



Technical Standards Program

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One Gone, One Added to the Eleven ESTA Standards in Public Review

Eleven documents are available for public review at no cost on the ESTA website at http://tsp.estaprogram.org/tsp/documents/public_review_docs.php. The public review of BSR E1.6-1 timed out at the end of the day on February 19, but BSR E1.8 has been added to the list. In order of comment due date and then alpha-numeric designation, the documents are:

BSR E1.46, Standard for the Prevention of Falls from Theatrical Stages and Raised Performance Platforms, offers guidance appropriate for theatrical venues on preventing falls from stages into orchestra pits, open stage lifts, and similar openings in stage floors. Comments are due before 13 March 2018.

The following nine documents all have comment due dates of 9 April 2018; comments must be submitted before April 10.

BSR E1.11, Entertainment Technology -- USITT DMX512-A -- Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories, describes a protocol for transmitting digital data over an EIA-485-A datalink for the purpose of controlling entertainment lighting equipment and ac-

cessories, such as dimmers, robotic luminaires, color changers, and motion effects wheels. The protocol is not intended to be used to control equipment where injury to people or damage to property could result from a message error. The existing E1.11 standard is being considered for reaffirmation without any substantive changes.

BSR ES1.19, Safety Requirements for Special Event Structures, is one part of a larger suite of ES1 standards relating to special event safety being developed. This draft standard covers any temporary structure used for special events (e.g., concerts, award shows, dramatic plays) not otherwise addressed by existing standards, codes, or legislation. The purpose of this document is to identify design, fabrication, operation and use, inspection and maintenance requirements for the structures included in its scope.

BSR E1.30-11, EPI 33 -- ACN Root Layer Protocol Operation on TCP, is part of the E1.30 suite of standards documents that specify how conforming implementations are to operate in a particular environment or situation in order to guarantee interoperability. This part of E1.30, EPI 33, is an interoperability profile that specifies the operation and formats for the ACN Root Layer Protocol operating on TCP.

BSR E1.33, Entertainment Technology -- (RDMnet) -- Message Transport and Device Management of ANSI E1.20 (RDM) over IP Networks, describes a method of implementing ANSI E1.20 Remote Device Management messaging over an IP-based network. BSR E1.37-7 (also in public review) is closely tied to this document.

BSR E1.37-4, Remote Device Management over DMX512 Networks – File Transfer Control with Firmware Upload Capabilities, is part of the E1.37 project. It provides developers of RDM responder hardware with a standard means of implementing firmware upload using the basic communication structure provided by the ANSI E1.20 RDM standard. The design approach is intended to facilitate data transfers to responders that may be built using processors with very limited memory resources as well as devices that can support the largest possible [RDM] packet.

BSR E1.37-7, Additional Message Sets for ANSI E1.20 (RDM) - Gateway & Splitter Messages, provides additional Get/Set Parameter Messages for use with the ANSI E1.20 Remote Device Management protocol. This document contains messages relating to configuring managed splitters, proxy devices, and RDMnet Devices. It is closely tied to E1.33.

BSR E1.42, Entertainment Technology— Design, Installation, and Use of Orchestra Pit Lifts, covers the design, construction, operation, inspection, testing, maintenance, alteration and repair of permanently installed orchestra pit lifts and their associated parts, rooms, spaces, enclosures and hoistways, where located in a theatre or a similar place of public entertainment.

BSR E1.56, Entertainment Technology—Rigging Support Points, provides guidance for the design, fabrication, installation, and testing of permanent and temporary rigging points and rigging lugs and their connection to existing building and venue structures.

BSR E1.60, Guidelines for the Use of Raked Stages in Live Performance Environments, is intended to provide guidance for the use of raked stages in live performance environments. The standard intends to define a rake and to offer guidance for production elements to mitigate the risks for the protection of actors and technicians.

The following document has a comment due date of 22 April 2018. Submit comments before April 23.

BSR E1.8 - 201x, Entertainment Technology—Loudspeaker Enclosures Intended for Overhead Suspension—Classification, Manufacture and Structural Testing, addresses the requirements for speaker enclosures intended for overhead suspension. It addresses only the structural characteristics relating to the suspension of the enclosure. These include enclosure construction, component part security, enclosure suspension hardware, manufacturing control systems, and structural testing. The standard is being opened for revision to clarify the requirements of the standard and to revisit them in light of current manufacturing technology.

FCC News

Technological Advisory Council Meeting Date Changed

Due to scheduling conflicts, the first meeting for 2018 of the FCC's Technological Advisory Council which had been previously announced to take place on 7 March will now be held on 12 April 2018 from 12:30 to 16:00 in the Commission Meeting Room, 445 12th Street, S.W., Washington, D.C. The public is invited to attend.

This is the first meeting of the Technological Advisory Council for 2018. At its prior meeting on December 6th, 2017, the Council had discussed possible work initiatives for 2018. These initiatives have been discussed in the interim within the FCC, with the TAC chairman, as well as with individual TAC members. At the April meeting, the FCC Technological Advisory Council will discuss its proposed work program for 2018.

For further information, contact Walter Johnston at walter.johnston@fcc.gov, or visit the FCC website at <http://www.fcc.gov/oet/tac/>.

FCC Proposes To Open 'Spectrum Horizons' Above 95 GHz

The Federal Communications Commission ha announced a Notice of Proposed Rulemaking to expand access to spectrum above 95 GHz. Currently, the Commission has no rules to permit licensed or unlicensed communications use above 95 GHz, other than by amateur operators or on an experimental basis.

- The FCC is seeking comment on making a total of 102.2 gigahertz of spectrum available for licensed point-to-point services. These bands would be licensed on a nationwide, non-exclusive basis and individual point-to-point links would be registered with a database manager.
- The item also seeks comment on making a total of 15.2 gigahertz of spectrum available for use by unlicensed devices. The high atmospheric absorption of radio waves in these bands will limit the potential for interference and permit large numbers of unlicensed devices to share the spectrum.
- Last, the item seeks comment on creating a new category of experimental licenses available in spectrum between 95 gigahertz and 3 terahertz.

The Notice of Proposed Rulemaking was announced on February 22, but as of February 25 the actual Notice had not yet been published, so no further details were available than those published in the press release, available at https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0222/DOC-349378A1.pdf

WTO Technical Barrier to Trade Notifications

The U.S. Department of Commerce's service, Notify U.S., recently has announced WTO Technical Barrier to Trade notices that may be of interest to *Standards Watch* readers. If you have a problem with the TBTs, you can protest through your representative to the WTO. See "Guidance for Comment Submissions by U.S. Industry on TBT Notifications" at <http://tsapps.nist.gov/notifyus/data/guidance/guidance.cfm> or <http://ec.europa.eu/enterprise/tbt/> for advice on filing objections.

European Union Notification EU/543

Date issued: 20 February 2018

Agency responsible: EU-TBT Enquiry Point

National inquiry point: EU-TBT Enquiry Point

Products covered: Electrical and electronic equipment

Title: Draft Commission Delegated Directive amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in dielectric ceramic in certain capacitors (7 pages + Annex 2 pages, in English)

Description of content: This draft Commission Delegated Directive concerns an application specific and temporary exemption from the RoHS 2 (Directive 2011/65/EU) substance restrictions.

Objective and rationale: Adaptation of existing legislation to scientific and technical progress, granting manufacturers adequate transition time for compliance.

Relevant documents: Scientific background studies justifying the specific exemption are available (<https://bookshop.europa.eu/en/assistance-to-the-commission-on-technological-socio-economic-and-cost-benefit-assessment-related-to-exemptions-from-the-substance-restrictions-in-electrical-and-electronic-equipment-pbKH0416554/>). Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1438768100804&uri=CELEX:32011L0065>

Proposed date of adoption: 1 May 2018

Proposed date of entry into force: Not given by country

Final date for comments: 21 April 2018

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU543\[1\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU543[1](english).pdf) and [https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU543\[2\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU543[2](english).pdf)

European Union Notification EU/545

Date issued: 20 February 2018

Agency responsible: EU-TBT Enquiry Point

National inquiry point: EU-TBT Enquiry Point

Products covered: Electrical and electronic equipment

Title: Draft Commission Delegated Directive amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for cadmium and its compounds in electrical contacts (7 pages + Annex 2 pages, in English)

Description of content: This draft Commission Delegated Directive concerns an application specific and temporary exemption from the RoHS 2 (Directive 2011/65/EU) substance restrictions.

Objective and rationale: Adaptation of existing legislation to scientific and technical progress, granting manufacturers adequate transition time for compliance.

Relevant documents: Scientific background studies justifying the specific exemption are available (<https://bookshop.europa.eu/en/assistance-to-the-commission-on-technological-socio-economic-and-cost-benefit-assessment-related-to-exemptions-from-the-substance-restrictions-in-electrical-and-electronic-equipment-pbKH0416554/>). Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1438768100804&uri=CELEX:32011L0065>

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European Union Notification EU/546

Date issued: 20 February 2018

Agency responsible: EU-TBT Enquiry Point

National inquiry point: EU-TBT Enquiry Point

Products covered: Electrical and electronic equipment

Title: Draft Commission Delegated Directive amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages (7 pages + Annex 2 pages, in English)

Description of content: This draft Commission Delegated Directive concerns an application specific and temporary exemption from the RoHS 2 (Directive 2011/65/EU) substance restrictions.

Objective and rationale: Adaptation of existing legislation to scientific and technical progress, granting manufacturers adequate transition time for compliance.

Relevant documents: Scientific background studies justifying the specific exemption are available (<https://bookshop.europa.eu/en/assistance-to-the-commission-on-technological-socio-economic-and-cost-benefit-assessment-related-to-exemptions-from-the-substance-restrictions-in-electrical-and-electronic-equipment-pbKH0416554/>). Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1438768100804&uri=CELEX:32011L0065>

Proposed date of adoption: 1 May 2018

Proposed date of entry into force: Not given by country

Final date for comments: 21 April 2018

Full text: [https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU546\[1\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU546[1](english).pdf) and [https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU546\[2\]\(english\).pdf](https://tsapps.nist.gov/notifyus/docs/wto_country/EU/full_text/pdf/EU546[2](english).pdf)

European Union Notification EU/549

Date issued: 20 February 2018

Agency responsible: EU-TBT Enquiry Point

National inquiry point: EU-TBT Enquiry Point

Products covered: Electrical and electronic equipment

Title: Draft Commission Delegated Directive amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead oxide in seal frit used for making window assemblies for certain laser tubes (7 pages + Annex 2 pages, in English)

Description of content: This draft Commission Delegated Directive concerns an application specific and temporary exemption from the RoHS 2 (Directive 2011/65/EU) substance restrictions. 7

Objective and rationale: Adaptation of existing legislation to scientific and technical progress, granting manufacturers adequate transition time for compliance.

Relevant documents: Scientific background studies justifying the specific exemption are available (<https://bookshop.europa.eu/en/assistance-to-the-commission-on-technological-socio-economic-and-cost-benefit-assessment-related-to-exemptions-from-the-substance-restrictions-in-electrical-and-electronic-equipment-pbKH0416554/>). Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1438768100804&uri=CELEX:32011L0065>

Proposed date of adoption: 1 May 2018

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European Union Notification EU/550

Date issued: 20 February 2018

Agency responsible: EU-TBT Enquiry Point

National inquiry point: EU-TBT Enquiry Point

Products covered: Electrical and electronic equipment

Title: Draft Commission Delegated Directive amending, for the purposes of adapting to scientific and technical progress, Annex III to Directive 2011/65/EU of the European Parliament and of the Council as regards an exemption for lead in the plating layer of certain diodes (7 pages + Annex 2 pages, in English)

Description of content: This draft Commission Delegated Directive concerns an application specific and temporary exemption from the RoHS 2 (Directive 2011/65/EU) substance restrictions.

Objective and rationale: Adaptation of existing legislation to scientific and technical progress, granting manufacturers adequate transition time for compliance.

Relevant documents: Scientific background studies justifying the specific exemption are available (<https://bookshop.europa.eu/en/assistance-to-the-commission-on-technological-socio-economic-and-cost-benefit-assessment-related-to-exemptions-from-the-substance-restrictions-in-electrical-and-electronic-equipment-pbKH0416554/>). Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1438768100804&uri=CELEX:32011L0065>

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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 2 April 2018

BSR/AWS D16.2M/D16.2-201X, Guide for Components of Robotic and Automatic Arc Welding Installations (new standard)

This document applies to the recommended design, integration, installation, and use of industrial welding robotic and automatic systems. This document is intended for the gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), plasma arc welding (PAW), and flux-cored arc welding (FCAW) processes. Pertinent parts may address additional welding processes. Robotic and automatic arc welding systems consist of a manipulator, power source, arc welding torch and accessories, electrode feed system, wire delivery system, shielding gas delivery system, welding circuit, shielding and communication control, and grounding system. There may be other accessories that are outside the scope of this document, such as safety devices and monitoring, joint-tracking, and vision systems.

Single copy price: \$68.00

Order from and send comments to: Peter Portela, pportela@aws.org

BSR/CTA 709.7-201x, LON over IP (new standard)

To develop and standardize a new CTA-709 media channel definition for LON® over IP (Ethernet).

The scope includes defining a new channel media type which will be inter-operable with all existing CTA-709 media types. It includes defining IPv4 and IPv6 addressing requirements. It will provide timing parameters and other relevant technology necessary for control networking devices to directly connect to an existing Ethernet network using IP. The work effort includes defining device-to-device addressing and device-to-host computer/API addressing, routing, timing, and other relevant interoperable definitions.

Single copy price: \$87.00

Obtain an electronic copy from: standards@cta.tech

Send comments to: Veronica Lancaster, vlancaster@cta.tech

BSR/CTA 2065-201x, Physical Activity Monitoring for Heart Rate (new standard)

This standard creates definitions and performance criteria for consumer technology that measures heart rate.

Single copy price: \$64.00

Single copy price: \$87.00

Obtain an electronic copy from: standards@cta.tech

Send comments to: Veronica Lancaster, vlancaster@cta.tech

BSR/TIA 569-D-2-201x, Telecommunications Pathways and Spaces - Addendum 2 Guidelines for Supporting Remote Powering (addenda to ANSI/TIA 569-D-2015)

This addendum provides guidelines for pathways supporting cabling used for remote power delivery in addition to supporting data transmission.

Single copy price: \$65.00

Order from and send comments to: standards@tiaonline.org

Due 9 April 2018

BSR/ASCE T&DI-201x, Design, Construction and Maintenance of Permeable Interlocking Concrete Pavement (new standard)

This standard establishes hydrologic and structural design methods for permeable interlocking concrete pavement (PICP). Permeable pavement design is typically site specific and requires careful consideration of structural and hydrologic conditions, and of the impact on the surrounding environment. This document provides information for professionals to use in the design of permeable pavement systems. This information includes applicable standards, definitions, best practices, structural and hydrologic design, key design elements, guide specifications, construction guidelines, and long-term maintenance.

Single copy price: Free!

Order from and send comments to: jneckel@asce.org

BSR/ASME B20.1-201x, Safety Standard for Conveyors and Related Equipment (revision of ANSI/ASME B20.1-2015)

This standard applies to the design, construction, installation, maintenance, inspection, and operation of conveyors and conveying systems in relation to hazards.

Single copy price: Free!

Order from: Mayra Santiago, ansibox@asme.org

Send comments to: Riad Mohamed, MohamedR@asme.org

BSR ES1.19-201x, Safety Requirements for Special Event Structures (new standard)

This document is one part of a larger suite of ES1 standards relating to special-event safety being developed. This draft standard covers any temporary structure used for special events (e.g., concerts, award shows, dramatic plays) not otherwise addressed by existing standards, codes, or legislation. The purpose of this document is to identify design, fabrication, operation and use, inspection, and maintenance requirements for the structures included in its scope.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.estra.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@esta.org

BSR E1.30-11-201x, EPI 33 - ACN Root Layer Protocol Operation on TCP (new standard)

E1.17 profiles for Interoperability (EPIs) are parts of the E1.30 suite of standards documents that specify how conforming implementations are to operate in a particular environment or situation in order to guarantee interoperability. This part of E1.30, EPI 33, is an interoperability profile that specifies the operation and formats for the ACN Root Layer Protocol operating on TCP.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.estra.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@esta.org

BSR E1.33-201x, Entertainment Technology - (RDMnet) - Message Transport and Device Management of ANSI E1.20 (RDM) over IP Networks (new standard)

This standard describes a method of implementing ANSI E1.20 Remote Device Management messaging over an IP-based network.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.estra.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@esta.org

BSR E1.37-4-201x, Remote Device Management over DMX512 Networks - File Transfer Control with Firmware Upload Capabilities (new standard)

BSR E1.37-4 is part of the E1.37 project. It provides developers of RDM responder hardware with a standard means of implementing firmware upload using the basic communication structure provided by the ANSI E1.20 RDM standard. The design approach is intended to facilitate data transfers to responders that may be built using processors with very limited memory resources as well as devices that can support the largest possible [RDM] packet.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.estra.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@esta.org

BSR E1.37-7-201x, Additional Message Sets for ANSI E1.20 (RDM) - Gateway & Splitter Messages (new standard)

This document provides additional Get/Set Parameter Messages for use with the ANSI E1.20 Remote Device Management protocol. This document contains messages relating to configuring managed splitters, proxy devices, and RDMnet devices.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.estra.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@esta.org

BSR E1.56-201x, Entertainment Technology - Rigging Support Points (new standard)

This standard is to provide guidance for the design, fabrication, installation, and testing of permanent and temporary rigging points and rigging lugs and their connection to existing building and venue structures.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.est.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@est.org

BSR E1.60-201x, Guidelines for the Use of Raked Stages in Live Performance Environments (new standard)

This standard is intended to provide guidance for the use of raked stages in live performance environments. The standard intends to define a rake, and to offer guidance for production elements to mitigate the risks for the protection of actors and technicians.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.est.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@est.org

BSR E1.11-2008 (R201x), Entertainment Technology - USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories (reaffirmation of ANSI E1.11-2008 (R2013))

E1.11 describes a protocol for transmitting digital data over an EIA-485-A datalink for the purpose of controlling entertainment lighting equipment and accessories, such as dimmers, robotic luminaires, color changers, and motion effects wheels. The protocol is not intended to be used to control equipment where injury to people or damage to property could result from a message error.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.est.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@est.org

BSR E1.42-201x, Entertainment Technology - Design, Installation, and Use of Orchestra Pit Lifts (revision of ANSI E1.42-2016)

E1.42 covers the design, construction, operation, inspection, testing, maintenance, alteration, and repair of permanently installed orchestra pit lifts and their associated parts, rooms, spaces, enclosures and hoistways, where located in a theatre or a similar place of public entertainment.

Single copy price: Free!

Obtain an electronic copy from: http://tsp.est.org/tsp/documents/public_review_docs.php

Send comments to: Karl Ruling, standards@est.org

BSR/ISA 95.00.02-201x, Enterprise-Control System Integration - Part 2: Object Model Attributes (national adoption of IEC 62264-2 with modifications and revision of ANSI/ISA 95.00.02 (IEC 62264-2 Modified)-2010)

Defines the details of the interface content between manufacturing control functions and other enterprise functions. The scope is limited to the definition of object models and attributes for the information defined in ANSI/ISA 95.00.01. The goal is to reduce the effort, cost, and errors associated with implementing these interfaces.

Single copy price: \$99.00 (usd)

Order form and send comments to: crobinson@isa.org

BSR/ISA 95.00.04-201x, Enterprise-Control System Integration - Part 4: Object model attributes for manufacturing operations management integration (revision of ANSI/ISA 95.00.04-2012)

Defines the object models and attributes involved in data exchange between activities of manufacturing operations management defined in ANSI/ISA 95.00.03.

Single copy price: \$99.00 (usd)

Order form and send comments to: crobinson@isa.org

BSR/TIA 570-D-201x, Residential Telecommunications Infrastructure Standard (revision and redesignation of ANSI/TIA 570-C-2012)

This standard applies to telecommunications premises cabling systems and the related pathways and spaces for single- and multi-dwelling residential buildings. It applies to the telecommunications cabling within or between

structures and includes the cabling within a single-dwelling unit and the backbone cabling. It specifies cabling intended to support a wide range of telecommunications applications in the residential environment including voice, data, video, security, audio, and control systems.

Single copy price: \$60.00

Order from and send comments to: TIA; standards@tiaonline.org

BSI Public Review Announcement: a draft EN standard for stage machinery

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

Due 6 March 2018

BS EN 17206 Entertainment Technology - Lifting and Load-bearing Equipment for Stages and other Production Areas within the Entertainment Industry - Specifications for general requirements (excluding aluminum and steel trusses and towers)

This document applies to machinery, machinery installations and machinery control systems used in places of assembly and in staging and production facilities for events and theatrical productions (stage machinery, for short). Such facilities include: theatres, multi-purpose halls, exhibition halls; film, television and radio studios; concert halls, schools, bars, discotheques, open-air stages and other rooms for shows and events. The document applies to machinery installations with guided or unguided load bearing and load carrying equipment. This document covers machinery used in the entertainment industry including machinery that is excluded from the Machinery Directive (2006/42/EC) specifically Article 1 2j which excludes "machinery intended to move performers during artistic performances". For the purposes of this document, machinery installations are all technical installations and equipment used for operations in stage and production facilities in the entertainment industry. Such installations are used to lift, lower, suspend and carry loads (e.g. scenery, traverse systems, or lighting, film/video and sound equipment). They can also be used to move persons, and persons can stand under such equipment while the loads are at rest or in motion. This machinery includes Controls, electrical and electronic control systems, electrical and electronic equipment, hydraulic and pneumatic power supplies. "Stages" are, for example, staging facilities and production areas in theatres, multipurpose halls, studios, production facilities for film, television or radio, concert halls, congress centres, schools, exhibition centres, trade-fair centres, museums, discotheques, amusement parks, sports facilities and open-air-theatres. "Events" are, for example, concerts, shows, congresses, exhibitions, presentations, demonstrations, film or television recordings, etc. This document considers permanently and temporarily installed lifting and movement equipment for stages and production areas within the entertainment industry. This document does not consider the design or control of fire curtains. Typical applications include but are not limited to the following: acoustic doors; auditorium elevators; compensating elevators; cycloramas; fly bar systems (manual and motor driven); lighting bars; movable lighting towers; movable stage platforms (stage wagons); movable proscenium arches; orchestra elevators; performer flying; point hoists; revolving stages and turntables; scenery storage elevators; side stage and rear stage shutters; stage elevators; stage wagons (stage trucks); tilttable stage floors; and trap elevators. The principles in this document also apply to machinery installations based on new technologies or specially designed installations which are not expressly mentioned here but which nevertheless operate in a similar manner or are meant for similar purposes to the equipment listed above.

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, or (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/APA PRG 320-201x, Standard for Performance-Rated Cross-Laminated Timber (revision of ANSI/APA PRG 320-2018)

Update the existing standard to include Structural Composite Lumber and revise the existing standard on glue-bond durability requirements. Contact: Borjen Yeh, (253) 620-7467, borjen.yeh@apawood.org

BSR/IES RP-1-201x, Standard Practice for Office Lighting (revision of ANSI/IES RP-1-2013)

For many people, the office is the environment where they spend the majority of their waking adult lives. The expectation is that the time spent in the office will be useful and productive, and that the physical environment will be healthy. The design of the office greatly influences how well the space meets the needs of the workers and their organization. Lighting is a critical element of the design that may enhance or degrade the work experience and affect the well-being of the workers. Beyond supporting worker performance, lighting may also affect the bottom line of the organization by making the best use possible of materials and electricity. Contact: Patricia McGillicuddy, pmcgillicuddy@ies.org

BSR/ISA 62453-301-201x, Field device tool (FDT) interface specification - Part 301: Communication profile integration - IEC 61784 CPF 2 (national adoption of IEC-62453-301 Ed 2.0 with modifications and revision of ANSI/ISA 62453-301 (103.00.03)-2011)

Update - No. 301 in a series of standards on field device tool specification. Project Need: Update - To fully integrate fieldbuses, devices, and subsystems as seamless part of a wide range of automation tasks covering the whole automation life-cycle.

Contact: Linda Wolffe, lwolfte@isa.org

BSR/ISA 62453-302-201x, Field device tool (FDT) interface specification - Part 302: Communication profile integration - IEC 61784 CPF 2 (national adoption of IEC 62453-302 Ed. 2.0 with modifications and revision of ANSI/ISA 62453-302 (103.00.04)-2010)

Update - No. 302 in a series of standards on field device tool interface specifications.

Contact: Linda Wolffe, lwolfte@isa.org

BSR/ISA 62543-309-201x, Field device tool (FDT) interface specification - Part 309: Communication profile integration - IEC 61784 CPF 9 (national adoption of IEC-62453-309 Ed. 2.0 with modifications and revision of ANSI/ISA 62453-309 (103.00.08)-2011) Update - No. 309 in a series of standards on field device tool interface specification. Contact: Linda Wolffe, lwolfte@isa.org**BSR/MSE/ISO 50046-201x, General quantification methods for ex ante or expected energy savings** (identical national adoption of ISO 50046)

This document provides general guidelines for the quantification of predicted energy savings (PrES), also known as ex-ante quantification. It also provides a process resulting in ex ante savings estimates satisfactory for the organization developing them and relevant stakeholders. It is meant to be used once the opportunities for energy performance improvements have been identified, but prior to the implementation of the Energy Performance Improvement Actions (EPIAs). It is, therefore, meant to be used when selecting and/or specifying the EPIAs and/or the action plan, program, or policy to be subsequently implemented. This document provides a methodology for increasing the transparency and quality of data used to predict energy savings that can be used to select among energy savings opportunities, for investment decisions, and accounting or crediting of energy savings (for example, for energy savings certificates). It provides methods that can be used, for example, in the context of energy audits; energy savings obligations; and energy efficiency portfolio standards, voluntary agreements, or energy performance contracting. A clear validation and documentation of the PrES, in particular about their quantification, adds value by increasing the credibility and reliability of the PrES, irrespective of the methods chosen.

Contact: Deann Desai, deann.desai@innovate.gatech.edu

BSR/NFPA 1-201x, Fire Code (revision of ANSI/NFPA 1-2011)

NFPA 1, Fire Code, advances fire and life safety for the public and first responders as well as property protection by providing a comprehensive, integrated approach to fire-code regulation and hazard management. It addresses all the bases with extracts from and references to more than 130 NFPA® codes and standards including such industry benchmarks as NFPA 101, NFPA 54, NFPA 58, NFPA 30, NFPA 13, NFPA 25, and NFPA 72.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 3-201x, Standard for Commissioning of Fire Protection and Life Safety Systems (revision of ANSI/NFPA 3-2012) This standard shall provide the required procedures, methods, and documentation for the commissioning of active and passive fire-protection and lifesafety systems and their interconnections with other building systems.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 4-201x, Standard for Integrated Fire Protection and Life Safety System Testing (revision of ANSI/NFPA 4-2018) The standard shall provide the minimum requirements for testing of integrated fire-protection and life-safety systems.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 70E-201x, Standard for Electrical Safety in the Workplace (revision of ANSI/NFPA 70E-2014)

This article contains only those definitions essential to the proper application of this standard. It is not intended to include commonly defined general terms or commonly defined technical terms from related codes and standards. In general, only those terms that are used in two or more articles are defined in Article 100. Other definitions are included in the article in which they are used but may be referenced in Article 100. The definitions in this article shall apply wherever the terms are used throughout this standard.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 101-201x, Life Safety Code (revision of ANSI/NFPA 101-2012)

The Life Safety Code is the most widely used source for strategies to protect people based on building construction, protection, and occupancy features that minimize the effects of fire and related hazards. Unique in the field, it is the only document that covers life safety in both new and existing structures.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 790-201x, Standard for Competency of Third-Party Field Evaluation Bodies (revision of ANSI/NFPA 790-2013)

The provisions of this standard shall address requirements for the qualification and competency of a body performing field evaluations on electrical products and assemblies with electrical components. These requirements are based on ISO/IEC Guide 65 and ISO/IEC 17020 with adaptation for the unique characteristics of field evaluations. A field evaluation body (FEB) meeting the requirements of this standard shall be considered competent to perform field evaluations. These requirements shall apply to both the initial and continued competency of FEBs.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/NFPA 791-201x, Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation (revision of ANSI/NFPA 791-2013)

This document covers recommended procedures for evaluating unlabeled electrical equipment in conjunction with the applicable nationally recognized standard(s) 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/NFPA 5000-201x, Building Construction and Safety Code (revision of ANSI/NFPA 5000-2012)

The Code does not address features that solely affect economic loss to private property. The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life and property.

Contact: Dawn Michele Bellis, dbellis@nfpa.org

BSR/PLATO FL 1-201x, Flashlight Basic Performance Standard (revision of ANSI/PLATO FL 1-2016)

The ANSI/PLATO FL1 standard covers basic performance requirements for hand-held, portable flashlights, spot-lights, and headlamps that provide directional lighting. It includes relevant definitions, test methods, and marking requirements in order to establish minimum performance for these consumer devices.

Contact: David Delaquila, daviddelaquila@gmail.com

BSR/UL 889-201x, Standard for Safety for Residential Home Design and Construction Process Utilizing Digital Technology (new standard)

This would be a process standard that details the approach towards designing and constructing a residential home by leveraging digital technology such as 3D modeling, cloud-based supply chain, labor, and project management. The document will act as a standard of care for builders and provide an established set of criteria to educate a home buyer on what to expect as a result of the home building process. The outcome of using such a standard will result in a measurable level of quality.

Contact: Griff Edwards, griff.edwards@ul.com

INCITS/ISO/IEC 14882:2017 [201x], Programming languages - C++ (identical national adoption of ISO/IEC 14882:2017 and revision of INCITS/ISO/IEC 14882:2014 [2016])

Specifies requirements for implementations of the C++ programming language. The first such requirement is that they implement the language, so this document also defines C++. Other requirements and relaxations of the first requirement appear at various places within this document. C++ is a generalpurpose programming language based on the C programming language as described in ISO/IEC 9899:2011, Programming languages - C (referred to as the C standard). In addition to the facilities provided by C, C++ provides additional data types, classes, templates, exceptions, namespaces, operator overloading, function name overloading, references, free store management operators, and additional library facilities.

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/ASHRAE 188f-2018, Legionellosis: Risk Management for Building Water Systems (addenda to ANSI/ASHRAE Standard 188 -2015): 25 January 2018

ANSI/ASHRAE Standard 134-2005 (R2014), Graphic Symbols for Heating, Ventilation, Air-Conditioning and Refrigerating Systems (withdrawal of ANSI/ASHRAE Standard 134-2005 (R2014)): 1 February 2018

ANSI/ASHRAE/IES 202b-2018, Commissioning Process for Buildings and Systems (addenda to ANSI/ASHRAE/IES Standard 202-2013): 1 February 2018

ANSI/ASHRAE/IES 90.1a-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1g-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1h-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1l-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1n-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1p-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASHRAE/IES 90.1r-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 25 January 2018

ANSI/ASTM E2659-2018, Practice for Certificate Programs (revision of ANSI/ASTM E2659-2017): 23 January 2018

ANSI/ASTM E329-2018, Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection (revision of ANSI/ASTM E329-2014): 23 January 2018

ANSI/AWS B2.1-1-027-2018, Standard Welding Procedure Specification (SWPS) for Self-Shielded Flux Cored Arc Welding of Carbon Steel (M-1 or P-1, Groups 1 and 2) 1/8 through 1/2 inch Thick, E71T-11, As-Welded Condition, Primarily Plate and Structural Applications (revision of ANSI/AWS B2.1-1-027-2011): 16 February 2018

ANSI/AWS D16.1M/D16.1-2018, Specification for Robotic Arc Welding Safety (revision of ANSI/AWS D16.1M/D16.1-2004 (R2016)): 16 February 2018

ANSI/NETA ETT-2018, NETA Standard for Certification of Electrical Testing Technicians (revision of ANSI/NETA ETT-2015): 9 February 2018

ANSI/UL 1740-2018, Standard for Safety for Robots and Robotic Equipment (revision of ANSI/UL 1740-2007): 26 January 2018

ANSI/UL 1740-2018a, Standard for Safety for Robots and Robotic Equipment (revision of ANSI/UL 1740-2007): 26 January 2018

Draft IEC & ISO Standards and Technical Reports

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

ISO/DIS 20140-3, Automation systems and integration - Evaluating energy efficiency and other factors of manufacturing systems that influence the environment - Part 3: Environmental performance evaluation data aggregation process, 2 March 2018, \$46.00

CIS/F/733/FDIS, CISPR 15 ED9: Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment, 30 March 2018

110/954/CD, IEC 61747-40-1 ED2: Liquid crystal display devices - Part 40-1: Mechanical testing of display cover glass for mobile devices - Guidelines, 6 April 2018

110/955/CD, IEC TS 62977-3-1 ED1: Electronic displays - Part 3-1: Evaluation of optical performances - Colour difference based viewing direction dependence, 6 April 2018

JTC1-SC41/28/NP, PNW JTC1-SC41-28: Information technology - Internet of Things - Methodology for trustworthiness of IoT system/service, 13 April 2018

ISO/DIS 3691-4, Industrial trucks - Safety requirements and verification - Part 4: Driverless industrial trucks and their systems, 29 April 2018, \$119.00

ISO/DIS 6947, Welding and allied processes - Welding positions, 29 April 2018, \$77.00

ISO/DIS 7870-7, Control charts - Part 7: Multivariate control charts, 29 April 2018, \$93.00

ISO/DIS 22510, Open data communication in building automation, controls and building management - Home and building electronic systems - KNXnet/IP communication, 29 April 2018, \$215.00

ISO/DIS 10303-235, Industrial automation systems and integration - Product data representation and exchange - Part 235: Application protocol: Engineering properties for product design and verification, 3 May 2018, \$301.00

JTC1-SC25/2/CDV, ISO/IEC 15067-3-3 ED1: Information technology -- Home Electronic System (HES) application model -- Part 3-3: Model of distributed energy management agent (EMA) for demand response energy management, 4 May 2018

85/629/CDV, IEC 61557-1 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 1: General requirements, 4 May 2018

85/630/CDV, IEC 61557-2 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 2: Insulation resistance, 4 May 2018

85/631/CDV, IEC 61557-3 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 3: Loop impedance, 4 May 2018

85/632/CDV, IEC 61557-4 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 4: Resistance of earth connection and equipotential bonding, 4 May 2018

85/633/CDV, IEC 61557-5 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 5: Resistance to earth, 4 May 2018

85/634/CDV, IEC 61557-6 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 6: Effectiveness of residual current devices (RCD) in TT, TN and IT systems, 4 May 2018

85/635/CDV, IEC 61557-7 ED3: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 7: Phase sequence, 4 May 2018

110/940/CDV, IEC 62906-5-1 ED1: Laser display devices - Part 5-1: Measurement of optical performance for laser front projection, 4 May 2018

65C/916/CD, IEC 62657-4 ED1: Industrial communication networks - Wireless communication networks - Part 4: Coexistence management with central coordination of wireless applications, 11 May 2018

Recently Published IEC & ISO Documents

Listed here are documents recently approved by the IEC and ISO. A list of resellers is available at <http://webstore.ansi.org/faq.aspx#resellers>.

IEC 61747-40-6 Ed. 1.0 en:2018, Liquid crystal display devices - Part 40-6: Mechanical testing of display cover glass for mobile devices - Retained biaxial flexural strength (abraded ring-on-ring), \$82.00

IEC 62087-1 Ed. 1.0 b:2015, Audio, video, and related equipment - Determination of power consumption - Part 1: General, \$82.00

IEC 62471-5 Ed. 1.0 b:2015, Photobiological safety of lamps and lamp systems - Part 5: Image projectors, \$317.00

IEC 62595-2-2 Ed. 1.0 en:2018, Display lighting unit - Part 2-2: Measuring methods of LED light bars used in LCD BLUs, \$82.00

IEC 62595-2-3 Ed. 1.0 en:2018, Display lighting unit - Part 2-3: Electro-optical measuring methods for LED front-light unit, \$199.00

ISO 17266:2018, Cinematography - Multichannel analogue and digital photographic sound and control records on 35 mm motion-picture prints and negatives, and digital sound-control records on 70 mm motion-picture prints and negatives - Position and width dimensions, \$68.00

ISO 2910:2018, Cinematography - Screen luminance and chrominance for the projection of film motion pictures, \$45.00

ISO/IEC TR 20547-5:2018, Information technology - Big data reference architecture - Part 5: Standards roadmap, \$103.00

ISO/IEC TR 21565:2018, Information technology - Office equipment - Viewing environment guideline for office equipment, \$103.00

ISO/IEC TR 11801-9905:2018, Information technology - Generic cabling systems for customer premises - Part 9905: Guidelines for the use of installed cabling to support 25GBASE-T application, \$162.00

IEC 62087-4 Ed. 1.0 b:2015, Audio, video, and related equipment Determination of power consumption - Part 4: Video recording equipment, \$82.00

IEC 60204-SER Ed. 1.0 b:2018, Safety of machinery - Electrical equipment of machines - ALL PARTS, \$1693.00

TSP Meeting Schedule

The following meetings are scheduled be at the Hilton Ft. Lauderdale Marina, except for the Floors Working Group, which will meet at the ESTA booth on the floor of the USITT Stage Expo at the Broward County Convention Center.

Technical Standards Council	13:00 – 17:00	Wednesday 14 March 2018
Control Protocols Working Group	09:00 – 13:00	Thursday 15 March 2018
Control Protocols E.1.59 Task Group	10:00 – noon	Saturday 17 March 2018
Rigging Working Group	19:00 – 23:00	Thursday 15 March 2018
Rigging E.1.6-1 Power Hoists	16:00 – 17:30	Thursday 15 March 2018
Rigging E.1.47 Task Group	08:30 – 10:30	Friday 16 March 2018
Stage Lifts Working Group	14:00 – 16:00	Thursday 15 March 2018
Electrical Power Working Group	14:00 – 18:00	Friday 16 March 2018
Event Safety Fire Safety Task Group	14:00 – 18:00	Friday 16 March 2018
Floors Working Group	09:00 – 13:00	Friday 16 March 2018
Followspot Position Working Group	09:00 – 09:30 ESTA Booth 2601	Saturday 17 March 2018
Event Safety Working Group	11:00 – 15:00	Saturday 17 March 2018

The most up-to-date schedule always can be found at <http://tsp.est.org/tsp/meetings/index.php>. The next set of meetings, those scheduled for the DFW Marriott Solana, July 19 through 24, are posted there. The Texas meeting schedule includes 59 hours of Plugfest.

ESTA Standards Watch

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