



Technical Standards Program

ESTA Standards Watch

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Three draft ESTA standards available for public review

Three ESTA draft standards are available for public review on the ESTA TSP website at <http://estalink.us/pr>. Anyone materially affected by any document is invited to review it and to offer comments before the deadline. The review documents are available for free; downloading costs you nothing but your time.

BSR E1.67, Entertainment Technology – Design, Inspection, Maintenance, Selection, and Use of Hand and Lever Chain Hoists in the Entertainment Industry, applies to manually operated chain and lever hoists used in the entertainment industry including, but not limited to, hoists used in theatre, musical touring, film, trade show and television industries, for the purposes of lifting, lowering, and tensioning, related to the production of shows and special events. Comments are due before the end of the day on 23 March 2020.

BSR E1.4-2, Entertainment Technology - Statically Suspended Rigging Systems, is about dead-hung systems permanently installed in performances spaces, places of assembly, and other areas used for entertainment purposes where not covered by other ANSI Entertainment Technology standards. This standard intends to establish minimum performance criteria, recommendations and guidelines that can be used for installation, use, maintenance and inspection purposes. It also intends to establish minimum requirements for statically suspended rigging systems to safeguard health, safety and general welfare. Comments are due before the end of the day on 29 March 2020.

BSR E1.59, Entertainment Technology--Object Transform Protocol (OTP), describes a mechanism to transfer object transform information such as position, orientation and velocity over an IP network using a subset of the [ACN] protocol suite. It covers data format, data protocol, data addressing, and network management. Data transmitted is intended to coordinate visual and audio elements of a production and should not be used for safety critical applications. Comments are due before the end of the day on 6 April 2020.

COVID-19 advice, the flu, and fist-bumps

The novel coronavirus that was first identified in humans in Wuhan in late 2019, COVID-19, is complicating people's plans for work, travel, and events. There are lots of stories about it on the Web—people who have gotten ill, travel bans, stock prices, political ramifications—but it is helpful to look at competent sources that don't have an agenda other than promoting good community health. The World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and your local public health authorities are resources that provide comprehensive, up-to-date information for the public regarding COVID-19 and all other public health concerns.

The landing page for information about COVID-19 from the World Health Organization is at <https://www.who.int/health-topics/coronavirus/>. Links from that page take you to information about protecting yourself, travel advice, daily updates on the situation, technical advice, and more.

The Centers for Disease Control and Prevention's landing page for information about COVID-19 is <https://www.cdc.gov/coronavirus/2019-ncov/>. Links from that take you to “What you should know,” “Situation updates,” and “Information for” with a list of audiences. Click on “For Specific Audiences” to find a link with information for businesses. Some of that information is aimed at airlines and the maritime industry, but a lot is generic and useful. The CDC has published an interim guidance document for mass gatherings and large events. It runs about five pages, if you print it, and is available at <https://www.cdc.gov/coronavirus/2019-ncov/community/mass-gatherings-ready-for-covid-19.html>. A much longer, 16-page brochure giving advice for event planners about preparing for pandemic flu is available at <https://www.cdc.gov/nonpharmaceutical-interventions/pdf/gr-pan-flu-event-plan.pdf>. COVID-19 is not the flu, but the measures event planners can take to keep workers and attendees from getting sick with the flu are essentially the same as those that can be taken for COVID-19.

The difference between COVID-19 and the flu is explained at <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/coronavirus-disease-2019-vs-the-flu>. The John Hopkins Medicine website also is a good source of information about diseases, treatments, staying healthy, and giving care to others who are ill.

Shaking hands, the traditional greeting in Western cultures, is not a hygienic practice. The Deutsche Welle website offers cleaner alternatives to shaking hands at <https://p.dw.com/p/3YnIG>. It suggests that the easiest way to greet someone without sharing germs is to look the other person in the eyes, smile, and say, “Hello.”

FCC proposes changes to white space rules

On 28 February the Federal Communications Commission proposed changes to its white space device rules to provide improved broadband coverage for rural Americans. In response to a petition filed by Microsoft Corporation, the Notice of Proposed Rulemaking proposes changes that would allow for “more robust service and efficient use of White Space devices” in rural areas, without increasing the risk of harmful interference to protected services in the TV bands. These updates are said to provide flexibility for devices to more fully participate in the Internet of Things.

The Notice of Proposed Rulemaking is available at <https://docs.fcc.gov/public/attachments/FCC-20-17A1.pdf>. Comments on it are due 30 days after its publication in the *Federal Register*. As of 3 March, the notice had not been published, but it should be soon. The *Federal Register* is accessible at <https://www.federalregister.gov/>.

The Notice proposes to permit higher transmit power and antenna height above average terrain for fixed White Space devices in less congested geographic areas. If adopted, these changes would allow White Space devices

to reach users at greater distances, resulting in better broadband coverage. It would also permit higher power mobile operation within defined geographical areas and revise the rules to provide flexibility for these devices to more fully participate in the Internet of Things.

The Commission also is seeking comment on methods that could be used to allow higher power operation by White Space devices when adjacent TV channels are occupied. The action could provide additional opportunities for unlicensed White Space devices operating in the TV bands and spur growth of the White Space device ecosystem, which could provide affordable broadband service to more rural and under-served communities and help close the digital divide.

The press release announcing the Proposed Rulemaking and statements by FCC Commissioners in support of it are available at [DOC-362748A1.pdf](#), [DOC-362748A2.pdf](#), [DOC-362748A3.pdf](#), [DOC-362748A4.pdf](#), [DOC-362748A5.pdf](#), and [DOC-362748A6.pdf](#).

FCC Technological Advisory Council meeting 24 March

The Federal Communications Commission has announced the next meeting of the Technological Advisory Council (TAC). The meeting is open to the public. The meeting will be held Tuesday 24 March 2020, from 10:00 until 15:00, in the Commission Meeting Room at FCC Headquarters, 445 12th Street, SW, Room TW-C305, Washington, DC 20554. At this meeting, the TAC will hear presentations from its four working groups: 5G/IOT/V-RAN, Future of Unlicensed Operations, Artificial Intelligence, and 5G Radio Access Network Technology.

The FCC will accommodate as many attendees as possible; however, admittance will be limited to seating availability. The Commission will also provide audio and/or video coverage of the meeting over the Internet from the FCC's web page at <https://www.fcc.gov/general/live>.

Don't sit in a dry ice fog machine

A recent story in *Protocol* about the hazards of dry ice, commonly used for fog effects, has generated emails to your Technical Standards Manager about deaths due to carbon dioxide. Most of the deaths cited are cases involving dewars or high-pressure tanks of CO₂, but two recent emails are indeed about dry ice—both pointing to the same incident at a birthday party in Moscow. About 25 kg of dry ice was dropped into a “swimming pool” to cool the water or to create “a 'visual effect' to impress guests.” (Different reports give different reasons.) The result was injuries for several people and death for three. News reports are available at <http://a.msn.com/01/en-ca/BB10AjFv?ocid=se2> and <https://www.bbc.com/news/world-europe-51680049>.

It probably was an impressive dry ice fog effect, but better enjoyed at a distance rather than sitting in it.

WTO Technical Barrier to Trade notifications

Notify US, the U.S. Department of Commerce's service to announce Technical Barrier to Trade filings, has announced TBTs that may be of interest to Standards Watch readers. If you have a problem with any TBT, you can protest through your representative to the World Trade Organization. See the guidance documents at <http://tsapps.nist.gov/notifyus/data/guidance/guidance.cfm> or <http://ec.europa.eu/growth/tools-databases/tbt/en/tbt-and-you/being-heard/> for advice on filing objections.

United States of America Notification USA/1585

Date issued: 26 February 2020

Agency responsible: Environmental Protection Agency (EPA)

National inquiry point: USA WTO TBT Enquiry Point

Products covered: Chemical substances

Title: Significant New Use Rules on Certain Chemical Substances (20-2.B) (8 page(s), in English)

Description of content: Proposed rule - EPA is proposing significant new use rules (SNURs) under the Toxic Substances Control Act (TSCA) for chemical substances which are the subject of premanufacture notices (PMNs). This action would require persons to notify EPA at least 90 days before commencing manufacture (defined by statute to include import) or processing of any of these chemical substances for an activity that is

designated as a significant new use by this proposed rule. This action would further require that persons not commence manufacture or processing for the significant new use until they have submitted a Significant New Use Notice, and EPA has conducted a review of the notice, made an appropriate determination on the notice under TSCA 5(a)(3), and has taken any risk management actions as are required as a result of that determination.

Objective and rationale: Prevention of deceptive practices and consumer protection; Protection of the environment

Relevant documents:

- 85 Federal Register (FR) 10364, 24 February 2020; Title 40 Code of Federal Regulations (CFR) Part 721: <https://www.govinfo.gov/content/pkg/FR-2020-02-24/pdf/2020-02892.pdf>

- Supporting documents for this rulemaking are available from Regulations.gov at:

<https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=SR%2B0&D=EPA-HQ-OPPT-2019-0650>

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 25 March 2020

Full text URL: <https://www.govinfo.gov/content/pkg/FR-2020-02-24/pdf/2020-02892.pdf>

Chile Notification CHL/518

Date issued: 24 February 2020

Agency responsible: Ministry of the Environment

National inquiry point: Ministry of Foreign Affairs, General Directorate of International Economic Affairs (DIRECON)

Products covered: Generating sets

Title: Anteproyecto de Norma de Emisión para Grupos Electrógenos (Preliminary draft Emission Standard for generating sets) (8 pages, in Spanish)

Description of content: The notified preliminary draft Emission Standard for generating sets, of the Ministry of the Environment, is available for consultation.

Objective and rationale: Protection of human health or safety; Protection of the environment

Relevant documents:

- Ley N° 19.300 sobre Bases Generales del Medio Ambiente
- Code of Federal Regulations, Title 40, Chapter I, Subchapter C, Part 60, Subpart: "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines"
- Decreto Supremo N° 38, de 2012, del Ministerio del Medio Ambiente

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 24 April /2020

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/CHL/full_text/pdf/CHL518\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/CHL/full_text/pdf/CHL518(english).pdf). Despite the file name, the document is in Spanish.

Australia Notification AUS/116

Date issued: 27 February 2020

Agency responsible: Department of Agriculture, Water and the Environment

National inquiry point: Department of Foreign Affairs and Trade (DFAT)

Products covered: All industrial chemicals used in Australia. This does not include chemicals used in therapeutic goods and agricultural and veterinary chemicals.

Title: Draft legislation to establish the National Standard for Environmental Risk Management of Industrial Chemicals (51 pages in English)

Description of content: The National Standard has been developed by all Australian governments to efficiently and effectively manage the impacts of industrial chemicals on the environment, while providing consistent requirements for businesses. The National Standard will be established by a legislative framework consisting of primary legislation and subordinate legislative instruments.

- The Industrial Chemicals Environmental Management (Register) Bill will, once enacted, establish a new decision-making framework.
- The Industrial Chemicals Environmental Management Register Principles is a legislative instrument that will establish decision making principles that inform decisions made under the Bill.

- The Industrial Chemicals Environmental Management Register is a legislative instrument that will record decisions on environmental management of chemicals, including assigning risk management measures for particular industrial uses, which will be implemented by the Commonwealth and each state and territory.

Objective and rationale: This reform aims to:

- Achieve better protection of the environment through improved management of the environmental risks posed by industrial chemicals
- Provide a nationally consistent, transparent, predictable and streamlined approach to environmental risk management of industrial chemicals for governments, industry and the community.
- Work in conjunction with reforms to regulation of chemicals in Australia implemented under the Industrial Chemicals Act 2019, which will commence July 2020.

Relevant documents:

- Industrial Chemicals Environmental Management (Register) Bill: <https://www.environment.gov.au/system/files/consultations/542ab944-d7b9-4b66-a45e-74ba71fc7b23/files/exposure-draft-register-bill-2020.pdf>
- Draft Industrial Chemicals Environmental Management Register Principles: <https://www.environment.gov.au/system/files/consultations/542ab944-d7b9-4b66-a45e-74ba71fc7b23/files/exposure-draft-register-principles-2020.pdf>
- Example Industrial chemicals Environment Management Register: <https://www.environment.gov.au/system/files/consultations/542ab944-d7b9-4b66-a45e-74ba71fc7b23/files/exposure-draft-register-instrument-2020.pdf>
- Associated explanatory notes and information papers: <https://www.environment.gov.au/protection/chemicals-management/national-standard/draft-legislation>

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 27 April 2020

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/AUS/full_text/pdf/AUS116\[1\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/AUS/full_text/pdf/AUS116[1](english).pdf) and [https://tsapps.nist.gov/notifyus/docs/wto_country/AUS/full_text/pdf/AUS116\[2\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/AUS/full_text/pdf/AUS116[2](english).pdf)

ANSI public review announcements

The following documents have been announced for public review by ANSI. Please send your comments before the deadline to the person indicated and to ANSI's Board of Standards Review at psa@ansi.org.

Due 6 May 2020

BSR/NFPA 10-202x, Standard for Portable Fire Extinguishers (revision of ANSI/NFPA 10-2018)

The provisions of this standard apply to the selection, installation, inspection, maintenance, recharging, and testing of portable fire extinguishers and Class D extinguishing agents.

Access and offer comments at: www.nfpa.org/10Next

BSR/NFPA 40-202x, Standard for the Storage and Handling of Cellulose Nitrate Film (revision of ANSI/NFPA 40-2019)

The requirements of this standard apply strictly to long-term storage of cellulose nitrate film. This standard shall apply to all facilities that are involved with the storage and handling of cellulose-nitrate-based film. Cellulose-nitrate-based film includes, but is not limited to, original negative, duplicate negative, interpositive (fine grain), color separation master (YCM), successive exposure master (SEN), optical soundtrack negative or master, mattes, title bands, and release prints.

Access and offer comments at: www.nfpa.org/40Next

BSR/NFPA 80A-202x, Recommended Practice for Protection of Buildings from Exterior Fire Exposures (revision of ANSI/NFPA 80A-2017)

This recommended practice addresses separation distances between buildings to limit exterior fire spread based on exterior openings and other construction features.

Access and offer comments at: www.nfpa.org/80aNext

BSR/NFPA 101A-202x, Guide on Alternative Approaches to Life Safety (revision of ANSI/NFPA 101A-2019)

This guide consists of a number of alternative approaches to life safety. Each chapter is a different system independent of the others and is to be used in conjunction with NFPA 101, Life Safety Code.

Access and offer comments at: www.nfpa.org/101aNext

BSR/NFPA 110-202x, Standard for Emergency and Standby Power Systems (revision of ANSI/NFPA 110-2019)

This standard contains requirements covering the performance of emergency and standby power systems providing an alternate source of electrical power to loads in buildings and facilities in the event that the primary power source fails. Power systems covered in this standard include power sources, transfer equipment, controls, supervisory equipment, and all related electrical and mechanical auxiliary and accessory equipment needed to supply electrical power to the load terminals of the transfer equipment. This standard covers installation, maintenance, operation, and testing requirements as they pertain to the performance of the emergency power supply system (EPSS).

Access and offer comments at: www.nfpa.org/110Next

BSR/NFPA 111-202x, Standard on Stored Electrical Energy Emergency and Standby Power Systems (revision of ANSI/NFPA 111-2019)

This standard shall cover performance requirements for stored electrical energy systems providing an alternate source of electrical power in buildings and facilities in the event that the normal electrical power source fails. For emergency power systems supplied by emergency generators, see NFPA 110, Standard for Emergency and Standby Power Systems. Systems covered in this standard shall include power sources, transfer equipment, controls, supervisory equipment, and accessory equipment, including integral accessory equipment, needed to supply electrical power to the selected circuits. This standard shall cover installation, maintenance, operation, and testing requirements as they pertain to the performance of the stored emergency power supply system.

Access and offer comments at: www.nfpa.org/111Next

BSR/NFPA 232-202x, Standard for the Protection of Records (revision of ANSI/NFPA 232-2017)

Businesses have been forced to close due to the insurmountable task of replacing organizational and operational records. Although accurate nationwide statistics are needed, it is known that the losses sustained in fires by such businesses have had the adverse effect of lowering their credit ratings and that some went out of business because of the destruction of their records. (The public review announcement does not have a scope statement.)

Access and offer comments at: www.nfpa.org/232Next

BSR/NFPA 704-202x, Standard System for the Identification of the Hazards of Materials for Emergency Response (revision of ANSI/NFPA 704-2017)

This standard shall address the health, flammability, instability, and related hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies.

Access and offer comments at: www.nfpa.org/704Next

BSR/NFPA 951-202x, Guide to Building and Utilizing Digital Information (revision of ANSI/NFPA 951-2016)

The intent of this document is to provide guidance in the development of an “integrated information management system” which facilitates information sharing. The resulting system shall be designed to support a communications pathway for all relevant components of the national preparedness and response framework. This document provides information for the development of consistent methods, processes, and tools to capture, utilize, and share data within scalable information systems. This framework supports and sets the stage for effective data exchange at all operational levels and components. The intent of this guide is to provide a framework and environment consistent with NFPA Standard 950.

Access and offer comments at: www.nfpa.org/951Next

BSR/NFPA 1123-202x, Code for Fireworks Display (revision of ANSI/NFPA 1123-2018)

This code shall apply to the following: (1) Construction, handling, and use of fireworks and equipment intended for outdoor fireworks display and (2) Operation of the display (See 3.3.16, Fireworks Display.)

Access and offer comments at: www.nfpa.org/1123Next

BSR/NFPA 1124-202x, Code for the Manufacture, Transportation, and Storage of Fireworks and Pyrotechnic Articles (revision of ANSI/NFPA 1124-2017)

This code shall provide regulations for the construction, use, and maintenance of buildings and facilities for the following: (1) The manufacture and storage of fireworks, novelties, and pyrotechnic articles at manufacturing facilities; (2) The storage of display fireworks, pyrotechnic articles, salute powder, pyrotechnic and explosive compositions, and black powder at other than display sites; (3) The storage of consumer fireworks at display fireworks storage facilities; and (4) The transportation on public highways of fireworks, pyrotechnic articles, and components thereof containing pyrotechnic or explosive materials. This code shall not apply to the retail sales and related storage of consumer fireworks at the same site.

Access and offer comments at: www.nfpa.org/1124Next

New ANS projects

ANSI has announced the following new projects that might materially affect *Standards Watch* readers—or at least be interesting to them. Contact the developer if you (a) want to be involved in the project, (b) object to the project and wish it to be abandoned, or (c) if you would like to point out that its scope is covered by an existing standard, thereby possibly making the project redundant or conflicting.

BSR/ASSP A10.49-202X, Control of Chemical Health Hazards in Construction and Demolition Operations (revision and redesignation of ANSI/ASSE A10.49-2015)

This standard establishes the minimum requirements for controlling health risks from chemicals and toxic substances used or encountered in construction and demolition operations. It establishes procedures for identifying and evaluating chemical hazards and exposures, and for selecting and using appropriate controls and practices to reduce health risks.

Contact: Tim Fisher, TFisher@ASSP.org

INCITS/ISO/IEC 15444-1:2019 [202x], Information technology - JPEG 2000 image coding system - Part 1: Core coding system (identical national adoption of ISO/IEC 15444-1:2019 and revision of INCITS/ISO/IEC 15444-1:2016 [2019])

Defines a set of lossless (bit-preserving) and lossy compression methods for coding bi-level, continuous-tone grey-scale, palletized color, or continuous-tone color digital still images.

Contact: Deborah Spittle, comments@standards.incits.org

Final actions on American National Standards

The documents listed below have been approved by the ANSI Board of Standards Review or by an ANSI-Audited Designator on the date noted.

ANSI/ASA S1.42-2020, Design Response of Weighting Networks for Acoustical Measurement (revision of ANSI/ASA S1.42-2001 (R2016)): 21 February 2020

ANSI/AWS A4.5M/A4.5-2020 (ISO 15792-3-2011), Standard Methods for Classification Testing of Positional Capacity and Root Penetration of Welding Consumables in a Fillet Weld (national adoption of ISO 15792-3:2011 with modifications and revision of ANSI/AWS A4.5M/A4.5:2012 (ISO 15792-3:2011)): 20 February 2020

ANSI/ASSP A10.44-2020, Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations (revision and redesignation of ANSI/ASSE A10.44-2014): 13 February 2020

ANSI/CTA 2077-2020, Recommendations for Portable Power Charging Markings (new standard): 25 February 2020

ANSI/IEEE 260.4-2018, IEEE Standard for Letter Symbols and Abbreviations for Quantities Used in Acoustics (new standard): 13 February 2020

ANSI/IES TM-31-2020, Approved Method: Measurement Uncertainty for Lighting Equipment Calibration Using Integrating Spheres (new standard): 25 February 2020

Draft IEC & ISO documents

This section lists proposed documents that the IEC or ISO, or both, are considering for approval and that may be of interest to *Standards Watch* readers. Anyone interested in reviewing and commenting on a document should order a copy from their national representative and submit their comments through them. Comments from US citizens on IEC documents should be sent to Charles T. Zegers at czegers@ansi.org. Comments from US citizens on ISO documents should be sent to Karen Hughes at isot@ansi.org. Any prices, if shown, are for purchases through ANSI. The sort order is by due date then alphanumeric.

110/1187/FDIS, IEC 62906-5-6 ED1: Laser displays - Part 5-6: Measuring methods for optical performance of projection screens, 3 April 2020

ISO/IEC DIS 18181-1, Information technology - JPEG XL Image Coding System - Part 1: Core coding system, 8 May 2020, \$185.00

ISO/DIS 14738, Safety of machinery - Anthropometric requirements for the design of workstations for industries and services, 9 May 2020, \$82.00

ISO/DIS 37167, Smart community infrastructures – Smart transportation for energy saving operation by slowly driving intentionally, 9 May 2020, \$53.00

SO/IEC DIS 5055, Information technology - Software measurement - Software quality measurement - Automated source code quality measures, 9 May 2020, \$46.00

ISO/IEC DIS 14651, Information technology - International string ordering and comparison - Method for comparing character strings and description of the common template tailorable ordering, 10 May 2020, \$125.00

Recently published IEC & ISO documents

Listed here are documents recently approved by the IEC or ISO that may be of use or interest to *Standards Watch* readers. Prices shown are from the [ANSI Webstore](#).

ISO 11925-2:2020, Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test, \$162.00

ISO 22313:2020, Security and resilience - Business continuity management systems - Guidance on the use of ISO 22301, \$209.00

ISO 37162:2020, Smart community infrastructures – Smart transportation for newly developing areas, \$68.00

ISO 56000:2020, Innovation management - Fundamentals and vocabulary, \$185.00

ISO/TR 21960:2020, Plastics - Environmental aspects - State of knowledge and methodologies, \$185.00

IEC/TR 60479-4 Ed. 3.0 en:2020, Effects of current on human beings and livestock - Part 4: Effects of lightning strokes, \$235.00

ISO/IEC TR 11801-9906:2020, Information technology – Generic cabling for customer premises - Part 9906: Title missing [*sic*], \$185.00

TSP meeting schedule

The Fog & Smoke Working Group will meet by WebEx on 19 March 2020 from noon to 14:00. The following meetings will be face-to-face at the Marriott Marquis Houston in conjunction with the 2020 USITT Conference and Stage Expo and via WebEx.

Control Protocols E1.37-2 IPv4/v6 PIDs	14:00 – 18:00	Friday 3 April 2020
Control Protocols E1.59 Automation Feedback TG	14:00 – 18:00	Thursday 2 April 2020
Control Protocols E1.68 Compliance TG	19:00 – 23:00	Thursday 2 April 2020
Control Protocols Next Gen Color TG	19:00 – 22:00	Wednesday 1 April 2020
Control Protocols Next Gen Overall CG	10:00 – 13:00	Friday 3 April 2020
Control Protocols NextGen Fixture	09:00 – noon	Saturday 4 April 2020
Control Protocols Working Group	09:00 – noon	Thursday 2 April 2020
Electrical Power Electrical Inspection TG	14:00 – 18:00	Wednesday 1 April 2020
Electrical Power Working Group	10:00 – 13:00	Wednesday 1 April 2020
Event Safety Fire Safety TG	14:00 – 17:00	Friday 3 April 2020
Event Safety Rigging Task Group	13:00 – 17:00	Friday 3 April 2020
Event Safety Security TG	19:00 – 23:00	Thursday 2 April 2020
Event Safety Task Group Leader Coordination Meeting	17:00 – 18:00	Friday 3 April 2020
Event Safety Working Group	13:00 – 16:00	Saturday 4 April 2020
Floors Working Group	14:00 – 17:00	Wednesday 1 April 2020
Photometrics Working Group	09:00 – noon	Saturday 4 April 2020
Rigging E1.67 TG	09:00 – noon	Friday 3 April 2020
Rigging Working Group	19:00 – 23:00	Thursday 2 April 2020
Stage Machinery E1.6-4 TG	09:00 – 11:00	Thursday 2 April 2020
Stage Machinery E1.64 TG	09:00 – 11:00	Wednesday 1 April 2020
Stage Machinery Working Group	13:00 – 17:00	Thursday 2 April 2020
Technical Standards Council	15:00 – 18:00	Friday 3 April 2020

The most current schedule for meetings is always available at <https://esta.org/ESTA/meetings.php>.

ESTA Standards Watch

is distributed as a benefit to ESTA members and as a communication medium for participants in ESTA's Technical Standards Program. Original material © ESTA.

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Robe

Disney Parks Live Entertainment

VISIONARY (\$5,000 & up; 20–100 employees/members)

Altman Lighting, Inc.

German Light Products

JR Clancy

McLaren Engineering Group

Rose Brand

Stage Rigging

Theatre Projects

TMB

VISIONARY (\$500 & up; <20 employees/members)

About the Stage

B-Hive Industries, Inc.

Scott Blair

Boston Illumination Group

Louis Bradfield

Candela Controls, Inc.

Clark Reder Engineering

Tracey Cosgrove & Mark McKinney

Cyclops Lighting

Doug Fleenor Design

EGL Event Production Services

Entertainment Project Services

Neil Huff

Hughston Engineering Inc.

Interactive Technologies

Jules Lauve

Brian Lawlor

Michael Lay

Limelight Productions, Inc.

Link

John T. McGraw

Mike Garl Consulting

Mike Wood Consulting

Reed Rigging

Reliable Design Services

Alan Rowe

Sapsis Rigging Inc.

Stageworks

Dana Taylor

Steve Terry

Theatre Safety Programs

Vertigo

Steve A. Walker & Associates

Westview Productions

WNP Services

INVESTOR (\$3,000–\$9,999; >100 employees/members)

Actors' Equity Association

Barbizon Lighting Company

Golden Sea Professional Lighting Provider

IATSE Local 728

IATSE Local 891

Lex

NAMM

Rosco Laboratories

Texas Scenic Company

INVESTOR (\$1,500–\$4,999; 20–100 employees/members)

American Society of Theatre Consultants

Area Four Industries

BMI Supply

City Theatrical Inc.

H&H Specialties, Inc.

InterAmerica Stage, Inc.

Lycian Stage Lighting

Morpheus Lights

Niscon Inc.

Tomcat

INVESTOR (\$200–\$499; <20 employees/members)

Bruce Darden

Guangzhou Color Imagination LED Lighting

Kenney Drapery Associates, Inc.

Indianapolis Stage Sales & Rentals, Inc.

Lighting Infusion LLC

Nanyi Audio & Lighting Enterprise Co., Ltd.

Qdot Lighting Ltd.

Stephen Vanciel

SUPPORTER (\$50 - \$2,999; >100 employees/members)

Ian Foulds, IATSE Local 873
IATSE Local 51

SUPPORTER (\$50 - \$1,499; 20–100 employees/members)

ACT Lighting Inc./AC Power Distribution
ARM Automation, Inc.
Blizzard Lighting, LLC
Geiger Engineers
Guangzhou YaFeng Optoelectronic Equipment Co.
Guangzhou Yilaiming Photoelectric Technology Co.,
Ltd.
HAYA Light Equipment Ltd. Co.
High Output
InCord
Intella Systems Co., Ltd.
iWeiss

SUPPORTER (\$50 - \$199; <20 employees/members)

Roy Bickel
Capture Visualisation AB
DMX Pro Sales
Foshan Leiyuan Photoelectric Co. Ltd.
Jack Gallagher
Tony Giovannetti
Pat Grenfell
Mitch Hefter
John Huntington
Beverly and Tom Inglesby
Eddie Kramer

Harlequin Floors
Thern Stage Equipment

LA ProPoint, Inc.
Movecat GmbH
Nanshi Lighting
Oasis Stage Werks
Shenzhen Ifountain Technology
Stage Equipment & Lighting
Stagemaker
Syracuse Scenery and Stage Lighting Co., Inc.
Taurus Light Co. Ltd.
Ultratec Special Effects
Vincent Lighting Systems
Zhuhai Shengchang Electronics Co.

Jason Kyle
LuxBalance Lighting
Tyrone Mellon, Jr.
Orange Pi DMX
Lizz Pittsley
Showman Systems
Michael Skinner
Skjonberg Controls Inc.
Arjan van Vught
Charlie Weiner

Extraordinary legacy gift: Ken Vannice