

**Minutes**  
**Rigging Working Group**  
Wednesday, 26 October 2011  
Orlando Hilton  
Orlando, FL

**Chairman:** Bill Sapsis; Sapsis Rigging, Inc.; P; U

**Recording secretary:** Karl G. Ruling; PLASA

**Members attending:**

Mark Ager; Stage Technologies (Stage Technologies Group); P; CP  
Tray Allen; James Thomas Engineering, Inc.; A; MP  
Dana Bartholomew; Fisher Technical Services, Inc.; P; CP  
William Beautyman; Limelight Productions, Inc.; P; DR  
Keith Bohn; Tomcat USA, Inc. (Vitec Group plc); P; MP  
Ron Bonner; PLASA EU; P; G  
William Bradburn; Aerial Arts, Inc.; P; U  
Joseph Champelli; ZFX Flying Inc.; P; CP  
Daniel J. Clark; Clark-Reder Engineering, Inc.; O; G  
William Conner; Bill Conner Associates LLC representing ASTC; P; DE  
Dan Culhane; SECOA; P; CP  
Don Dimitroff; Tomcat USA, Inc. (Vitec Group plc); A; MP  
Brad Dittmer; Stage Labor of the Ozarks; P; U  
Philip Fleming; PSAV Presentation Services; O; DR  
Adrian Forbes-Black; Total Structures Inc.; P; MP  
Howard Forryan; Harting Ltd. (Harting KGAA); A; G  
Eric Foster; Hall Associates Flying Effects; A; CP  
Tim Franklin; Theta-Consulting; O; G  
Ed Garstkiewicz; Harting Inc., North America (Harting KGAA); P; G  
William B. Gorlin; McLaren Engineering Group (M.G. McLaren, P.C.); P; G  
Jerry Gorrell; Theatre Safety Programs; P; G  
Pat Grenfell; PjDeZyNeS; I; DE  
Donald Halchak; Mountain Productions Inc.; P; DR  
Rod Haney; IATSE Local 891; P; U  
Greg Hareld; Kleege Industries; P; U  
Herb Hart; Columbus McKinnon Corp.; P; MP  
Wendy Holt; AMPTP/CSATF representing the AMPTP; P; G  
Donald Hoffend\_III; Avista Designs, LLC; A; G  
Kent H. Jorgensen; IATSE Local 80; O; G  
Gary Justesen; Oasis Stage Werks; O; DR  
Christine L. Kaiser; Syracuse Scenery & Stage Lighting Co., Inc.; P; DR  
Roger Lattin; I.A.T.S.E. Local 728; P; U  
Michael Lichter; Electronic Theatre Controls, Inc. (DE); A; MP  
Dan Lisowski; Dept. Of Theatre and Drama (University of Wisconsin - Madison); P; U  
Joseph McGeough; Flying by Foy (Foy Inventerprises, Inc.); P; CP  
Orestes Mihaly; Production Resource Group ; P; DR  
John (Jack) Miller; I Weiss; P; CP  
Martin Moore; O; G  
Reid Neslage; H & H Specialties Inc.; P; MP  
Mark Newlin; Xtreme Structures and Fabrication; A; MP  
James Niesel; Arup; P; DE  
Richard J. Nix; Entertainment Structures Group (Steven Schaefer Associates); P; G

Tracy Nunnally; Hall Associates Flying Effects; P; CP  
Edward A. (Ted) Paget; Daktronics Automated Rigging Solutions (Daktronics Inc. ); P; CP  
Miriam Paschetto; Geiger Engineers; P; G  
Kurt Pragman; Pragman Associates, LLC; O; G  
Woody Pyeatt; A V Pro, Inc.; P; DR  
John Ringelman; Stage Rigging, Inc. (the Freeman Companies); A; DR  
Monica Skjonberg; Skjonberg Controls, Inc.; O; CP  
John C. Snook; Thermotex Industries Inc.; O; CP  
Stephen G. Surratt; Texas Scenic Company; P; DR  
Peter V. Svitavsky; J.R. Clancy Inc. (Wenger Corp.); P; CP  
Harvey Sweet; Electronic Theatre Controls, Inc.; P; MP  
Will Todd; Tomcat USA, Inc. (Vitec Group plc); A; MP  
Stephen Vanciel; O; U  
Elmer Veith; Total Structures - Eastern US Sales Office (Total Structures, Inc.); A; MP  
Steve Walker; Steve A. Walker & Associates; P; G  
Charlie Weiner; P; U  
Michael Wells; Xtreme Structures and Fabrication; P; MP  
Marty Wesstrom; Mountain Productions Inc.; A; DR  
Robert Young; Arup; A; DE

**Visitors:** Benjamin Cohen; Reed Rigging Inc.  
Dennis de la Mata; IATSE Local 476  
Bob Medve; BMI Supply  
Steve Welsh; Miami Stagecraft Inc.  
Michael Viehmayer; Roc-Off Productions

## **1 Opening remarks**

Bill Sapsis called the meeting to order at 19:01. He welcomed all to Orlando, and thanked those present for taking time out of their schedules to work on these projects.

## **2 Attendance and membership**

### **2.1 Introduction of those present**

### **2.2 Circulation of attendance sign-in sheet**

A hot pink and orange attendance sign-in sheet packet was circulated while those present introduced themselves.

### **2.3 Call for quorum**

Bill Sapsis asked that the principal voting members present each raise a hand. He counted the upraised hands and announced that the meeting has a quorum.

### **2.4 Requirements for membership**

Sapsis reminded the assembly that 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. However, 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.

### **2.5 Changes of membership status resulting from lack of attendance.**

The following voters and their alternates have missed the last two consecutive meetings, and will be moved to observer status if they miss this one:

Pat Grenfell; PjDeZyNeS; I; DE

Grenfell was present so there was no change to his voting status.

## 2.6 Processing of new membership requests

Applications on hand:

Barry Brazell; Observer; User

Michael Powers; Central Lighting & Equipment, Inc.; Observer; Dealer or Rental

Tracy Nunnally; Hall Associates Flying Effects; Principal; Custom-market Producer

(Would cease to represent Northern Illinois University)

Eric Foster, Hall Associates; Alternate

Kurt Pragman, Pragman Associates; Observer; General interest

Sean Harding; High Output, Inc.; Observer; General interest

Steve Vanciel; Observer; User

Brad Dittmer; Stage Labor of the Ozarks; Principal; User

Joel A. Guerra; Texas Scenic Company; Alternate; Dealer or Rental

Dan Culhane moved that their applications be accepted. The motion was seconded. The motion was approved with a show of hands.

## 2.7 Consensus body

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

Name	Representing	Voting status	Int. cat.
Woody Pyeatt	A V Pro, Inc.	P	DR
Ethan William Gilson	Advanced Lighting and Production Services	P	U
William Bradburn	Aerial Arts, Inc.	P	U
Wendy Holt	Alliance of Motion Picture and Television Producers	P	G
William Conner	Amer. Society of Theatre Consultants	P	DE
R. Duane Wilson	Amer. Society of Theatre Consultants	A	DE
James Niesel	Arup	P	DE
Robert Young	Arup	A	DE
Donald A. Hoffend_Jr.	Avista Designs, LLC	P	G
Donald Hoffend_III	Avista Designs, LLC	A	G
Charlie Weiner	Charlie Weiner	P	U
Herb Hart	Columbus McKinnon Corp.	P	MP
Shawn Sack	Columbus McKinnon Corp.	A	MP
Art Zobal	Columbus McKinnon Corp.	A	MP
Edward A. (Ted) Paget	Daktronics Inc.	P	CP
Harvey Sweet	Electronic Theatre Controls, Inc.	P	MP
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Dana Bartholomew	Fisher Technical Services, Inc.	P	CP
Scott Fisher	Fisher Technical Services, Inc.	A	CP

Name	Representing	Voting status	Int. cat.
Joseph McGeough	Foy Invenerprises, Inc.	P	CP
Rocky Paulson	Freeman Companies	P	DR
John Ringelman	Freeman Companies	A	DR
Miriam Paschetto	Geiger Engineers	P	G
Reid Neslage	H & H Specialties Inc.	P	MP
Tracy Nunnally	Hall Associates Flying Effects	P	CP
Eric Foster	Hall Associates Flying Effects	A	CP
Ed Garstkiewicz	Harting KGAA	P	G
Howard Forryan	Harting KGAA	A	G
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	P	U
John (Jack) Miller	I Weiss	P	CP
Rod Haney	IATSE Local 891	P	U
Mike Garl	James Thomas Engineering, Inc.	P	MP
Tray Allen	James Thomas Engineering, Inc.	A	MP
Greg Hareld	Kleege Industries	P	U
William Beautyman	Limelight Productions, Inc.	P	DR
William B. Gorlin	M.G. McLaren, P.C.	P	G
Vincent J. Cannavale	Motion Laboratories	P	CP
Peter Herrmann	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	A	CP
Donald Halchak	Mountain Productions Inc.	P	DR
Marty Wesstrom	Mountain Productions Inc.	A	DR
Tim Hansen	Oasis Stage Werks	P	DR
Spencer Brown	Oasis Stage Werks	A	DR
Pat Grenfell	PjDeZyNeS	I	DE
Ron Bonner	PLASA EU	P	G
Orestes Mihaly	Production Resource Group	P	DR
Shawn Nolan	Production Resource Group	A	DR
Rick Montgomery	R&M Materials Handling	P	MP
Troy Post	R&M Materials Handling	A	MP
Bruce Darden	Rigging Innovators, Inc.	P	CP
Bill Sapsis	Sapsis Rigging, Inc.	P	U
Kimberly Corbett	Schuler Shook	P	DE
Joshua Grossman	Schuler Shook	A	DE

Name	Representing	Voting status	Int. cat.
Dan Culhane	SECOA	P	CP
Jerald Kraft	SECOA	A	CP
Brad Dittmer	Stage Labor of the Ozarks	P	U
Mark Ager	Stage Technologies Group	P	CP
Steve Walker	Steve A. Walker & Associates	P	G
Richard J. Nix	Steven Schaefer Associates	P	G
Kyle Kusmer	Steven Schaefer Associates	A	G
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
Frank Willard	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
Stephen G. Surratt	Texas Scenic Company	P	DR
Rick Rosas	Texas Scenic Company	A	DR
Joel A Guerra	Texas Scenic Company	A	DR
Jerry Gorrell	Theatre Safety Programs	P	G
Jeff Wilkowski	Thern, Inc.	P	MP
Adrian Forbes-Black	Total Structures Inc.	P	MP
Elmer Veith	Total Structures, Inc.	A	MP
Theresa Kelley	Total Structures Inc.	A	MP
Dan Lisowski	University of Wisconsin - Madison	P	U
Keith Bohn	Vitec Group plc	P	MP
Will Todd	Vitec Group plc	A	MP
Don Dimitroff	Vitec Group plc	A	MP
Pete Happe	Walt Disney Company	P	U
Peter V. Svitavsky	Wenger Corp.	P	CP
Rodney F. Kaiser	Wenger Corp.	A	CP
Thomas S. Young	Wenger Corp.	A	CP
Michael Wells	Xtreme Structures and Fabrication	P	MP
Mark Newlin	Xtreme Structures and Fabrication	A	MP
Joseph Champelli	ZFX Flying Inc.	P	CP
Stu Cox	ZFX Flying Inc.	A	CP
	<b>Total votes</b>	<b>52</b>	
	Vote subtotals by interest categories	11	CP
		9	MP
		8	DR
		11	U
		9	G

Name	Representing	Voting status	Int. cat.
		4	DE

### 3 Approval of minutes from the previous meeting

See the draft minutes of the July 2011 meeting, *RIGmin07-2011.pdf*.

Richard Nix moved that the draft minutes be accepted. The motion was seconded and then approved with a show of hands.

### 4 PLASA declarations

#### 4.1 Anti-trust statement

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

"The PLASA Board of Directors, the Technical Standards Council, 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 PLASA chair immediately.

"PLASA 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 \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

Karl Ruling held up some of the easy-to-read pamphlets to show that they were available.

Nothing was reported.

#### 4.2 Call for patents

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

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

Nothing was reported.

### 5 Approval of the agenda

Bill Conner asked that we discuss normative standards under new business.

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

### 6 Old business

#### 6.1 BSR E1.1-201x, wire rope ladders revision

*Report on public review, which ended EOD October 17, and consideration of comments.*

Karl Ruling reported that no comments had been received.

Dan Culhane moved that we accept BSR E1.1-201x as an American National Standard. The motion was seconded. There was a show of hands in support of the motion, but the question will be decided by letter ballot.

## **6.2 BSR E1.2-201x, Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers**

*Report on progress with drafting resolutions to public review comments. Mike Garl et alia.*

There was a discussion of the draft public review comment resolutions and whether the proposed resolutions had been made in the revised standard.

Bill Conner moved that we amend the comment resolutions as detailed below:

- (1) include specific dates for all the referenced standards (thus change resolution to comment 6);
- (2) remove the addresses for the referenced standards organizations and include their full names;
- (3) make the additional change, and note it in the resolutions document, that the requirement in 5.6.5, which is outside the scope of the document, go into an informative annex as a note for clause 5.6, and renumber the following clauses. In the annex it will be recommended but not required (that is, change "shall" to "should").

The motion was seconded. The motion was approved with a show of hands.

Ted Paget moved that the draft standard be returned to the task group for revision, with the goal of implementing additional changes as noted below. The motion was seconded. The motion was approved with a show of hands.

The additional changes:

- (1) make the 2010 edition of the Aluminum Design Manual be the referenced edition;
- (2) make clause 5.3.2 reference Table A.3.2 in the 2010 edition of the Aluminum Design Manual; and
- (3) in general, remove all the "current edition" references in the standard. (This is congruent with Conner's motion's first point.)
- (4) Change the subclauses of the draft's 3.2.2 as shown below:
  - a. Welds shall be designed and detailed per ~~the current revision of~~ AWS Standard D1.2/D1.2M "Structural Welding Code/ Aluminum".
  - b. Fasteners and other components composed of material other than aluminum shall be designed ~~in accordance with pertinent standards.~~
- (5) In clause 3.2.3 remove "explicitly."
- (6) In clause 3.3.3, delete " Consideration shall be given to overall structural stability and bracing requirements for all applications within the use guidelines," and add "The design shall be structurally stable for the intended applications."
- (7) Change 3.3.4 as shown: ~~Consideration shall be given to the~~ The structure shall be designed for the effects of eccentricities in element and module connections.

(8) Change 3.3.6 as shown: The design shall address any effects created by ~~Consideration shall be given to any~~ coating or surface finishing techniques used in manufacturing that ~~may~~ affect the structural properties and load-bearing capabilities of the truss or tower structures.

### **6.3 ANSI E1.4-2009, Entertainment Technology--Manual Counterweight Rigging Systems**

No news or action.

### **6.4 BSR E1.6-1, Entertainment Technology--Powered Hoist Systems**

*Report on progress toward public review. (TSC ballot closes EOD October 20.)*

Karl Ruling reported that it's in public review through December 19. The review is over when December 20 starts.

### **6.5 BSR E1.6-2, Entertainment Technology--Design, Inspection, and Maintenance of Electric Chain Hoists for the Entertainment Industry**

*Report on public review, which ended EOD October 17, and consideration of comments.*

Dan Culhane said that the task group will be working on making draft resolutions starting at 9:00 tomorrow (27 October).

### **6.6 BSR E1.6-3, Safe Use of Electric Chain Hoists in the Entertainment Industry**

*Report on public review, which ended EOD October 17, and consideration of comments.*

Charlie Weiner asked that the working group look at the comments from Gary Mardling. He suggested we accept them. They correct a misspelling in the mandatory part of the draft standard, and delete an explanatory note, the deletion of which would not materially change the use of the standard.

During a short meeting break Bill Gorlin and the task group had agreed on wording changes that address his concern expressed in his rejection of the first review resolutions, and Gorlin brought this to the attention of the working group. Definition clauses 2.6 and 2.11 would be changed as shown below. This would not change the meanings materially in the context of this standard, but would avoid promulgating definitions that are incompatible with the meanings of the words in general structural engineering.

2.6 Determinate Structure: A structure in which load distributions to supports are influenced by load and support locations alone. In terms of entertainment rigging in this document, a determinate structure is a load system supported by multiple hoists in such a fashion that small moves of one hoist do not cause large load shifting to occur between hoists in the lifting system. See figure 5, section 12.

2.11 Indeterminate Structure: A structure in which load distributions to supports are influenced by structure stiffness and load and support locations. In terms of entertainment rigging in this document, an indeterminate structure is a load system supported by multiple hoists in such a fashion that it is not practical to calculate with accuracy the dynamic load on any one of the hoists due to load shifting. See figure 5, section 12.

Karl Ruling noted that explanatory clause E11.1.1 has the word "shall" in it. This is confusing, since the explanatory clauses are clearly marked as not being part of the requirements. He suggested the "shall" should be "should" to avoid confusion.

Charlie Weiner moved that we accept the public review comments, the revised wording for 2.6 and 2.11, and Karl Ruling's change of "shall" to "should" in E11.1.1. The motion was seconded. The motion was approved with a unanimous show of hands.



Charlie Weiner moved we accept BSR E1.6-3 as an American National Standard. The motion was seconded. There was a unanimous show of hands in support, but the question shall be decided by letter ballot.

### **6.7 BSR E1.6-4, Control of Electric Chain Hoists in the Entertainment Industry**

*Report on draft review comments resolutions.*

Richard Nix moved that the R1 version of the draft resolutions (file name PublicReviewCommentResolution\_R1\_OnBSR\_E1-6-4.pdf) be accepted, with the exception that comment 35 be resolved with a simple "accept." The motion was seconded. The motion failed on a show of hands, with 16 voting No, and 15 voting Yes.

Elmer Veith moved that the R1 version of the draft resolutions be accepted, with the exception that the resolution to 35 shall be: 'Accept in part. The wording shall be, "Where an E-stop system is used, it shall have a hardwired pushbutton device at the control station, with additional locations as determined by qualified personnel.'" The motion was seconded. The motion was approved by the required supermajority with a show of hands. There was no opposition.

Dan Culhane moved that the revised draft standard, as modified by Veith's motion (file name E1-6-4\_2010-2008r2H.pdf), be offered for public review. The motion was seconded. The motion was approved by the required supermajority with a show of hands. There was no opposition.

### **6.8 BSR E1.8-201x, Entertainment Technology--Loudspeaker Enclosures Intended for Overhead Suspension--Classification, Manufacture and Structural Testing**

*Progress report. Richard Nix and Jim Niesel.*

Richard Nix reported that he had delivered a completed revision to Karl Ruling shortly before the meeting. It has improved definitions and grammar. (The document had not been distributed to the working group.)

Richard Nix moved that the draft revised standard be offered for public review and that we approve this public review by letter ballot. The motion was seconded and then endorsed with a show of hands. A letter ballot for the public review motion shall be issued.

### **6.9 ANSI E1.15-2006 (R201x), Entertainment Technology--Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies**

*BSR 9 progress report.*

Karl Ruling reported that the BSR9 form had been submitted. He did not know how long it would take to for ANSI to approve the standard, but it would be longer than usual due to the one unresolved No vote by a working group member.

### **6.10 BSR E1.21-201x, Temporary Ground-Supported Overhead Structures Used To Cover Stage Areas and Support Equipment in the Production of Outdoor Entertainment Events**

*Report on public review, which ended EOD October 11, and consideration of comments.*

Keith Bohn reported that the task group is working on suggested resolutions for the comments and a draft revised standard.

Ruling reported that the TSC had direct the RWG to make E1.21 be a normative standard, suitable for adoption by building code officials, or to explain to the TSC why this cannot be done. Bill Sapsis asked if making E1.21 be a normative standard is okay with the working group. There was no opposition from the working group.

Jerry Gorrell spoke about his concern with the grounding requirement. It complicates things by opening considerations of the number of electrical systems. Bill Sapsis asked Jerry Gorrell to work with the task group on the issue.

#### **6.11 ANSI E1.22 - 2009, Entertainment Technology - Fire Safety Curtain Systems**

No news or action.

#### **6.12 BSR E1.39 - 20xx, Entertainment Technology –Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry**

*Report on public review, which ended EOD October 17, and consideration of comments.*

Will Todd said that the comments are not many and the task group is making progress with drafting possible resolutions.

#### **6.13 BSR E1.43 - 201x, Live performer flying effect standard**

*Progress report.*

William Gorlin reported that the task group has met and is making progress on a first draft.

#### **6.14 BSR E1.44 – 201x, Common Show File Exchange Format for Entertainment Industry Automation Control Systems -- Stage Machinery**

*Progress report.*

Michael Lichter reported that the kickoff meeting is tomorrow. They will develop a time-line then.

### **7 New business**

Bill Conner pointed out that the new P&P has three forms of standards. He asked if we want standards being considered for revision to be made into normative standards? He argued that this would be good so that they would be incorporated into law.

### **8 Other business and announcements**

#### **9 Schedule for future meetings**

Sapsis announced that the next meeting is scheduled for 13:00 to 18:00, Saturday 28 January 2012, at the Marriott Solana in Westlake, Texas.

#### **10 Adjournment**

Harvey Sweet moved that the meeting adjourn. Dan Culhane seconded the motion. The motion was approved by acclamation. Bill Sapsis declared the meeting adjourned at 22.29.

**Working Group Membership and Contact Information as of 9 November 2011**

<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Mark Ager	Stage Technologies	Stage Technologies Group	P	CP
Tray Allen	James Thomas Engineering, Inc.	James Thomas Engineering, Inc.	A	MP
Brent Armstong	Brent Armstong	Brent Armstong	O	U
William Ian Auld	Auld Entertainment	Auld Entertainment	O	U
Warren A. Bacon	Warren A. Bacon	Warren A. Bacon	O	U
Rinus Bakker	Rhino Rigs B.V.	Rhino Rigs B.V.	O	G
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Roger Barrett	Star Events Group Ltd.	Star Events Group Ltd.	O	DR
Dana Bartholomew	Fisher Technical Services, Inc.	Fisher Technical Services, Inc.	P	CP
F. Robert Bauer	F.R. Bauer & Associates, LLC	F.R. Bauer & Associates, LLC	O	G
William Beautyman	Limelight Productions, Inc.	Limelight Productions, Inc.	P	DR
Maria Bement	MGM Grand	MGM Grand	O	U
Roy Bickel	Roy Bickel	Roy Bickel	O	G
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Keith Bohn	Tomcat USA, Inc.	Vitec Group plc	P	MP
Ron Bonner	PLASA Technical Resources Office	PLASA EU	P	G
William Bradburn	Aerial Arts, Inc.	Aerial Arts, Inc.	P	U
Louis Bradfield	Louis Bradfield	Louis Bradfield	O	U
Buddy Braile	Bestek Lighting & Staging	Bestek Lighting & Staging	O	U
Barry Brazell	Barry Brazell	Barry Brazell	O	U
André Broucke	André Broucke	André Broucke	O	G
Spencer Brown	Oasis Stage Werks	Oasis Stage Werks	A	DR
David M. Campbell	Geiger Engineers	Geiger Engineers	O	G
Vincent J. Cannavale	Motion Laboratories	Motion Laboratories	P	CP
Michael J. Carnaby	Mikan Theatricals	Mikan Theatricals	O	DR
Joseph Champelli	ZFX Flying Inc.	ZFX Flying Inc.	P	CP
Daniel J. Clark	Clark-Reder Engineering, Inc.	Clark-Reder Engineering, Inc.	O	G

<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Ian Coles	Total Structures, Inc.	Total Structures, Inc.	O	MP
Gregory C. Collis	I.A.T.S.E. Local 16	I.A.T.S.E. Local 16	O	G
William Conner	Bill Conner Associates LLC	Amer. Society of Theatre Consultants	P	DE
Kimberly Corbett	Schuler Shook	Schuler Shook	P	DE
Stu Cox	ZFX Flying Inc.	ZFX Flying Inc.	A	CP
Dan Culhane	SECOA	SECOA	P	CP
Bruce Darden	Rigging Innovators, Inc.	Rigging Innovators, Inc.	P	CP
Randall W. A. Davidson	Risk International & Associates, Inc.	Risk International & Associates, Inc.	O	U
Robert Dean	ZFX Flying Inc.	ZFX Flying Inc.	O	DR
François Deffarges	Nexo	Nexo	O	MP
Cristina Delboni	Feeling Structures	Feeling Structures	O	MP
Don Dimitroff	Tomcat USA, Inc.	Vitec Group plc	A	MP
Brad Dittmer	Stage Labor of the Ozarks	Stage Labor of the Ozarks	P	U
Noga Eilon-Bahar	Eilon Engineering Industrial Weighing Systems	Eilon Engineering Industrial Weighing Systems	O	MP
James B. Evans	Mountain Productions Inc.	Mountain Productions Inc.	O	DR
Scott Fisher	Fisher Technical Services, Inc.	Fisher Technical Services, Inc.	A	CP
Philip Fleming	PSAV Presentation Services	PSAV Presentation Services	O	DR
Adrian Forbes-Black	Total Structures Inc.	Total Structures Inc.	P	MP
Howard Forryan	Harting Ltd.	Harting KGAA	A	G
Eric Foster	Hall Associates Flying Effects	Hall Associates Flying Effects	A	CP
Tim Franklin	Theta-Consulting	Theta-Consulting	O	G
Mike Garl	James Thomas Engineering, Inc.	James Thomas Engineering, Inc.	P	MP
Ed Garstkiewicz	Harting Inc., North America	Harting KGAA	P	G
Ethan William Gilson	ALPS	Advanced Lighting and Production Services	P	U
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	Jay O. Glerum & Associates, Inc.	O	U
Rand Goddard	W.E. Palmer Co.	W.E. Palmer Co.	O	CP
Reuben Goldberg	Technic Services	Technic Services	O	U
William B. Gorlin	McLaren Engineering Group	M.G. McLaren, P.C.	P	G

<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	G
Thomas M. Granucci	Associated Students, Cox Arena	San Diego State University	O	U
Pat Grenfell	PjDeZyNeS	PjDeZyNeS	I	DE
Joshua Grossman	Schuler Shook	Schuler Shook	A	DE
Joel A Guerra	Texas Scenic Company	Texas Scenic Company	A	DR
Donald Halchak	Mountain Productions Inc.	Mountain Productions Inc.	P	DR
Rod Haney	IATSE Local 891	IATSE Local 891	P	U
Tim Hansen	Oasis Stage Werks	Oasis Stage Werks	P	DR
Pete Happe	Walt Disney Imagineering	Walt Disney Company	P	U
Sean Harding	High Output, Inc.	High Output, Inc.	O	G
Greg Hareld	Kleege Industries	Kleege Industries	P	U
Dean Hart	Stage Rigging, Inc.	Freeman Companies	O	U
Herb Hart	Columbus McKinnon Corp.	Columbus McKinnon Corp.	P	MP
Ben Hayes	Freedom Flying	Freedom Flying	O	G
Marc Hendriks	Prolyte	Prolyte	O	MP
Peter Herrmann	Motion Laboratories	Motion Laboratories	A	CP
David Herrmann	Motion Laboratories	Motion Laboratories	A	CP
Ted Hickey	OAP Audio Products	OAP Audio Products	O	MP
Chris Higgs	Total Solutions Group	Total Solutions Group	O	G
Wendy Holt	AMPTP/CSATF	Alliance of Motion Picture and Television Producers	P	G
Daniel Lynn Houser	Real Rigging Solutions, LLC	Real Rigging Solutions, LLC	O	U
Donald Hoffend_III	Avista Designs, LLC	Avista Designs, LLC	A	G
Wes Jenkins	Down Stage Right Industries	Down Stage Right Industries	O	CP
Joseph Jeremy	Niscon Inc.	Niscon Inc.	O	CP
Peter Johns	Total Structures, Inc.	Total Structures, Inc.	O	MP
Ted Jones	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	U
Kent H. Jorgensen	IATSE Local 80	IATSE Local 80	O	G
Robert A. Grenier_Jr.	Ocean State Rigging Systems Inc.	Ocean State Rigging Systems Inc.	O	DR

<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Donald A. Hoffend_Jr.	Avista Designs, LLC	Avista Designs, LLC	P	G
Gary Justesen	Oasis Stage Werks	Oasis Stage Werks	O	DR
John Kaes	John Kaes	John Kaes	O	U
Rodney F. Kaiser	J.R. Clancy Inc.	Wenger Corp.	A	CP
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
JoAnna Kamorin-Lloyd	Vincent Lighting Systems	Vincent Lighting Systems	O	U
Theresa Kelley	Total Structures Inc.	Total Structures Inc.	A	MP
Nevin Kleege	Kleege Industries	Kleege Industries	O	U
Jerald Kraft	SECOA	SECOA	A	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	A	G
Ken Lager	Pook, Diemont & Ohl, Inc.	Pook, Diemont & Ohl, Inc.	O	DR
Jon Lagerquist	South Coast Repertory	South Coast Repertory	O	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Eugene Leitermann	Theatre Projects Consultants, Inc.	Theatre Projects Consultants, Inc.	O	G
Jon Lenard	Applied Electronics	Applied Electronics	O	MP
John Van Lennep	Theatrix Inc.	Theatrix Inc.	O	DR
Mylan Lester	Creation Logics Ltd.	Creation Logics Ltd.	O	U
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
Baer Long	Ninja Rigging	Act 1 Rigging Inc.	O	G
Dennis J. Lopez	Automatic Devices Co.	Automatic Devices Co.	O	MP
Darren Lucier	North Guard Fall protection Inc.	North Guard Fall protection Inc.	O	U
Aleksandrs Lupinskis	Real Rigging Solutions, LLC	Real Rigging Solutions, LLC	O	U
Gary Mardling	Kish Rigging	Kish Rigging	O	DR
Chuck McClelland	Jeamar Winches Inc.	Jeamar Winches Inc.	O	MP
Joseph McGeough	Flying by Foy	Foy Invenenterprises, Inc.	P	CP
Richard C. Mecke	Texas Scenic Company	Texas Scenic Company	O	DR

<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Orestes Mihaly	Production Resource Group	Production Resource Group	P	DR
Hank Miller	W.E. Palmer Co.	W.E. Palmer Co.	O	CP
John (Jack) Miller	I Weiss	I Weiss	P	CP
Shaun Millington	SEW-Eurodrive, Inc.	SEW-Eurodrive, Inc.	O	MP
Timothy Mills	Geiger Engineers	Geiger Engineers	O	G
Scott Mohr	R&R Cases and Cabinets	R&R Cases and Cabinets	O	G
Rick Montgomery	R&M Materials Handling	R&M Materials Handling	P	MP
Derek Moon	J.R. Clancy Inc.	Wenger Corp.	O	CP
Martin Moore	Martin Moore	Martin Moore	O	G
John "Andrew" Munro	animaenagerie	animaenagerie	O	U
Bob Murphy	Occams Razor Technical Services	Occams Razor Technical Services	O	G
Steve Nelson	3dx Scenic and 3dx FlameCoat	Educational Theatre Association	O	U
Reid Neslage	H & H Specialties Inc.	H & H Specialties Inc.	P	MP
Mark Newlin	Xtreme Structures and Fabrication	Xtreme Structures and Fabrication	A	MP
Rikki Newman	Rikki Newman	Rikki Newman	O	U
James Niesel	Arup	Arup	P	DE
Richard J. Nix	Entertainment Structures Group	Steven Schaefer Associates	P	G
Shawn Nolan	Production Resource Group	Production Resource Group	A	DR
Tracy Nunnally	Hall Associates Flying Effects	Hall Associates Flying Effects	P	CP
Howard R. Ott	D.E.O. Associates, Inc.	D.E.O. Associates, Inc.	O	G
Edward A. (Ted) Paget	Daktronics Automated Rigging Solutions	Daktronics Inc.	P	CP
Miriam Paschetto	Geiger Engineers	Geiger Engineers	P	G
Michael Patterson	Pook Diemont & Ohl, Inc.	Pook Diemont & Ohl, Inc.	O	CP
Rocky Paulson	Stage Rigging, Inc.	Freeman Companies	P	DR
G. Anthony Phillips	I.A.T.S.E. Local 16	I.A.T.S.E. Local 16	O	U
Troy Post	R&M Materials Handling	R&M Materials Handling	A	MP
Michael Powers	Central Lighting & Equipment, Inc.	Central Lighting & Equipment, Inc.	O	DR
Kurt Pragman	Pragman Associates, LLC	Pragman Associates, LLC	O	G

Name	Company	Representing	Voting status	Int. cat.
Woody Pyeatt	A V Pro, Inc.	A V Pro, Inc.	P	DR
Michael Reed	Reed Rigging, Inc.	Reed Rigging, Inc.	O	DR
Mark Riddlesperger	LA ProPoint, Inc.	LA ProPoint, Inc.	O	CP
John Ringelman	Stage Rigging, Inc.	Freeman Companies	A	DR
Jean-Philippe Robitaille	Show Distribution Group, Inc.	Show Distribution Group, Inc.	O	DR
Rick Rosas	Texas Scenic Company	Texas Scenic Company	A	DR
Shawn Sack	Columbus McKinnon Corp.	Columbus McKinnon Corp.	A	MP
Bill Sapsis	Sapsis Rigging, Inc.	Sapsis Rigging, Inc.	P	U
Peter A. Scheu	Scheu Consulting Services, Inc.	Scheu Consulting Services, Inc.	O	G
Peter "Punch" Christian Schmidtke	Hollywood Lighting Services, Inc.	Hollywood Lighting, Inc.	O	DR
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.	O	CP
Michael L. Savage, Sr.	Middle Dept. Inspection Agency, Inc.	Middle Dept. Inspection Agency, Inc.	O	G
Rob Stevenson	SEW-Eurodrive, Inc.	SEW-Eurodrive, Inc.	O	MP
Joachim Stoecker	CAMCO GmbH	CAMCO GmbH	O	MP
Stephen G. Surratt	Texas Scenic Company	Texas Scenic Company	P	DR
Andy Sutton	AFX UK Ltd.	AFX UK Ltd.	O	U
Peter V. Svitavsky	J.R. Clancy Inc.	Wenger Corp.	P	CP
Harvey Sweet	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Katherine Tharp	LA ProPoint, Inc.	LA ProPoint, Inc.	O	CP
Will Todd	Tomcat USA, Inc.	Vitec Group plc	A	MP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	O	U
Elmer Veith	Total Structures - Eastern US Sales Office	Total Structures, Inc.	A	MP
Steve Walker	Steve A. Walker & Associates	Steve A. Walker & Associates	P	G
Bill Waters	Conductix-Wampfler	Conductix-Wampfler	O	MP
Charlie Weiner	Charlie Weiner	Charlie Weiner	P	U
Michael Wells	Xtreme Structures and Fabrication	Xtreme Structures and Fabrication	P	MP



<b>Name</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Marty Wesstrom	Mountain Productions Inc.	Mountain Productions Inc.	A	DR
Michael G. Wiener	Aerial Rigging & Leasing, Inc.	Aerial Rigging & Leasing, Inc.	O	U
Jeff Wilkowski	Them, Inc.	Them, Inc.	P	MP
Frank Willard	Syracuse Scenery & Stage Lighting Co., Inc.	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
R. Duane Wilson	George C. Izenour Associates	Amer. Society of Theatre Consultants	A	DE
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Thomas S. Young	J.R. Clancy Inc.	Wenger Corp.	A	CP
Robert Young	Arup	Arup	A	DE
Art Zobal	Columbus McKinnon Corp.	Columbus McKinnon Corp.	A	MP