



Technical Standards Program

ESTA Standards Watch

November 2020

Volume 24, Number 21

Table of Contents

A quartet of TSP standards in public review.....	1
New ESTA standards projects.....	2
Six-month update to The Event Safety Alliance Reopening Guide released.....	2
USITT Technical Production Commission updates COVID-19 guides.....	3
FCC revises white space rules.....	3
Call for workshop proposals for US-China SCACP workshops.....	3
WTO Technical Barrier to Trade notifications.....	3
Brazil Notification BRA/1097.....	3
France Notification FRA/195.....	4
France Notification FRA/198.....	5
China Notification CHN/1489.....	6
China Notification CHN/1498.....	6
China Notification CHN/1501.....	6
China Notification CHN/1504.....	7
ANSI public review announcements.....	7
Due 14 December 2020.....	7
Due 21 December 2020.....	8
BSI public review announcements.....	9
Due 8 January 2021.....	9
DIN public review announcement.....	9
Due by 30 December 2020.....	9
Public input on NFPA 101 accepted.....	9
New ANS projects.....	10
Final actions on American National Standards.....	11
Draft IEC & ISO documents.....	13
Recently published IEC & ISO documents.....	13
TSP meeting schedule.....	14
TSP donors who have made long-term, multi-year pledges.....	15
Investors in Innovation, supporters of ESTA's Technical Standards Program.....	16

A quartet of TSP standards in public review

Four standards (three draft and one reaffirmation) are posted for public review on ESTA's Technical Standards Program website. Check'em out at https://tsp.esta.org/tsp/documents/public_review_docs.php. Comments are due by the end of the day on the dates noted.

BSR E1.67, Entertainment Technology -- Design, Inspection, Maintenance, Selection, and Use of Hand and Lever Chain Hoists in the Entertainment Industry, covers serially-manufactured, hand-operated chain- and lever hoists, having capacity of 2 tons or less and used in the entertainment industry. This standard does not

cover attachment to the load or to the overhead structure. Comments are due before the end of the day December 14. On the morning of the 15th, "Aw, you missed it!"

ANSI E1.15 - 2006 (R2016) Entertainment Technology - Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies, is an existing standard being considered for reaffirmation with no changes. Comments are due before the end of the day December 14.

BSR E1.39, Entertainment Technology - Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry, establishes minimum requirements for the selection and use of personal fall arrest systems (PFAS) on portable structures in the entertainment industry. The standard also establishes minimum requirements for products and portable structures used in the service of PFAS. The requirements for other methods used to protect workers from fall hazards, such as safety nets, guard rails, and rope access techniques, are not included in this standard. Comments are due before the end of the day December 14.

BSR E1.2, Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers, applies to the design manufacture and use of aluminum trusses and towers used in the entertainment industry (just what it says in the title). Comments are due before the end of the day December 14.

New ESTA standards projects

Two working groups in ESTA's TSP have announced new projects that might materially affect *Standards Watch* readers—or at least be interesting to them. Join the appropriate working group if you want to become involved in the drafting, or comment on the draft document in a future public review. Information about joining a working group is at https://tsp.esta.org/tsp/working_groups/index.html. ESTA documents in public review are posted at https://tsp.esta.org/tsp/documents/public_review_docs.php.

BSR E1.6-5, Selection and Use of Portable Controls for Fixed-Speed Electric Chain Hoists in the Entertainment Industry, is a project within the Rigging Working Group. In the process of revising E1.6-4, it was decided to split out the selection and use aspects of portable control systems for fixed speed electric chain hoists from the existing BSR E1.6-4 draft, and put that material in a new E1.6-5. The design, manufacture, and inspection aspects of portable control systems will remain under E1.6-4.

BSR E1.73, Guidelines for the measurement and reporting of luminaire spectral power/absorbance for the entertainment industry, is a project in the Photometrics Working Group. There is work underway in the entertainment industry by several groups for standards to allow theatrical lighting controllers to manipulate and match colors among spotlights, washlights, cyc lights, and other luminaires, and to communicate this color control information across a lighting control network. These theatrical luminaires may offer color control by additive color mixing, subtractive color mixing, or both in the same luminaire, complicating control and its description. This E1.73 standard would support that color control work by offering guidance on measurement geometry and methods, units, luminous intensity or Illuminance with distance reporting; measuring color filter absorbance, and reporting color data.

Six-month update to The Event Safety Alliance Reopening Guide released

In May 2020, the Event Safety Alliance released *The Event Safety Alliance Reopening Guide* to help people safely reopen events during the COVID-19 pandemic. Now six months later, the ESA has released an update that highlights what's been learned about how event professionals might safely get through this pandemic. It provides links to useful materials, and updates the ESA's recommendations based on the current science and experiences of those attempting to resume live events. The update is intended to serve as a companion to the original guidance. To download *The Event Safety Alliance Reopening Guide - Six Month Update*, visit <https://www.eventsafetyalliance.org/esa-reopening-guide>

USITT Technical Production Commission updates COVID-19 guides

USITT's Technical Production Commission has released its second round of quick-read sheets to help people use the best guidance while dealing with COVID-19. A team of professionals from all aspects of theater have read through the multiple federal, state, and association guidelines to find the items relevant to the entertainment industry and assembled them in easy-to-read, two-page documents. Access the 15 quick-read documents at <https://www.usitt.org/usitt-technical-production-commission-covid-19-guides>

FCC revises white space rules

The Federal Communications Commission has announced revised rules to expand the ability of unlicensed white space devices to deliver wireless broadband services in rural areas and areas where fewer broadcast television stations are on the air. The changes outlined in FCC docket number 20-156 include changes to the Part 15 unlicensed device rules for white space devices to permit higher EIRP and higher antenna HAAT for fixed devices in "less congested" geographic areas. In addition, the changes permit higher power mobile operation within "geo-fenced" areas in "less congested" areas. Rule changes are adopted to facilitate the development of narrowband IoT services. The "Report and Order and Further Notice of Proposed Rulemaking" is available at [FCC-20-156A1.pdf](https://www.fcc.gov/record/documents/attach/fcc-20-156a1.pdf).

Comments on this Report and Order are invited. (See paragraph 99 on the 36th page of FCC-20-156A1.pdf.) However the time-line for commenting is not clear. The Report and Order was adopted on October 27 and released on October 28, but the comment deadline is 30 days after the Report and Order's publication in the *Federal Register*. ESTA's Technical Standards Manager has checked every issue of the *Federal Register* from October 27 through November 12 and not been able to find the notice published in any of those issues. *Standards Watch* readers can do their own trolling by visiting <https://www.federalregister.gov/articles/current>.

Call for workshop proposals for US-China SCACP workshops

ANSI is calling for proposals for final series of workshops to be held before 1 March 2021. The workshop series addresses relationship-building and knowledge sharing of best practices with Chinese counterparts as part of Phase V of the U.S.-China Standards and Conformity Assessment Cooperation Program (SCACP). The U.S. Trade and Development Agency awarded ANSI the U.S. SCACP V in 2018 to host 20 workshops over three years. These workshops address industry-related standards, conformity assessment, and technical regulation issues and foster a technical exchange to decrease trade barriers and facilitate trade between the United States and China. Proposals for workshop topics that address relationship-building and knowledge-sharing are to be sent to us-chinasccp@ansi.org no later than 12 noon (EDT) on 30 November 2020.

Interested private-sector organizations can complete the [commercial benefit questionnaire \(CBQ\)](#) and submit it to us-chinasccp@ansi.org. The CBQ requests information on the company's relevant industry, any standards issues and priorities, the status of their current level of work in China, and what they hope to achieve through the workshop. Access the workshop proposal form and other information on the [program website](#). Questions or feedback can be directed to us-chinasccp@ansi.org.

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. The sort order is by comment due-date. 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.

Brazil Notification BRA/1097

Date issued: 5 November 2020

Agency responsible: National Institute of Metrology, Standardization and Industrial Quality (INMETRO) ; National Telecommunications Agency – ANATEL

National inquiry point: TBT/WTO Enquiry Point (INMETRO)

Products covered: Radio Frequency Bands

Title: Resolution No. 731, 29 July 2020 (1 page in Portuguese)

Description of content: This resolution amends the date of entry into force of the Regulation regarding radio frequency bands and approves the Regulation for Channeling and Conditions of Use of Radio Frequencies for Broadcasting Services and their Ancillaries.

Objective and rationale: This Regulation applies to the need to adapt the computerized systems of the Agency to operationalize the rules established in the Regulation on Channeling and Conditions of Use of Radio Frequencies for Radio Broadcasting Services and its Ancillaries, approved by Resolution No. 721, 11 February 2020.; Quality requirements

Relevant documents: (1) Brazilian Official Gazette 145, 30 July 2020, section 1, page 11 (2) SEI process number 53500.066673/2017-12; Public Consultation No. 59, 9 July 2020; Resolution No. 721, 11 February 2020 (3) Brazilian Official Gazette

<https://www.in.gov.br/web/dou/-/resolucao-n-731-de-29-de-julho-de-2020-269399585>

https://sei.anatel.gov.br/sei/modulos/pesquisa/md_pesq_processo_exibir.php?exlSiWoPbTSMJNP15y_TiUpWlfXjgqaCc-xbh3o0V5ttS0uQqIkRDNDdsrlbDPN0z9DjOh_HT6NYS_BYkN5mIDt9YPnna5_TIP6NcCVvwmqXiDRf-HVnw0oWFLSVBVhm

<https://sistemas.anatel.gov.br/SACP/Contribuicoes/TextoConsulta.asp?CodProcesso=C2367&Tipo=1&Opcao=finalizadas>

<https://www.anatel.gov.br/legislacao/resolucoes/2020/1383-resolucao-721>

<https://sistemas.anatel.gov.br/SACP/Contribuicoes/TextoConsulta.asp?CodProcesso=C2367&Tipo=1&Opcao=finalizadas>

<https://www.anatel.gov.br/legislacao/resolucoes/2020/1383-resolucao-721>

<https://www.anatel.gov.br/legislacao/resolucoes/2020/1383-resolucao-721>

Proposed date of adoption: Not given by country

Proposed date of entry into force: 3 November 2020

Final date for comments: Not given by country

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/BRA/full_text/pdf/BRA1097\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/BRA/full_text/pdf/BRA1097(english).pdf)

France Notification FRA/195

Date issued: 30 December 2020

Agency responsible: Ministry for the Ecological and Inclusive Transition

National inquiry point: Association Française de Normalisation, Centre d'Information sur les Normes et Règlements Techniques (CINORTECH) (AFNOR)

Products covered: Electrical and electronic equipment for consumers: large household appliances, small household appliances, IT and telecommunications equipment, consumer equipment, electrical and electronic tools

Title: Décret relatif à l'indice de réparabilité des équipements électriques et électroniques (Decree relating to the reparability index of electrical and electronic equipment)

Description of content: The reparability index consists of a score out of 10 intended to be displayed at the time of purchase to inform consumers of the categories of electrical and electronic products. This score is obtained by dividing an overall score of 100 points by 10 according to five criteria, each scored out of 20 and of equal weight, making it possible to assess the reparability of the products concerned. These criteria are as follows: documentation provided by the manufacturer, ease of disassembly of the product, availability of spare parts, relationship between the price of the most expensive spare part and the price of the original product, usage counter (optional) or other criteria specific to the category of products concerned. The Decree covers all electrical and electronic equipment intended for consumers. For each category of electrical and electronic equipment, an order of the Minister for the Environment and the Minister for the Economy and Finance shall specify all of the criteria and sub-criteria including criteria specific to the category as well as the methods of calculating the index. The Decree nonetheless provides for gradual implementation, starting with the following categories of products: washing machines, smartphones, laptops, televisions, electric lawn mowers (battery, corded, robot). Producers, importers, or other parties placing electrical and electronic equipment on the market shall be required to calculate the index for the categories of products concerned, and to make this information available. The Decree includes the dates and procedures for its entry into force. An umbrella order shall be promulgated to specify the display methods, markings and general parameters for calculating the reparability index. Orders shall be promulgated to specify the more specific methods of application for each category of products.

Objective and rationale: Directive (EU) 2018/851 on waste encourages Member States to take appropriate measures to prevent waste generation. In addition, one of the objectives of the European action plan for the circular economy (COM (2020) 98) is to improve the durability and reparability of products. The stakeholder

consultation held in the context of the Roadmap for the circular economy, which was presented by the Government on 23 April 2018, resulted in measure No. 10, which provides for mandatory information on the reparability of electrical and electronic products. The measure aims to promote responsible consumption by improving consumer information through the establishment and mandatory display of a simple reparability index for some of these products. This index aims to inform the consumer regarding how easy it is to repair the product concerned. This measure thus aims on the one hand to compensate for the asymmetry of information between consumers and manufacturers or distributors concerning the reparability of products and, on the other hand, to encourage manufacturers to integrate reparability criteria into the design of their products, thus tending towards products that are more durable because they are more robust because they are 'eco-designed'. With this measure, a reasonable ambition is to reduce breakdowns of electrical and electronic products giving rise to repair in the network of French repairers to 60%, within five years, as compared to around 40% today. From an environmental standpoint, this measure will allow France to pursue its national objective of reducing the resource consumption linked to French consumption: to reduce resource consumption relative to GDP by 30% compared to 2010, by 2030 (Law No 2015-992). More repairable and therefore more durable products will effectively lead to a reduction in resource consumption (reduction in the need for new products), a reduction in the quantity of waste electrical and electronic products and an associated reduction in greenhouse gas emissions.

Proposed date of adoption: 1 December 2020

Proposed date of entry into force: 1 January 2021

Final date for comments: 29 December 2020

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/FRA/full_text/pdf/FRA195\(french\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/FRA/full_text/pdf/FRA195(french).pdf)

France Notification FRA/198

Date issued: 30 October 2020

Agency responsible: Ministry for the Ecological and Inclusive Transition

National inquiry point: Association Française de Normalisation, Centre d'Information sur les Normes et Règlements Techniques (CINORTECH) (AFNOR)

Products covered: This Order applies to notebook computers falling within the scope of Regulation (EU) 617/2013 on ecodesign requirements for computers and computer servers.

Title: Arrêté relatif aux critères, aux sous-critères et au système de notation pour le calcul et l'affichage de l'indice de réparabilité des ordinateurs portables (Order relating to the criteria, sub-criteria and scoring system for calculating and displaying the reparability index of notebook computers)

Description of content: The reparability index consists of a score out of 10 intended to be displayed at the time of purchase to inform consumers of the categories of electrical and electronic products. This score is obtained by dividing an overall score of 100 points by 10 according to five criteria, each scored out of 20 and of equal weight, making it possible to assess the reparability of the products concerned. These criteria are as follows: documentation provided by the manufacturer, ease of disassembly of the product, availability of spare parts, relationship between the price of the most expensive spare part and the price of the original product, usage counter (optional) or other criteria specific to the category of products concerned. This Order applies to notebook computers falling within the scope of Regulation (EU) 617/2013 on ecodesign requirements for computers and computer servers. It specifies the criteria, sub-criteria and scoring system applicable to notebook computers to calculate the reparability index by model. Producers, importers, or other parties placing electrical and electronic equipment on the market, including notebook computers shall be required to calculate the index for the categories of products concerned, and to make this information available.

Objective and rationale: Directive (EU) 2018/851 on waste encourages Member States to take appropriate measures to prevent waste generation. In addition, one of the objectives of the European action plan for the circular economy (COM (2020) 98) is to improve the durability and reparability of products. The stakeholder consultation held in the context of the Roadmap for the circular economy, which was presented by the Government on 23 April 2018, resulted in measure No. 10, which provides for mandatory information on the reparability of electrical and electronic products. The measure aims to promote responsible consumption by improving consumer information through the establishment and mandatory display of a simple reparability index for some of these products. This index aims to inform the consumer regarding how easy it is to repair the product concerned. This measure thus aims on the one hand to compensate for the asymmetry of information between consumers and manufacturers or distributors concerning the reparability of products and, on the other hand, to encourage manufacturers to integrate reparability criteria into the design of their

products, thus tending towards products that are more durable because they are more robust because they are 'eco-designed'. With this measure, a reasonable ambition is to reduce breakdowns of electrical and electronic products giving rise to repair in the network of French repairers to 60%, within five years, as compared to around 40% today. From an environmental standpoint, this measure will allow France to pursue its national objective of reducing the resource consumption linked to French consumption: to reduce resource consumption relative to GDP by 30% compared to 2010, by 2030 (Law No 2015-992). More repairable and therefore more durable products will effectively lead to a reduction in resource consumption (reduction in the need for new products), a reduction in the quantity of waste electrical and electronic products and an associated reduction in greenhouse gas emissions. The notebook computers category was selected for implementation of the reparability index because these appliances are in very widespread use in France, the impact of this use on household budgets and the environmental impacts generated by this product.

Proposed date of adoption: 1 December 2020

Proposed date of entry into force: 1 January 2021

Final date for comments: 29 December 2020

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/FRA/full_text/pdf/FRA198\(french\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/FRA/full_text/pdf/FRA198(french).pdf)

China Notification CHN/1489

Date issued: 6 November 2020

Agency responsible: Standardization Administration of China (SAC)

National inquiry point: WTO/TBT National Notification and Enquiry Center of the People's Republic of China

Products covered: Primary cells and primary batteries, electrical; parts thereof (excl. spent) (HS 8506); Electric accumulators, incl. separators therefor, whether or not rectangular or square; parts thereof (excl. spent and those of unhardened rubber or textiles) (HS 8507)

Title: National Standard of the P.R.C., Lithium Ion Cells and Batteries Used in Stationary Electronic Equipments - Safety Technical Specification (27 pages in Chinese)

Description of content: This standard specifies the safety requirements for lithium ion cells and batteries used in stationary electronic equipments and describes the corresponding test methods.

Objective and rationale: Protection of human health or safety

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 5 January 2021

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1489\(simplified_chinese\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1489(simplified_chinese).pdf)

China Notification CHN/1498

Date issued: 6 November 2020

Agency responsible: Standardization Administration of China (SAC)

National inquiry point: WTO/TBT National Notification and Enquiry Center of the People's Republic of China

Products covered: Elevating work platforms; Lifting, handling, loading or unloading machinery, e.g. lifts, escalators, conveyors, teleferics (excl. pulley tackle and hoists, winches and capstans, jacks, cranes of all kinds, mobile lifting frames and straddle carriers, works trucks fitted with a crane, fork-lift trucks and other works trucks fitted with lifting or handling equipment) (HS 8428)

Title: Safety Rules for Elevating Work Platforms (26 pages in Chinese)

Description of content: This standard specifies safety - technical requirements of design, manufacture, installation, use, maintenance for elevating work platforms.

Objective and rationale: Protection of human health or safety

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 5 January 2021

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1498\(simplified_chinese\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1498(simplified_chinese).pdf)

China Notification CHN/1501

Date issued: 9 November 2020

Agency responsible: Standardization Administration of China (SAC)

National inquiry point: WTO/TBT National Notification and Enquiry Center of the People's Republic of China

Products covered: Requirements for critical network devices; Automatic data-processing machines and units thereof; magnetic or optical readers, machines for transcribing data onto data media in coded form and machines for processing such data, n.e.s (HS 8471)

Title: National Standard of the P.R.C., Security Technical Requirements for Critical Network Devices : Common Requirements (11 pages in Chinese—simplified Chinese)

Description of content: This standard specifies the common security technical functional requirements and security assurance requirements that critical network devices should meet.

Objective and rationale: Prevention of deceptive practices and consumer protection; Quality requirements

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 8 January 2021

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1501\(simplified_chinese\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1501(simplified_chinese).pdf)

China Notification CHN/1504

Date issued: 9 November 2020

Agency responsible: Standardization Administration of China (SAC)

National inquiry point: WTO/TBT National Notification and Enquiry Center of the People's Republic of China

Products covered: Electrical and electronic equipment within the field of audio, video, information and communication technology, and business and office machines with a rated voltage not exceeding 600V; Electrical Machinery and Equipment and Parts Thereof; Sound Recorders and Reproducers, Television Image and Sound Recorders and Reproducers, and Parts and Accessories of Such Articles (HS 85)

Title: National Standard of the P.R.C., Audio/video, Information and Communication Technology Equipment-Part 1: Safety Requirement (374 pages in Chinese)

Description of content: This part is applicable to the safety of electrical and electronic equipment within the field of audio, video, information and communication technology, and business and office machines with a rated voltage not exceeding 600V. This document includes requirements of audio/video, information and communication technology equipment intended to be installed in outdoor locations. The requirements for outdoor equipment also apply, where relevant, to outdoor enclosures suitable for direct installation in the field and supplied for housing audio/video, information and communication technology equipment to be installed in outdoor locations. This document does not include requirements for performance or functional characteristics of equipment.

Objective and rationale: Protection of human health or safety

Proposed date of adoption: Not given by country

Proposed date of entry into force: Not given by country

Final date for comments: 8 January 2021

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1504\(simplified_chinese\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/CHN/full_text/pdf/CHN1504(simplified_chinese).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 14 December 2020

BSR/ASME B30.17-202x, Cranes and Monorails (with Underhung Trolley or Bridge) (revision of ANSI/ASME B30.17-2015)

Volume B30.17 includes provisions that apply to the construction, installation, operation, inspection, testing, and maintenance of hand-operated and power-operated overhead cranes and monorail systems with an underhung trolley and/or bridge. These cranes and monorail systems shall support one or more hoists used for vertical lifting and lowering of freely suspended, unguided loads, and include top running and underhung bridge cranes, gantry cranes, traveling wall cranes, jib cranes, polar gantry cranes, portable gantries, other cranes having the same fundamental characteristics, and monorail systems including trolleys (carriers) and end trucks. Track sections and their support systems for monorail systems, runways and their support systems for underhung cranes, and runway rails for top running cranes are also within the scope of this volume.

Single copy price: Free

Obtain an electronic copy from: <http://cstools.asme.org/publicreview>

Send comments to: Kathleen Peterson, peterstonk@asme.org

BSR/UL 263-202x, Standard for Safety for Fire Tests of Building Construction and Materials (revision of ANSI/UL 263-2020)

(1) Replacement of 5.2 to clarify existing requirements for the protection and conditioning of test specimens, including addition of references to ASTM E119 and ASTM E605; and addition of an appendix to provide guidance on locating moisture sensing elements in various types of test specimens with concrete; (2) Addition of requirement for data to be measured, recorded, and reported at intervals not exceeding 1 min; and revisions to existing intervals to 1 min.

Single copy price: Free

Access and offer comments at: <https://csds.ul.com/Home/ProposalsDefault.aspx>

Due 21 December 2020

BSR/ASTM E84-202x, Test Method for Surface Burning Characteristics of Building Materials (revision of ANSI/ASTM E84-2020)

https://www.astm.org/ANSI_SA

Single copy price: Free

Order from and send comments to: Laura Klineburger, accreditation@astm.org

BSR/ASTM E136-202x, Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750C (revision of ANSI/ASTM E136-2019)

https://www.astm.org/ANSI_SA

Single copy price: Free

Order from and send comments to: Laura Klineburger, accreditation@astm.org

BSR/ASTM E2579-202x, Practice for Specimen Preparation and Mounting of Wood Products to Assess Surface Burning Characteristics (revision of ANSI/ASTM E2579-2019)

https://www.astm.org/ANSI_SA

Single copy price: Free

Order from and send comments to: Laura Klineburger, accreditation@astm.org

BSR/ASTM E2653-202x, Practice for Conducting an Interlaboratory Study to Determine Precision Estimates for a Fire Test Method with Fewer than Six Participating Laboratories (revision of ANSI/ASTM E2653-2015)

https://www.astm.org/ANSI_SA

Single copy price: Free

Order from and send comments to: Laura Klineburger, accreditation@astm.org

BSR Z49.1-202x, Safety in Welding, Cutting and Allied Processes (revision of ANSI Z49.1:2012)

This standard covers all aspects of safety and health in the welding environment, emphasizing oxygen gas and arc welding processes with some coverage given to resistance and high-energy-beam welding, brazing, and soldering. It contains information on protection of personnel and the general area, ventilation, fire prevention and protection, and confined spaces. A significant section is devoted to precautionary information, showing examples, and an extensive bibliography is included.

Single copy price: \$38.00

Order from: Stephen Hedrick, steveh@aws.org

Send comments to: pportela@aws.org

BSR/NEMA 62430-202x, Environmentally conscious design (ECD) - Principles, requirements and guidance (identical national adoption of IEC 62430:2019)

IEC 62430:2019 describes principles, specifies requirements, and provides guidance for organizations intending to integrate environmental aspects into the design and development in order to minimize the adverse environmental impacts of their products. This document applies to processes on how ECD (environmentally conscious design) are integrated into the design and development. This document applies to any organization, regardless of its size, type, or sector. This document does not provide requirements for assessing the conformity

of individual products. IEC 62430:2019 cancels and replaces the first edition published in 2009. This edition constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition: (a) Scope is extended from electrotechnical product and systems to all products including services; (b) As a consequence of the scope expansion, non-electrotechnical products, services in particular, are taken into account to modify requirements. and (c) Clause 6 is added as a guidance.

Single copy price: \$225.00

Order from and send comments to: Brian Marchionini, brian.marchionini@nema.org

BSI public review announcements

BSI Standards has announced documents for public review that might be of interest to *Standards Watch* readers. BSI documents may be commented on at <https://standardsdevelopment.bsigroup.com/>.

Due 8 January 2021

JTC1-SC25/2984/NP, PNW JTC1-SC25-2984 ED1: Information technology – Home Electronic System (HES) architecture – Part 5-103: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – RA smart audio interconnection profile

ISO/IEC 14543-5-103 specifies the interoperability requirements for smart audio devices (audio devices with built-in computing and communication capabilities) and creates various application functionalities to enhance these audio devices. This standard introduces some new device types and specifies mandatory device/service discovery, device control, content delivery and audio transcoding methods and interfaces etc. to enable smart audio device interactions and content services.

JTC1-SC25/2985/NP Information technology – Home Electronic System (HES) architecture – Part 5-104: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – RA server-based smart lock application

ISO/IEC 14543-5-104 specifies a server-based smart lock application that utilizes the ISO/IEC 14543-5 series of standards for device interoperability.

This standard specifies the required device interaction models, message formats and APIs, and the authentication and security methods.

DIN public review announcement

The Deutsches Institut für Normung has announced a draft document possibly of interest to *Standards Watch* readers that is open for public review from 30 October until 30 December 2020. The document is in German. After you register with DIN at <http://www.entwuerfe.din.de/>, you may purchase and comment on DIN draft standards.

Due by 30 December 2020

DIN 15584-2, Digitales Kino - Bild-Projektion - Teil 2: Umgebungslicht bei der Projektion und deren Messung (Digital cinema - Image Projection - Part 2: Ambient light during projection and its measurement)

Dieses Dokument legt Richtwerte bezüglich des maximal zulässigen Umgebungslichts in einem Kinosaal fest. Dieses Dokument gilt für die Planung von neuen Kinosälen und für die Modernisierung von bestehenden Kinosälen. Dieses Dokument gilt auch für Versammlungsstätten, die multifunktional für die Kinonutzung vorgesehen sind. Es ist auch bei der Überprüfung der Projektionstechnik in den zuvor genannten Sälen anzuwenden. Dieses Dokument gilt nicht für Cinema LED Screen-Bildwände.

(This document defines guidelines for the maximum permissible ambient light in a cinema. It applies to the planning of new movie theaters and to the modernization of existing theaters. This document is also valid for meeting places that are multifunctional for cinema use. It is also applicable when checking the projection technology in the above-mentioned halls. This document does not apply to Cinema LED screens.)

Public input on NFPA 101 accepted

The National Fire Protection Association has announced that it is accepting public input for the 2024 edition of [NFPA 101, Life Safety Code](#). To submit input using the online submission system, go to the [NFPA 101 page](#). On

that page, select "Submit a Public Input" to begin the process. You will be asked to sign-in or to create a free online account with NFPA before using this system. If you have any questions when using the system, a chat feature is available, or you can contact NFPA customer service by [email](#) or phone at 1-800-344-3555.

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 Z590.7-202x, Management Systems for the Implementation of Total Worker Health Programs in the Workplace (new standard)

This standard defines requirements for the implementation, enhancement, and ongoing improvement of a management system addressing Total Worker Health Programs in the Workplace. [The ASSP has claimed a trademark on "Total Health Programs."]

Contact: Lauren Bauerschmidt, LBauerschmidt@assp.org

BSR E1.4-1-2016 (R202x), Entertainment Technology - Manual Counterweight Rigging Systems (reaffirmation of ANSI E1.4-1-2016)

ANSI E1.4-1-2016 is being updated for consistency with current technology. The standard applies to permanently installed, manually operated systems of stage rigging hardware for the raising, lowering, and suspension of scenery, lighting, and similar loads. The systems illustrated in the figures section describe common arrangements of systems used over performance areas.

Contact: Richard Nix, standards@esta.org

BSR/NFPA 3-202x, Standard for Commissioning of Fire Protection and Life Safety Systems (revision of ANSI/NFPA 3-2021)

This standard provides the required procedures, methods, and documentation for the commissioning of active and passive fire protection and life safety systems and their interconnections with other building systems.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 160-202x, Standard for the Use of Flame Effects before an Audience (revision of ANSI/NFPA 160-2021)

This standard shall provide requirements for the protection of the audience; support personnel; performers; and the operator, assistants, and property where flame effects are used. This document details how to control the use of flame effects. The issue of permitting or prohibiting the use of open flames before an audience is in the scope of a code such as NFPA 101, Life Safety Code. The Life Safety Code has traditionally prohibited open flames within assembly occupancies.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 703-202x, Standard for Fire-Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials (revision of ANSI/NFPA 703-2021)

This standard provides criteria for defining and identifying fire retardant-treated wood and fire retardant coated building materials. Fire resistance ratings measured on an hourly basis are not covered in this standard. To establish such ratings, tests should be made in accordance with NFPA 251.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 791-202x, Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation (revision of ANSI/NFPA 791-2021)

This document covers recommended procedures for evaluating unlabeled electrical equipment for compliance with nationally recognized standards and any requirements of the authority having jurisdiction (AHJ). This document does not cover procedures for evaluations relating to product certification systems that result in listed and labeled products.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/UL 1691A-202x, Standard for Safety for Single-Pole Latching Type Separable Connectors (new standard)

These requirements cover single-pole separable male and female connectors, panel inlets, and panel outlets and accessories, rated up to a maximum of 1250 amperes and up to 1000 volts ac or dc and not intended for connection or disconnection under load conditions. These devices are not intended for use in hazardous locations. These devices are intended for factory or field assembly to insulated conductors rated 90°C or higher, and may be rated for use in either outdoor or indoor locations.

Contact: Megan Monsen, megan.monsen@ul.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 C137.7-2020, Standard for Lighting Systems - Networked Parking Lot Lighting Systems (new standard): 22 October 2020

ANSI Z83.26-2020/CSA 2.37-2020, Gas-Fired Outdoor Infrared Patio Heaters (same as CSA 2.37) (revision and redesignation of BSR Z83.26-202x): 22 October 2020

ANSI/APCO 1.112.2-2020, Best Practices for the Use of Social Media in Public Safety Communications (revision and redesignation of ANSI/APCO 1.112.1-2014): 30 October 2020

ANSI/ASHRAE/IES Addendum a to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IES Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum c to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IES Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum h to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum i to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IES Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum k to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum l to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum m to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019): 30 October 2020

ANSI/ASHRAE/IES Addendum n to ANSI/ASHRAE/IES Standard 90.1-2019, Energy Standard for Buildings Except LowRise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019): 30 October 2020

ANSI/CTA 2048-A-2020, Host and Router Profiles for IPv6 (revision and redesignation of ANSI/CTA 2048-2014): 27 October 2020

ANSI/ICC 500-2020, ICC/NSSA Standard for the Design and Construction of Storm Shelters (revision of ANSI/ICC 500-2014): 2 November 2020

ANSI/NFPA 102-2021, Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures (revision of ANSI/NFPA 102-2016): 25 October 2020

ANSI/NFPA 170-2021, Standard for Fire Safety and Emergency Symbols (revision of ANSI/NFPA 170-2018): 25 October 2020

ANSI/NFPA 1802-2021, Standard on Two-Way, Portable RF Voice Communications Devices for Use by Emergency Services Personnel in the Hazard Zone (new standard): 25 October 2020

ANSI/NFPA 1937-2021, Standard for the Selection, Care, and Maintenance of Rescue Tools (new standard): 25 October 2020

ANSI/NFPA 204-2021, Standard for Smoke and Heat Venting (revision of ANSI/NFPA 204-2018): 25 October 2020

ANSI/NFPA 225-2021, Model Manufactured Home Installation Standard (revision of ANSI/NFPA 225-2017): 25 October 2020

ANSI/NFPA 33-2021, Standard for Spray Application Using Flammable or Combustible Materials (revision of ANSI/NFPA 33-2018): 25 October 2020

ANSI/NFPA 34-2021, Standard for Dipping, Coating, and Printing Processes Using Flammable or Combustible Liquids (revision of ANSI/NFPA 34-2018): 25 October 2020

ANSI/NFPA 37-2021, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines (revision of ANSI/NFPA 37-2018): 25 October 2020

ANSI/NFPA 450-2021, Guide for Emergency Medical Services and Systems (revision of ANSI/NFPA 450-2017): 25 October 2020

ANSI/NFPA 501A-2021, Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities (revision of ANSI/NFPA 501A-2017): 25 October 2020

ANSI/NFPA 520-2021, Standard on Subterranean Spaces (revision of ANSI/NFPA 520-2016): 25 October 2020

ANSI/NFPA 79-2021, Electrical Standard for Industrial Machinery (revision of ANSI/NFPA 79-2018): 25 October 2020

ANSI/NFPA 92-2021, Standard for Smoke Control Systems (revision of ANSI/NFPA 92-2018): 25 October 2020

ANSI/NSF 350-2020 (i50r2), Onsite Residential and Commercial Water Reuse Treatment Systems (revision of ANSI/NSF 350-2019): 15 October 2020

ANSI/UL 1004-1-2020, Standard for Safety for Rotating Electrical Machines - General Requirements (revision of ANSI/UL 1004-1-2018): 22 October 2020

ANSI/UL 1740-2020, Standard for Safety for Robots and Robotic Equipment (revision of ANSI/UL 1740-2018): 20 October 2020

ANSI/UL 61800-5-2-2020, Standard for Safety for Standard for Safety for Adjustable Speed Electrical Power Drive Systems - Part 5-2: Safety Requirements - Functional (national adoption of IEC 61800-5-2 with modifications and revision of ANSI/UL 61800-5-2-2012 (R2017)): 3 November 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 first by due date then by project identifier alphanumeric.

79/641/DC, Proposed revision of IEC 62820 series – Building intercom systems, 4 December 2020

CABPUB/188/CD, ISO/IEC CD 17043: Conformity assessment - General requirements for the competence of proficiency testing providers, 18 December 2020

65/848/CD, IEC 62443-2-4 ED2: Security for industrial automation and control systems - Part 2-4: Security program requirements for IACS service providers, 25 December 2020

ISO/DIS 22329, Security and resilience - Emergency management - Guidelines for the use of social media in emergencies, 8 January 2021, \$67.00

ISO/IEC/IEEE DIS 42010, Software, systems and enterprise - Architecture description, 9 January 2021, \$125.00

ISO/IEC DIS 27013, Information security, cybersecurity and privacy protection - Guidance on the integrated implementation of ISO/IEC 27001 and ISO/IEC 20000-1, 14 January 2021, \$125.00

ISO 7010/DAMd115, Graphical symbols - Safety colours and safety signs - Registered safety signs - Amendment 115: Safety sign W074: Warning; Tornado zone, 18 January 2021, \$29.00

ISO 7010/DAMd116, Graphical symbols - Safety colours and safety signs - Registered safety signs - Amendment 116: Safety sign E025: Emergency call point, 18 January 2021, \$29.00

ISO/DIS 3533, Sex toys - Design and safety requirements for products in direct contact with genitalia, the anus, or both , 20 January 2021, \$82.00

22/325/CDV, IEC 62477-1 ED2: Safety requirements for power electronic converter systems and equipment - Part 1: General, 22 January 2021

JTC1-SC25/2985/NP, PNW JTC1-SC25-2985 ED1: Information technology - Home Electronic System (HES) architecture - Part 5 -104: Intelligent grouping and resource sharing for HES Class 2 and Class 3 - RA server-based smart lock application, 22 January 2021

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 for purchases from the [ANSI Webstore](#).

IEC 60948:1988, Numeric keyboard for home electronic systems (HES), FREE

ISO 22095:2020, Chain of custody - General terminology and models, \$162.00

ISO 23601:2020, Safety identification - Escape and evacuation plan signs, \$103.00

ISO 26871:2020, Space systems - Explosive systems and devices, \$209.00

ISO/IEC 13818-1/Cor1:2020, Information technology – Generic coding of moving pictures and associated audio information – Part 1: Systems - Corrigendum, FREE

ISO/IEC 30145-2:2020, Information technology - Smart City ICT reference framework - Part 2: Smart city knowledge management framework, \$68.00

ISO/IEC TR 23843:2020, Information technology for learning, education and training - Catalogue model for virtual, augmented and mixed reality content, \$138.00

ISO/TR 20891:2020, Space systems - Space batteries - Guidelines for in-flight health assessment of lithium-ion batteries, \$209.00

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 is copyright ESTA.

Editors:

Karl G. Ruling, Technical Standards Manager
ESTA
Technical Standards Program
271 Cadman Plaza
PO Box 23200
Brooklyn, NY 11202-3200 USA
karl.ruling@esta.org
1 212 244 1505 ext. 703

Richard Nix, Asst. Technical Standards Manager
ESTA
Technical Standards Program
271 Cadman Plaza
PO Box 23200
Brooklyn, NY 11202-3200 USA
richard.nix@esta.org
1 212 244 1505 ext. 649

If you would like to receive an email notice each time a new edition of *Standards Watch* is published, let us know by sending a request to standards@esta.org. You will be put on the distribution list for notices.

The archive of *Standards Watch* issues back to the beginning of 2011 is available at <http://estalink.us/nn7a1>.

TSP meeting schedule

The meeting schedule will be posted at <https://www.esta.org/ESTA/meetings.php>. There are no TSP meetings listed there on November 12, but the next round of meetings is expected to be in the last week of January 2021. They will be by WebEx.

TSP donors who have made long-term, multi-year pledges

About the Stage
Actors' Equity Association
Altman Lighting
Barbizon Lighting Company
B-Hive Industries
Scott Blair
BMI Supply
Boston Illumination Group
Candela Controls
Chauvet
City Theatrical
Clark-Reder Engineering
Columbus McKinnon Corporation
Tracey Cosgrove and Mark McKinney
Bruce Darden
Doug Fleenor Design
Earl Girls Inc. EGI Pro
Electronic Theatre Controls
Entertainment Project Services
Geiger Engineers, PC
Tony Giovannetti
GLP German Light Products
Golden Sea Professional Equipment Limited
H & H Specialties
Harlequin Floors
High Output
Neil Huff
Hughston Engineering
IATSE Local 891
InCord
Beverly and Tom Inglesby
Interactive Technologies
InterAmerica Stage
iWeiss Inc.
J.R. Clancy
Jules Lauve
Brian Lawlor
Lex Products
Link USA, Inc.
Lycian Stage Lighting
John T. McGraw
McLaren Engineering Group
Mike Garl Consulting
Mike Wood Consulting
Morpheus Lights
NAMM
Niscon
Oasis Stage Werks
Reed Rigging
Reliable Design Services
Robe
Rosco Laboratories
Rose Brand
Alan M. Rowe
Sapsis Rigging
Stage Equipment & Lighting
Stage Rigging
Stagemaker
Stageworks
Syracuse Scenery and Stage Lighting, Co.
Dana Taylor
Steve Terry
Texas Scenic Company
Theatre Projects Consultants
Theatre Safety Programs
TMB
Tyler Truss Systems
Vertigo
Vincent Lighting Systems
Steve Walker & Associates
Walt Disney Parks and Resorts
Westview Productions
WNP Services, Inc.

Investors in Innovation, supporters of ESTA's Technical Standards Program

VISIONARY LEADERS (\$50,000 & up)

ETC

PLASA

VISIONARY (\$10,000 & up; >100 employees/members)

Chauvet Professional

Cisco

Columbus McKinnon Entertainment Technology

ProSight Specialty Insurance

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

Theatre Safety Programs

TMB

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

About the Stage

B-Hive Industries, Inc.

Scott Blair

Boston Illumination Group

Candela Controls, Inc.

Clark Reder Engineering

Tracey Cosgrove & Mark McKinney

Doug Fleenor Design

EGL Event Production Services

Entertainment Project Services

Neil Huff

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.

Steve A. Walker & Associates

Dana Taylor

Steve Terry

Vertigo

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)

Area Four Industries

American Society of Theatre Consultants

BMI Supply

City Theatrical Inc.

H&H Specialties, Inc.

InterAmerica Stage, Inc.

Lycian Stage Lighting

Niscon Inc.

Tomcat Staging, Lighting and Support Systems

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

Bruce Darden

Guangzhou Color Imagination LED Lighting

Indianapolis Stage Sales & Rentals, Inc.

Kenney Drapery Associates, Inc.

L1 Inc.

Lighting Infusion LLC

Scott Madaski

Mediam Sp. zo.o.

Karen Miller

Nanyi Audio & Lighting Enterprise Co., Ltd.

Qdot Lighting Ltd.

Sanko Device Co. Ltd.

Show Light Oy

Shawn Silverman

Steve Vanciel

Ralph Weber

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

SUPPORTER (\$50 - \$1,499; 20–100 employees/members)
ACT Lighting Inc./AC Power Distribution
ARM Automation, Inc.
Ian Foulds, IATSE Local 873
General Lighting Electronic Co. Ltd.
Guangzhou Shenghui Electronic Technology
Guangzhou YaFeng Optoelectronic Equipment Co.
Guangzhou Yilaiming Photoelectric Technology Co.,
Ltd.
HAYA Light Equipment Ltd. Co.
High Output
InCord
Intella Systems Co., Ltd.
iWeiss
LA ProPoint, Inc.

SUPPORTER (\$50 - \$199; <20 employees/members)
Adam Blair
Alyxzander Bear
Capture Visualisation AB
DMX Pro Sales
Peter Erskine
Foshan Leiyuan Photoelectric Co. Ltd.
Jack Gallagher
Tony Giovannetti
Pat Grenfell
John Huntington
Beverly and Tom Inglesby
Klik Systems

Moss LED Inc.
Nanshi Lighting
Oasis Stage Werks
Shenzhen Ifountain Technology
Skjonberg Controls Inc.
Stage Equipment & Lighting
Stagemaker
Stageworks
Syracuse Scenery and Stage Lighting Co., Inc.
Taurus Light Co. Ltd.
Ultratec Special Effects
Vincent Lighting Systems
Zhisheng Huang
Zhuhai Shengchang Electronics Co.

Eddie Kramer
Jason Kyle
David Lascaut
Jason Livingston
LuxBalance Lighting
Tyrone Mellon, Jr.
Lizz Pittsley
Michael Skinner
Studio T+L
Terrier Marketing
Arjan van Vught
Lars Wernland

Extraordinary legacy gift: Ken Vannice