

Minutes
Rigging Working Group
Monday, 26 July 2021
11:00 – 13:00 Eastern Time
via WebEx

Chairpersons:

Bill Sapsis; Sapsis Rigging; P; (presiding)
Chris Kaiser; Syracuse Scenic and Lighting Co., Inc; P

Recording secretaries:

Karl Ruling and Richard Nix; ESTA

Attendees:

William Ian Auld; Auld Entertainment
Eric Rouse; Entertainment Project Services;
Orestes Mihaly; Production Resource Group
Michael Wells; Xtreme Structures & Fabrication
Jay Cid; R&M Material Handling
Ryan Riordan; Accurate Staging, Inc.
Sandy Gilzow; Shur-Rig, LLC
Thomas Cowdery; PNTA
Jesse Adams; Rosebrand
Joseph Jeremy; Niscon, Inc
Don Earl; Earl Girls
Stewart Stephens; S2 Technologies
Jason Tello; T6 Truss
Troy Trinkle; Troy Trinkle, Inc
Kyle Kusmer; Schaefer
Fred Caron; Circus Concepts
Steve Walker; Walker Engineering
Robert Dean; ZFX, Inc
David Boevers; Carnegie-Mellon University
Quinten James; Flying by Troy
Steve Serafin; The Hartford
Todd Spencer; ESTA President
Eddie Kramer; I.A.T.S.E. Local 1
Allen Winzler; Entertainment & Rigging Engineering
Ken Tilson; Columbus McKinnon
Nathan Villines; Tyler Truss
Bart Mueller; Recreation Engineering
Jem Hodgson
Paul Brunner; Thern, Inc
Rick Montgomery; Motion Laboratories, Inc.
Ryan McAlpine; Foy Invention Enterprises
Paul Zagajeski; Wenger Corp.
Neil Montour; Atlanta Rigging Systems
Mike Skinner; Contract Services Administration Trust Fund
Bill Gorlin; M.G. McLaren, P.C.
Ian Bevan; Walt Disney Company
Troy Atkinson; Production Resources Group
Peter Scheu; Scheu Consulting Services
Elmer Veith; Reliable Design
Lee Chuong; Walt Disney Company
Drew Becker; Inter America Stage
Luke Ricca;
Will Todd; Area Four Industries

Ed Leahy; Chicago Spotlight
Dan Culhane; Wenger Corp.
Stephan Wood; Tait Towers Manufacturing, LLC
Rod Haney; I.A.T.S.E. Local 891
Tracy Nunnally; Vertigo
Michael Lichter; Electronic Theatre Controls
Steven Ricks; Electronic Theatre Controls
Max Wilson; Applied Electronics
Tim Hansen; Oasis Stage Werks
Miriam Paschetto; Geiger Engineers
Jerry Gorrell; Theatre Safety Programs
Dan Louis; Theta Consulting
Pete Svitavsky; Wenger Corp.
Brad Dittmer; Stage Labor of the Ozarks
Tony Diemont; Texas Scenic
Ethan Gilson; Entertainment Rigging Services
Gert Jan Brouwer; Frontline Rigging
Jonathan Deull; Clark Transfer
Mike Garl; Mike Garl Consulting; LLC
Siobhan Gee;
Peter Batt; Mainstage Theatrical Supply, Inc
Tyler DeLong; DeLong Rigging Services;
Pat Grenfell; Hoist Sales & Services
Jordi van Burkum; Cybermotion North America
Stephan Pries; NEP Live Events
Mike Webb; Motion Laboratories, Inc

1 Opening Remarks

Bill Sapsis called the meeting to order at 11:03, welcoming everyone to the meeting and thanking them for their participation.

2 Patent and anti-trust statements

2.1 Reading of the anti-trust statement

Bill Sapsis read the following statement aloud to the assembly:

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 an 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 the pamphlet in front of his camera for all video enabled attendees to see. Bill mused that he did not know where to obtain a hard-to-read pamphlet.

2.2 Reading of the call for patents

Bill Sapsis read the following statement aloud to the assembly:

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 protected 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 revealed.

3 Attendance and Membership

3.1 Requirements for membership

Bill Sapsis read the following statement aloud to the assembly:

Membership is open to all parties who are affected by the work of the group; membership in ESTA is not a requirement, but there is a \$100/person/year participation fee to help fund the costs of running the Technical Standards Program. Voting members are required to attend meetings and vote on letter ballots. Any principal member and alternate that both miss three consecutive meetings or that miss three consecutive letter ballots will have their membership status changed to observer. This action will be taken at the beginning of the first meeting after such inaction and will be recorded in the minutes of that meeting.

3.2 Introduction of attendees

3.3 Determination of a quorum

(There are 71 voting entities. A quorum is 24, a supermajority is 36.)

3.4 Processing of new membership and status change requests

The following applications or status change requests have been received:

David Boevers; Carnegie Mellon University; P; DE

Dan Culhane moved to accept. The motion was seconded and carried by unanimous consensus of the attending voters

3.5 Changes to observer status due to lack of attendance or missed letter ballots

3.5.1 Attendance notices

The following voters have missed two consecutive meetings, and their status will be changed to that of Observer if this meeting is missed:

*Edwin S. Kramer; I.A.T.S.E. Local 1
Mike Garl; Mike Garl Consulting LLC
Tony Diemont; Texas Scenic Company
Russ Solomon; Texas Scenic Company*

All were present – no changes.

3.5.2 Letter ballot notices

The following voters have missed the last two letter ballots and will be moved to Observer status if the next letter ballot is missed.

There have been no letter ballots since the April meeting

3.5.3 Automatic status changes occurring before this meeting

The following automatic status changes have occurred since the last meeting.

*Kalen Larsen, no longer with ZFX.
Tracie Allen, no longer with T6 Truss*

3.6 Consensus body

As of today, after all changes resulting from working group action, the consensus body is:

Delegate	Representing	Voting status	Int. category
Ryan Riordan	Accurate Staging, Inc.	P	CP
Brent Armstrong	Alpine Rigging & Structural Design	P	CP
R. Duane Wilson	Amer. Society of Theatre Consultants	P	DE
Andrew Young	Andrew Young	I	U
Max A. Wilson	Applied Electronics	P	MP
Jon Lenard	Applied Electronics	A	MP
Will Todd	Area Four Industries	P	MP
Keith Bohn	Area Four Industries	A	MP
Neil Montour	Atlanta Rigging Systems	P	DR
David Boevers	Carnegie Mellon University	P	DE
Ed Leahy	Chicago Flyhouse, Inc	P	CP
Jeffrey M. Reder	Clark-Reder Engineering, Inc.	P	G
Ken Tilson	Columbus McKinnon Corp.	P	MP
Nick Fleming	Columbus McKinnon Corp.	A	MP
Mike Skinner	Contract Services Administration Trust Fund	P	U
Chris Moulton	Contract Services Administration Trust Fund	A	U
Jordi Van Berkum	Cybermotion North America	P	DR
Tyler DeLong	DeLong Rigging Solutions	P	U
Don Earl	Earl Girls, Inc.	P	DR
Steven Ricks	Electronic Theatre Controls, Inc.	P	MP
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Allen Winzler	Entertainment and Rigging Engineering	P	DE
Eric Rouse	Entertainment Project Services, LLC	P	CP
Joseph Champelli	Entertainment Project Services, LLC	A	CP
Joshua "Fritz" Friedensohn	Entertainment Project Services, LLC	A	CP
Ethan W Gilson	Entertainment Rigging Services, LLC	P	U
John Ringelman	Freeman Companies	P	DR
Chris Schmidt	Freeman Companies	A	DR
Gert Jan Brouwer	Frontline Rigging & Motion B.V.	P	CP
Joe Golden	Gallagher Staging & Productions	P	DR
Miriam Paschetto	Geiger Engineers	P	DE
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

Delegate	Representing	Voting status	Int. category
Rod Haney	I.A.T.S.E. Local 891	P	U
Ross Long	I.A.T.S.E. Local 891	A	U
Patrick Bash	In-House Production	P	DR
Bruce Darden	InterAmerica Stage, Inc.	P	CP
Drew Becker	InterAmerica Stage, Inc.	A	CP
Jeremy Hodgson	Jeremy Hodgson	I	G
Jonathan Deull	JSD Projects LLC	P	U
William B. Gorlin	M.G. McLaren, P.C.	P	G
Peter W. Batt	Mainstage Theatrical Supply, Inc	P	DR
Mike Garl	Mike Garl Consulting LLC	P	DE
Rick Montgomery	Motion Laboratories, Inc.	P	MP
Mike Webb	Motion Laboratories, Inc.	A	MP
Michael Shaw	Motion Laboratories, Inc.	A	MP
Stefan Pries	NEP Live Events	P	DR
Tim Hansen	Oasis Stage Werks	P	DR
Orestes Mihaly	Production Resource Group	P	DR
Troy Atkinson	Production Resource Group	A	DR
Matt Jordan	Production Resource Group	A	DR
Jay Cid	R&M Materials Handling / Stagemaker	P	MP
Bartholomew J. Mueller	Recreation Engineering Inc.	P	DE
Bennett Brian	Reed Rigging Inc.	P	DR
Elmer Veith	Reliable Design Services	P	CP
Matt Panther	Reliable Design Services	A	CP
Richard J. Nix	Richard J. Nix	I	G
Jesse Adams	Rose Brand Wipers, Inc	P	DR
Stewart Stephens	S2 Technologies	P	G
Bill Sapsis	Sapsis Rigging, Inc.	P	U
Joseph Jeremy	Show Distribution Group, Inc.	P	CP
Bill McIntyre	Show Distribution Group, Inc.	A	CP
Sanford P. Gilzow	Shur-Rig LLC	P	G
Dana Bartholomew	Silver State Wire Rope and Rigging	P	DR
Siobhan Gee	Siobhan Gee	I	G
Brad Dittmer	Stage Labor of the Ozarks	P	U
Steve Walker	Steve A. Walker & Associates	P	G
Kyle Kusmer	Steven Schaefer Associates, Inc	P	DE
Mike Merz	Steven Schaefer Associates, Inc	A	DE

Delegate	Representing	Voting status	Int. category
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
Harold Ike Shippers	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
Jason Tello	T6 Truss Designs. LLC	P	CP
Stephan Jon Wood	Tait Towers Manufacturing LLC	P	CP
David Bond	Tait Towers Manufacturing LLC	A	CP
Ryan Kunkel	Tait Towers Manufacturing LLC	A	CP
Tony Diemont	Texas Scenic Company	P	DR
Russell Solomon	Texas Scenic Company	A	DR
Steven Serafin	The Hartford Group	P	G
Jim Niesel	Theatre Projects Consultants, Inc.	P	DE
Jerry Gorrell	Theatre Safety Programs	P	G
Sam Michael	Thern, Inc.	P	MP
Jeff Wilkowski	Thern, Inc.	A	MP
Paul Brunner	Thern, Inc.	A	MP
Daniel H. Louis	Theta Consulting LLC	P	G
Thomas Cowdery	Thomas Cowdery	I	U
Troy Trinkle	Troy Trinkle, LLC	P	CP
Nathan Villines	Tyler Truss Systems	P	MP
Bill Edwards	Tyler Truss Systems	A	MP
Josh Conner	Tyler Truss Systems	A	MP
Robert Haycock	UC Berkeley	I	U
Tracy Nunnally	Vertigo	P	CP
John P. Moore	Vertigo	A	CP
Ian Bevan	Walt Disney Company	P	DE
Lee Chuong	Walt Disney Company	A	DE
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
Theresa Lovell	Xtreme Structures and Fabrication	A	MP
Robert Dean	ZFX, Inc.	P	CP
	Total votes possible		72
Votes by interest category	Custom market producer (CP)		14
	Mass market producer (MP)		10
	Dealer or rental company (DR)		16

Delegate	Representing	Voting status	Int. category
	User (U)		12
	General interest (G)		11
	Designer (DE)		9

4 Approval of the minutes from the last meeting

[See [RWGmin04-2021r1_DRAFT.pdf](#)]

Richard Nix noted that the filename listed in the agenda did not reflect the most current r1 version, which was distributed with the meeting documents. Dan Culhane moved to approve the minutes. The motion was seconded and carried without objection, and with no abstention.

5 Approval of agenda

Dan Culhane moved to approve the agenda. The motion was seconded and carried without objection, and with no abstention.

6 Old Business

6.1 ANSI E1.1 – 2018, wire rope ladders (Reaffirm, revise, or withdraw by 27 September 2023)

6.2 ANSI E1.2 - 20xx, Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers (Reaffirm, revise, or withdraw by 06 May 2026).

It's published!

6.3 BSR E1.4-1 - 202x, Entertainment Technology--Manual Counterweight Rigging Systems (Open for revision) *Task group members:* Richard Nix (Leader), Bruce Darden, Dan Culhane, Eric Rouse, Jim Niesel, Pat Grenfell, Peter Batt, Peter Scheu, Reid Neslage, Sam Michael, Ted Jones

The first public review will end on 26 July 2021. As of 12 July, no public review comments have been received.

Richard Nix reported that the review period had ended at midnight, and that there were about 6 or so comments submitted from one commenter. The summary will be sent to the working group and the task group will work on resolutions for the next meeting.

6.4 ANSI E1.4-2 - 202x, Entertainment Technology—Statically Suspended Rigging Systems (Reaffirm, revise, or withdraw by 06 May 2026.)

It's published

6.5 ANSI E1.4-3 - 2020, Entertainment Technology - Manually Operated Hoist Rigging Systems (Reaffirm, revise, or withdraw before 02 June 2025)

6.6 ANSI E1.6-1 - 2021, Entertainment Technology--Powered Hoist Systems (Reaffirm, revise, or withdraw before 10 May 2024)

6.7 ANSI E1.6-2 - 2020, Entertainment Technology--Design, Inspection, and Maintenance of Electric Chain Hoists for the Entertainment Industry (Reaffirm, revise, or withdraw before 14 August 2025)

6.8 ANSI E1.6-3 - 2019, Selection and Use of Serially Manufactured Chain Hoists in the Entertainment Industry (Reaffirm, revise, or withdraw 07 October 2024)

6.9 BSR E1.6-4 - 202x, Design, Manufacture, and Inspection of Portable Controls for Electric Chain Hoists in the Entertainment Industry (Open for revision) *Task group members:* David Bond, Rod Haney, Rick Montgomery, John Ringelman, Elmer Veith, Jem Hodgson, Stephen Wood, Mike Webb, and Joe Jeremy (leader).

From the April 2021 draft meeting minutes:

Joe Jeremy reported progress with the drafts, and expects to have something for review at the next meeting.

Any news or action?

A task group draft was sent the previous evening, or working group review. Joe Jeremy reported, first thanking all of the task group members for working through the scheduling challenges of the past few months. He asked everyone to please review the current draft, paying particular attention to E-Stop wording. Bill Sapsis asked what the expectation was for the next meeting. Joe replied that he hoped to see working group comments, so that they can be discussed and incorporated if necessary, with the resulting revision being ready in time for the October meeting. Bill asked for everyone to have any comments sent back to Joe by no later than 09 September.

6.10 BSR E1.6-5, Selection and Use of Portable Controls for Electric Chain Hoists in the Entertainment Industry *Task group members:* David Bond, Rod Haney, Rick Montgomery, John Ringelman, Elmer Veith, Jem Hodgson, Stephen Wood, Mike Webb, and Joe Jeremy (leader).

From the April 2021 draft meeting minutes:

Joseph Jeremy reported progress with the drafts, and expects to have something for review at the next meeting.

Any news or action?

See E1.6-4 report from Joe Jeremy.

6.11 ANSI E1.8 – 2018, Entertainment Technology—Loudspeaker Enclosures Intended for Overhead Suspension—Classification, Manufacture and Structural Testing (Reaffirm, revise, or withdraw by 29 November 2023)

6.12 ANSI E1.15 - 2006 (R2021), Entertainment Technology--Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies (Reaffirm, revise, or withdraw before 08 March 2026)

6.13 ANSI E1.21 - 2020, Entertainment Technology — Temporary Structures Used for Technical Production of Outdoor Entertainment Events (Reaffirm, revise, or withdraw before 23 March 2025)

6.14 BSR E1.22 - 202x, Entertainment Technology - Fire Safety Curtain Systems (Open for revision) *Task group members:* Dan Culhane (task group leader), Bruce Darden, Tim Hansen, Eric Rouse, Ted Jones

Any news or action?

Dan Culhane reported that they have a revised draft in progress, which he will have ready to deliver in time for the October meeting.

6.15 ANSI E1.39 - 202x, Entertainment Technology –Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry (Reaffirm, revise, or withdraw by 06 May 2026).

It's published!

6.16 BSR E1.43 - 202x, Live performer flying effect standard (Open for revision) *Task group members:* Eric Rouse (task group leader), Jonathan Duell, Ryan Kunkel, Robert Dean, Tracy Nunnally, Bill Gorlin, Fred Caron, and Stewart Stephens.

Any news or action?

Jonathan Duell said that Eric Rouse was stuck in traffic, trying to get to the meeting, so Jonathan reported that the task group was meeting its goals of ensuring the standard was clear, and user-friendly for smaller productions as well as larger shows. They are not addressing anything new in scope. Bill Gorlin suggested that they might consider putting new revisions in front of the working group.

6.17 Rigging Glossary

Any news or action?

Chris Kaiser reported no progress, hoping to achieve some normalcy in an extraordinary workload. Siobhan Gee volunteered to assist. Chris accepted her offer and said she would send Siobhan something.

6.18 ANSI E1.47 – 2020, Recommended Guidelines for Entertainment Rigging System Inspections (Reaffirm, revise or withdraw before 18 June 2025)

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

6.20 ANSI E1.56 - 2018, Rigging Support Points Design, Fabrication, Installation, and Testing (Reaffirm, revise or withdraw by 06 November 2023)

6.21 ANSI E1.67 – 2021, Design, Inspection, Maintenance, Selection, and Use of Hand-operated Chain- and Lever Hoists for the Entertainment Industry (Reaffirm, revise, or withdraw by 06 May 2026).

It's published!

6.22 BSR E1.70 – 202x, Selection and Use of Ground Supported Winch Stands and Towers in the Entertainment Industry *Task group members:* Jacob Abbott, Ethan Gilson (task group leader), Eric Rouse, Will Todd, Elmer Veith, Ryan Riordan, and Max Wilson

Any news or action?

Ethan Gilson reported that they are not making any progress, but would try to have something ready for the October meeting.

7 New business

8 Other business and announcements

8.1 Above & Beyond Awards

8.2 NATEAC

Bill Sapsis thanked everyone for their help and participation.

9 Schedule for future meetings

The meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>. The next meeting has not yet been scheduled, but is anticipated to be scheduled for sometime within the last week of September or the first week in October.

10 Adjournment

The agenda being complete, and there being no further business brought forth, Bill Sapsis declared the meeting adjourned at 11:36 AM

Rigging Working Group members as of 26 July 2021

Name	Representing	Status	Int Cat
Jacob Abbott	PSAV Presentation Services	O	U
Jesse Adams	Rose Brand Wipers, Inc	P	DR
Matthew Antonucci	Contract Services Administration Trust Fund	O	U
Brent Armstrong	Alpine Rigging & Structural Design	P	CP
Troy Atkinson	Production Resource Group	A	DR
William Ian Auld	Auld Entertainment	O	U
Robert Barbagallo	Solotech Inc.	O	DR
Dana Bartholomew	Silver State Wire Rope and Rigging	P	DR
Patrick Bash	In-House Production	P	DR
Peter W. Batt	Mainstage Theatrical Supply, Inc	P	DR
William Beautyman	Limelight Productions, Inc.	O	DR
Drew Becker	InterAmerica Stage, Inc.	A	CP
Justin Bennett	University of the Incarnate Word	O	U
Jordi Van Berkum	Cybermotion North America	P	DR
Ian Bevan	Walt Disney Company	P	DE
Roy Bickel	Roy Bickel	O	G
Tyler Bland	Walt Disney Company	O	U
David Boevers	Carnegie Mellon University	P	DE
Keith Bohn	Area Four Industries	A	MP
David Bond	Tait Towers Manufacturing LLC	A	CP
Bennett Brian	Reed Rigging Inc.	P	DR
Gert Jan Brouwer	Frontline Rigging & Motion B.V.	P	CP
Paul Brunner	Thern, Inc.	A	MP
David M. Campbell	Geiger Engineers	O	G
Frederic Caron	Frederic Caron	O	U
Joseph Champelli	Entertainment Project Services, LLC	A	CP
Lee Chuong	Walt Disney Company	A	DE
Jay Cid	R&M Materials Handling / Stagemaker	P	MP
Daniel J. Clark	Clark-Reder Engineering, Inc.	O	G
Benjamin Cohen	Chicago Flyhouse Inc.	O	CP
Josh Conner	Tyler Truss Systems	A	MP
Thomas Cowdery	Thomas Cowdery	I	U
Brandon Cox	Heavyweight Solutions	O	CP
Dan Culhane	Wenger Corp.	A	CP
Bruce Darden	InterAmerica Stage, Inc.	P	CP
David Darland	PSAV Presentation Services	O	U
Robert Dean	ZFX, Inc.	P	CP
Tyler DeLong	DeLong Rigging Solutions	P	U
Jonathan Deull	JSD Projects LLC	P	U
Tony Diemont	Texas Scenic Company	P	DR
Jim Digby	Event Safety Alliance	O	U
Brad Dittmer	Stage Labor of the Ozarks	P	U

Rigging Working Group members as of 26 July 2021

Russ Dusek	I Weiss	O	MP
Don Earl	Earl Girls, Inc.	P	DR
Bill Edwards	Tyler Truss Systems	A	MP
Jennifer Ferguson	Kito Group	O	MP
Nick Fleming	Columbus McKinnon Corp.	A	MP
Tim Franklin	Theta Consulting LLC	O	G
Joshua "Fritz" Friedensohn	Entertainment Project Services, LLC	A	CP
Mike Garl	Mike Garl Consulting LLC	P	DE
James M. Garner	Walt Disney Company	O	G
Siobhan Gee	Siobhan Gee	I	G
Ethan W Gilson	Entertainment Rigging Services, LLC	P	U
Sanford P. Gilzow	Shur-Rig LLC	P	G
Joe Golden	Gallagher Staging & Productions	P	DR
William B. Gorlin	M.G. McLaren, P.C.	P	G
Jerry Gorrell	Theatre Safety Programs	P	G
Michael P. Gosenski	Rigging Systems LLC	O	U
Pat Grenfell	Hoist Sales & Service	P	DR
Phillip R. Hampton	Charcoalblue	O	DE
Rod Haney	I.A.T.S.E. Local 891	P	U
Tim Hansen	Oasis Stage Werks	P	DR
Sean Harding	Port Lighting Systems	O	G
Robert Haycock	UC Berkeley	I	U
Chris Higgs	Total Solutions Group	O	G
Jeremy Hodgson	Jeremy Hodgson	I	G
Donald Hoffend_III	Avista Designs, LLC	O	G
Quinten James	Flying By Troy	O	U
Joseph Jeremy	Show Distribution Group, Inc.	P	CP
Ted Jones	Grand Stage	P	U
Matt Jordan	Production Resource Group	A	DR
Christine L. Kaiser	Syracuse Scenery & Stage Lighting Co., Inc.	P	DR
Jerald Kraft	JTH Lighting Alliance	O	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
Ryan Kunkel	Tait Towers Manufacturing LLC	A	CP
Kyle Kusmer	Steven Schaefer Associates, Inc	P	DE
Ed Leahy	Chicago Flyhouse, Inc	P	CP
Jon Lenard	Applied Electronics	A	MP
Phillip Lewis	Tait Towers Manufacturing LLC	O	CP
Paul "Luke" Lewkowicz	Paul E Lewkowicz PC	O	DE
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Ross Long	I.A.T.S.E. Local 891	A	U
Jacob E. Loretto	Musson Theatrical Inc.	O	DR
Daniel H. Louis	Theta Consulting LLC	P	G
Theresa Lovell	Xtreme Structures and Fabrication	A	MP

Rigging Working Group members as of 26 July 2021

Wendy Manson	Wendy Manson	O	G
Ryan McAlpine	Foy Invenerprises, Inc.	O	DR
Bill McIntyre	Show Distribution Group, Inc.	A	CP
Mike Merz	Steven Schaefer Associates, Inc	A	DE
Sam Michael	Thern, Inc.	P	MP
Steven Michelman	Entertainment Project Services, LLC	O	CP
Orestes Mihaly	Production Resource Group	P	DR
Rick Montgomery	Motion Laboratories, Inc.	P	MP
Neil Montour	Atlanta Rigging Systems	P	DR
John P. Moore	Vertigo	A	CP
Chris Moulton	Contract Services Administration Trust Fund	A	U
Bartholomew J. Mueller	Recreation Engineering Inc.	P	DE
John Neal	Rhino Staging	O	G
Reid Neslage	H & H Specialties Inc.	P	MP
Mark Newlin	Xtreme Structures and Fabrication	A	MP
Jim Niesel	Theatre Projects Consultants, Inc.	P	DE
Richard J. Nix	Richard J. Nix	I	G
Tracy Nunnally	Vertigo	P	CP
Gregory Orth	WNP Services, Inc.	O	DR
Matt Panther	Reliable Design Services	A	CP
Miriam Paschetto	Geiger Engineers	P	DE
Kurt Pragman	Pragman Associates, LLC	O	G
Stefan Pries	NEP Live Events	P	DR
Demian Purdy	PSAV Presentation Services	O	U
Jeffrey M. Reder	Clark-Reder Engineering, Inc.	P	G
Luke Ricca	Luke Ricca	O	G
Steven Ricks	Electronic Theatre Controls, Inc.	P	MP
Mark Riddlesperger	LA ProPoint, Inc.	O	CP
John Ringelman	Freeman Companies	P	DR
Ryan Riordan	Accurate Staging, Inc.	P	CP
Ryan Roby	Ryan Roby	O	U
Eric Rouse	Entertainment Project Services, LLC	P	CP
Tim Salamon	PSAV Presentation Services	O	DR
Bill Sapsis	Sapsis Rigging, Inc.	P	U
Peter A. Scheu	Scheu Consulting Services, Inc.	O	DE
Chris Schmidt	Freeman Companies	A	DR
Ford Sellers	Chauvet Lighting	O	MP
Steven Serafin	The Hartford Group	P	G
Michael Shaw	Motion Laboratories, Inc.	A	MP
Harold Ike Shippers	Syracuse Scenery & Stage Lighting Co., Inc.	A	DR
Mike Skinner	Contract Services Administration Trust Fund	P	U
Monica Skjonberg	Skjonberg Controls, Inc.	O	CP
Knut Skjonberg	Skjonberg Controls, Inc.	O	CP

Rigging Working Group members as of 26 July 2021

John C. Snook	Thermotex Industries Inc.	O	CP
Lynn M. Snook	Thermotex Industries Inc.	O	CP
Russell Solomon	Texas Scenic Company	A	DR
Stewart Stephens	S2 Technologies	P	G
Peter V. Svitavsky	Wenger Corp.	P	CP
Ross Taylor	Taylor & Taylor Associates	O	G
Jason Tello	T6 Truss Designs. LLC	P	CP
Ken Tilson	Columbus McKinnon Corp.	P	MP
Will Todd	Area Four Industries	P	MP
Troy Trinkle	Troy Trinkle, LLC	P	CP
Stephen Vanciel	IATSE Local 631	O	U
Elmer Veith	Reliable Design Services	P	CP
Nathan Villines	Tyler Truss Systems	P	MP
Steve Walker	Steve A. Walker & Associates	P	G
Patrick Wallace	PSAV Presentation Services	O	U
Mike Webb	Motion Laboratories, Inc.	A	MP
Charlie Weiner	Eurotruss	O	MP
Michael Wells	Xtreme Structures and Fabrication	P	MP
Drew Wending	PSAV Presentation Services	O	DR
Marty Wesstrom	Mountain Productions Inc.	O	DR
Mike Weston	PSAV Presentation Services	O	DR
Jeff Wilkowski	Thern, Inc.	A	MP
Greg Williams	PSAV Presentation Services	O	G
R. Duane Wilson	Amer. Society of Theatre Consultants	P	DE
Max A. Wilson	Applied Electronics	P	MP
Allen Winzler	Entertainment and Rigging Engineering	P	DE
Stephan Jon Wood	Tait Towers Manufacturing LLC	P	CP
Jeong Sik Yoo	Ghost LX	O	DE
Andrew Young	Andrew Young	I	U
Paul Zagajeski	Wenger Corp.	A	CP