Steven Serafin	Chubb Group of Insurance Companies	Chubb Group of Insurance Companies	P	G
Steven C. Shaw	Levitating Productions, Inc.	Levitating Productions, Inc.	O	MP
Harold Ike Shippers	Syracuse Scenery & Stage Lighting Co., Inc.	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
Dave Sinkhorn	R&M Materials Handling / Stagemaker	R&M Materials Handling / Stagemaker	P	MP
Monica Skjonberg	Skjonberg Controls, Inc.	Skjonberg Controls, Inc.	O	CP
Knut Skjonberg	Skjonberg Controls, Inc.	Skjonberg Controls, Inc.	O	CP
John C. Snook	Thermotex Industries Inc.	Thermotex Industries Inc.	P	CP
Russell Solomon	Texas Scenic Company	Texas Scenic Company	A	DR
Todd Spencer	PSAV Presentation Services	PSAV Presentation Services	O	U
Stewart Stephens	JSAV	JSAV	P	DR
Stephen G. Surratt	Texas Scenic Company	Texas Scenic Company	P	DR
Peter V. Svitavsky	J.R. Clancy, Inc.	Wenger Corp.	P	CP
Ross Taylor	Taylor & Taylor Associates	Taylor & Taylor Associates	O	G
Jason Tello	Tyler Truss Systems	Tyler Truss Systems	P	CP
Ken Tilson	Columbus McKinnon Corp.	Columbus McKinnon Corp.	P	MP
Will Todd	Tomcat USA, Inc.	Milos Group	P	MP
James Tomlinson	Team Tomlinson	Team Tomlinson	O	G
Stephen Vanciel	IATSE Local 631	IATSE Local 631	O	U
Elmer Veith	Total Structures, Inc.	Total Structures, Inc.	P	MP
Steve Walker	Steve A. Walker & Associates	Steve A. Walker & Associates	P	G
Patrick Wallace	PSAV Presentation Services	PSAV Presentation Services	O	U



Name	Company	Representing	Voting status	Int cat
Mike Webb	Motion Laboratories, Inc.	Motion Laboratories, Inc.	A	MP
Charlie Weiner	Tomcat USA, Inc.	Milos Group	A	MP
Michael Wells	Xtreme Structures and Fabrication	Xtreme Structures and Fabrication	P	MP
Drew Wending	PSAV Presentation Services	PSAV Presentation Services	O	DR
Marty Wesstrom	Mountain Productions Inc.	Mountain Productions Inc.	P	DR
Mike Weston	PSAV Presentation Services	PSAV Presentation Services	O	DR
Jeff Wilkowski	Them, Inc.	Them, Inc.	A	MP
Greg Williams	PSAV Presentation Services	PSAV Presentation Services	O	G
R. Duane Wilson	George C. Izenour Associates	Amer. Society of Theatre Consultants	P	DE
Max A. Wilson	Applied Electronics	Applied Electronics	P	MP
Stephan Jon Wood	Stage Technologies	Tait Towers Manufacturing LLC	P	CP
Nicholas Gill Wright	I.A.T.S.E. Local 16	I.A.T.S.E. Local 16	O	G
Jeong Sik Yoo	Ghost LX	Ghost LX	O	DE
Paul Zagajeski	J.R. Clancy, Inc.	Wenger Corp.	A	CP

**Voting Status Key:** P = Principal voter, A = Alternate voter, I = Individual voter, O = Observer member, exf = Ex Officio member (staff)

**Interest Category Key:** CP = Custom-market producer, DE = Designer, DR = Dealer or rental company, G = General interest, MP = Mass-market producer, U = User