ANSI STANDARDS ACTION

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VOL. 50, #10 *March 8, 2019*

Contents

American National Standards

Call for comment on proposals listed

This section solicits public comments on proposed draft new American National Standards, including the national adoption of ISO and IEC standards as American National Standards, and on proposals to revise, reaffirm or withdraw approval of existing American National Standards. A draft standard is listed in this section under the ANSI-accredited standards developer (ASD) that sponsors it and from whom a copy may be obtained. Comments in connection with a draft American National Standard must be submitted in writing to the ASD no later than the last day of the comment period specified herein. Such comments shall be specific to the section(s) of the standard under review and include sufficient detail so as to enable the reader to understand the commenter's position, concerns and suggested alternative language, if appropriate. Please note that the ANSI Executive Standards Council (ExSC) has determined that an ASD has the right to require that interested parties submit public review comments electronically, in accordance with the developer's procedures.

Ordering Instructions for "Call-for-Comment" Listings

1. **Order from the organization indicated for the specific proposal.**
2. **Use the full identification in your order, including the BSR prefix; for example, Electric Fuses BSR/SAE J554.**
3. **Include remittance with all orders.**
4. **BSR proposals will not be available after the deadline of call for comment.**

Comments should be addressed to the organization indicated, with a copy to the Board of Standards Review, American National Standards Institute, 25 West 43rd Street, New York, NY 10036. Fax: 212-840-2298; e-mail: psa@ansi.org

* Standard for consumer products

ISSN 0038-9633

Comment Deadline: April 7, 2019

AAMI (Association for the Advancement of Medical Instrumentation)

New National Adoption

BSR/AAMI/ISO 14971-201x, Medical devices - Application of risk management to medical devices (identical national adoption of ISO 14971 and revision of ANSI/AAMI/ISO 14971-2007 (R2016))

This International Standard specifies a process for a manufacturer to identify the hazards associated with medical devices, including in vitro diagnostic (IVD) medical devices, to estimate and evaluate the associated risks, to control these risks, and to monitor the effectiveness of the controls. The requirements of this International Standard are applicable to all stages of the life-cycle of a medical device. This International Standard does not apply to clinical decision making. This International Standard does not specify acceptable risk levels. This International Standard does not require that the manufacturer have a quality management system in place.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: wvargas@aami.org

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/Addendum f to BSR/ASHRAE Standard 90.4-201x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

This addendum to the standard is being proposed to better align with current vintages of UPS technology in terms of performance and industry evolution over the period since the original publication of 90.4-2016.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASHRAE/Addendum g to BSR/ASHRAE Standard 90.4-201x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

This addendum revises MLC values to make them more in line with the intent of the standard.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASHRAE/Addendum h to BSR/ASHRAE Standard 90.4-201x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

This new compliance approach simplifies compliance for data centers and computer rooms such as small IDF closets in an office building that are served by a VAV box off of the house air handling system by providing an alternate compliance path.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum q to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum identifies a number of requirements from Section 8 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum r to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum identifies a number of requirements from Section 8 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum s to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum modifies Section 6 of Standard 189.1 to identify requirements that are non-core. These requirements are listed in a new Table 4.2 to provide flexibility for local jurisdictions to adopt the code in a manner that is best suited to meet their unique environmental and regional goals and needs.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum t to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum identifies a requirement from Section 9 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum u to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum proposes to delete 8.3.6.3 in its entirety because flashing and sealants are addressed by the IBC and other model building codes.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum v to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum proposes to add the word “new” to clarify that Sections 8.4.2.5 and 8.5.2 apply to new office furniture products.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum w to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This revision adds a requirement that buildings under 50,000 sf of conditioned floor area verify air tightness through leakage testing. The referenced Standard 90.1 has multiple options for verifying air tightness. This requirement directs new buildings under 50,000 sf of conditioned floor area and under 75 feet in height to comply with the testing option, and allows all other buildings to comply using any verification option.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum x to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This new section adds requirements for traction elevators. It is limited to elevators with a rise over 75 ft, so that it does not include shorter elevators where energy savings may not be substantial enough to justify the requirements. The requirements are also based on elevator rise height rather than building height so that they do not apply to shorter elevators that may be present in taller buildings. The proposal increases efficiency by requiring more efficient drive motors and regenerative braking.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum y to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This proposal creates a new section that requires the U-factor of mechanical equipment to be incorporated into the total U-factor of the wall when that equipment comprises over 1% of the wall area. This ensures that the thermal impact of significant mechanical penetrations is not ignored.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

ASME (American Society of Mechanical Engineers)

Revision

BSR/ASME B30.10-201x, Hooks (revision of ANSI/ASME B30.10-2014)

Volume B30.10 includes provisions that apply to the fabrication, attachment, use, inspection, and maintenance of hooks used for load handling purposes, in conjunction with equipment described in other volumes of the B30 Standard.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Kathleen Peterson, (800) 843-2763, petersonk@asme.org

NEBB (National Environmental Balancing Bureau)

Revision

BSR/NEBB Standard S110-201x, Rev. 2-201x, Whole Building Technical Commissioning of New Construction (revision and redesignation of ANSI/NEBB S110-2018)

A modification was made by the NEBB Building Systems Commissioning Standard Committee to remove the NEBB approved instrument list from Normative Appendix A of ANSI/NEBB Standard S110-2018 and correct the spelling of Ronald Vallort's name under special contributors.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: CHRISTY@NEBB.ORG

BSR/NEBB Standard S120-201x, Rev. 2-201x, Technical Retro-Commissioning of Existing Buildings (revision and redesignation of ANSI/NEBB S120-2016, Rev. 2-201x)

A modification was made by the NEBB Retro-Commissioning Standard Committee to remove the NEBB approved instrument list from Normative Appendex A of the ANSI/NEBB Standard S120-2016, Rev. 1-2017 and add a reference to NEBB.org.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: CHRISTY@NEBB.ORG

NSF (NSF International)

Revision

BSR/NSF 50-201x (i150r1), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2018)

This Standard covers materials, components, products, equipment and systems, related to public and residential recreational water facility operation.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: jsnider@nsf.org

BSR/NSF 61-201x (i148r1), Drinking Water System Components - Health Effects (revision of ANSI/NSF 61-2018)

This Standard establishes minimum health effects requirements for the chemical contaminants and impurities that are indirectly imparted to drinking water from products, components, and materials used in drinking water systems. This Standard does not establish performance, taste and odor, or microbial growth support requirements for drinking water system products, components, or materials.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: mleslie@nsf.org

BSR/NSF 360-201x (i4r1), Wastewater Treatment Systems - Field Performance Verification (revision of ANSI/NSF 360-2014)

This wastewater standard provides site selection, field sampling, analytical, and statistical methods for evaluating the field performance of residential wastewater treatment systems capable of providing at least secondary treatment.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: jsnider@nsf.org

TIA (Telecommunications Industry Association)

Revision

BSR/TIA 569-E-201x, Telecommunications Pathways and Spaces (revision and redesignation of ANSI/TIA 569-D-2015)

This standard specifies requirements for telecommunications pathways and spaces. New revisions are needed to:

- Incorporate content of addendum ANSI/TIA 569-D-1;
- Incorporate content of addendum ANSI/TIA 569-D-2; and
- Update references.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: standards@tiaonline.org

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 2044-201x, Standard for Safety for Commercial Closed-Circuit Television Equipment (revision of ANSI/UL 2044-2004 (R2016))

This proposal for UL 2044 covers the addition of a reference to UL 62368-1 as an alternative to UL 60950-1.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Jennifer Fields, (919) 549-1007, jennifer.fields@ul.com

BSR/UL 2442-201x, Standard for Safety for Wall- and Ceiling-Mounts and Accessories (revision of ANSI/UL 2442-2018)

This proposal for UL 2442 covers an addition of a reference to UL 62368 as an alternative to UL 60950-1.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Jennifer Fields, (919) 549-1007, jennifer.fields@ul.com

Comment Deadline: April 22, 2019

AAMI (Association for the Advancement of Medical Instrumentation)

New Standard

BSR/AAMI 2700-1-201x, Medical devices and medical systems - Essential safety requirements for equipment comprising the patient-centric integrated clinical environment (ICE) - Part 1: General requirements and conceptual model (new standard)

This standard specifies general requirements, a model and framework for integrating equipment to create a Integrated Clinical Environment (ICE), as defined in 3.6. This standard specifies the characteristics necessary for the safe integration of medical devices and other equipment, via an electronic interface, from different manufacturers into a single medical system for the care of a single high-acuity patient. This standard establishes requirements for a medical system that is intended to have greater error resistance and improved patient safety, treatment efficacy, and workflow efficiency than can be achieved with independently used medical devices. This series of standards establishes requirements for design, verification, and validation processes of a model-based integration system for an Integrated Clinical Environment. This series of standards is intended to define the requirements essential for safety and thereby facilitate regulatory acceptance.

Single copy price: Free

Obtain an electronic copy from: wvargas@aami.org

Order from: wvargas@aami.org

Send comments (with copy to psa@ansi.org) to: wvargas@aami.org

AAMI (Association for the Advancement of Medical Instrumentation)

Revision

BSR/AAMI PB70-201x, Liquid barrier performance and classification of protective apparel and drapes intended for use in health care facilities (revision of ANSI/AAMI PB70-2012)

This standard establishes minimum barrier performance requirements, a classification system, and associated labeling requirements for protective apparel, surgical drapes, and drape accessories intended for use in health care facilities.

Single copy price: Free

Obtain an electronic copy from: https://standards.aami.org/higherlogic/ws/public/documents?view=

Send comments (with copy to psa@ansi.org) to: celliott@aami.org

BSR/AAMI ST8-201X, Hospital steam sterilizers (revision of ANSI/AAMI ST8-2013 (R2018))

Applies to steam sterilizers that are intended for use in hospitals and other health care facilities. Covers minimum labeling, safety, performance, and testing requirements for steam sterilizers that have a volume greater than 56.63 L (2 ft^3), have automatic controls, generally use an external steam source (but might also have an integral electric boiler), and provide a means for automatically recording time and temperature.

Single copy price: Free

Obtain an electronic copy from: abenedict@aami.org

Send comments (with copy to psa@ansi.org) to: abenedict@aami.org

ASA (ASC S3) (Acoustical Society of America)

New Standard

BSR/ASA S3.71-201x, Methods for Measuring the Effect of Head-Worn Devices on Directional Sound Localization in the Horizontal Plane (new standard)

The methods described in this standard provide data which may be used for assessment of sound localization performance open ear and with head-worn devices using human subjects. The standard describes three measurement methods: (1) a low-complexity method using 8 loudspeakers to measure location discrimination performance; (2) a more complex, more robust method to measure localization error using 36 loudspeakers; and (3) a method to measure the functional impact of degraded localization cues on visual search time with 36 loudspeakers. The standard specifies subject qualification criteria, test space acoustic requirements, details of the three methods, and reporting requirements. The standard does not provide guidance for measuring localization performance for elevation or for clinical spatial audiometry.

Single copy price: $150.00

Obtain an electronic copy from: asastds@acousticalsociety.org

Order from: Caryn Mennigke, (631) 390-0215, asastds@acousticalsociety.org

Send comments (with copy to psa@ansi.org) to: asastds@acousticalsociety.org

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASRHAE/ICC/USGBC/IES Addendum aa to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/USGBC/IES Standard 189.1 -2017)

This addendum updates the CO2e emission factors in Table 7.5.2, expanding the list to add values for eGRID subregions. The table is also moved to Section 7.5.3 in expectation of being combined with source energy factor updates being added separately by Addendum z.

Single copy price: $35.00

Obtain an electronic copy from: standards.section@ashrae.org

Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum o to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum identifies a number of requirements from Section 5 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction.

Single copy price: $35.00

Obtain an electronic copy from: standards.section@ashrae.org

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Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum p to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASRHAE/ICC/USGBC/IES Standard 189.1-2017)

This addendum identifies a number of requirements from Section 7 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction.

Single copy price: $35.00

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Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

BSR/ASRHAE/ICC/USGBC/IES Addendum z to BSR/ASRHAE/ICC/USGBC/IES Standard 189.1-201x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/USGBC/IES Standard 189.1 -2017)

This addendum updates the source energy conversion factors in Table 7.5.3 and expands the list for eGRID subregions. These factors represent the energy required to extract, process, and deliver the fuel to the building per unit of energy in the fuel.

Single copy price: $35.00

Obtain an electronic copy from: standards.section@ashrae.org

Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at http://www.ashrae.org/standards-research--technology/public-review-drafts

ASPE (American Society of Plumbing Engineers)

Revision

BSR/ARCSA/ASPE 63-201x, Rainwater Catchment Systems (revision of ANSI/ARCSA/ASPE 63-2013)

The scope of this standard covers requirements for the design and installation of rainwater catchment systems that utilize the principle of collecting and using precipitation from a rooftop and other hard, impervious building surfaces. This standard does not apply to the collection of rainwater from vehicular parking or other similar surfaces.

Single copy price: Free

Obtain an electronic copy from: gpienta@aspe.org

Send comments (with copy to psa@ansi.org) to: gpienta@aspe.org

ASQ (American Society for Quality)

Reaffirmation

BSR/ASQ E4-2014 (R201x), Quality management systems for environmental information and technology programs - Requirements with guidance for use (reaffirmation of ANSI/ASQ E4:2014)

Specifies requirements for a Quality Management System (QMS) to enable an organization to formulate policies and procedures to plan and implement sufficient and adequate quality management practices for environmental programs.

Single copy price: $99.00

Obtain an electronic copy from: https://asq.org/quality-press/display-item?item=T977E

Order from: https://asq.org/quality-press/display-item?item=T977

Send comments (with copy to psa@ansi.org) to: standards@asq.org

ASSP (ASC A10) (American Society of Safety Professionals)

Revision

BSR/ASSP A10.31-201X, Safety Requirements, Definitions and Specifications for Digger Derricks (revision and redesignation of ANSI/ASSE A10.31-2013)

This standard applies to special multipurpose vehicle-mounted machines, commonly known as digger derricks. These machines are primarily designed to accommodate components that dig holes, set poles, and position materials and apparatus

Single copy price: $125.00

Obtain an electronic copy from: Tim Fisher

Order from: Tim Fisher, (847) 768-3411, tfisher@assp.org

Send comments (with copy to psa@ansi.org) to: Same

ASSP (Safety) (American Society of Safety Professionals)

Revision

BSR/ASSP Z10.1-201X, Occupational Health and Safety Management Systems (revision and redesignation of ANSI/ASSE Z10-2012 (R2017))

This standard defines minimum requirements for an occupational health and safety management system (OHSMS).

Single copy price: $100.00

Obtain an electronic copy from: Tim Fisher

Order from: Tim Fisher, (847) 768-3411, TFisher@ASSP.org

Send comments (with copy to psa@ansi.org) to: Same

AWS (American Welding Society)

New Standard

BSR/AWS B2.1-1-018-201x, Standard Welding Procedure Specification (SWPS) for Self-Shielded Flux Cored Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2) 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, E71T-8, in the As-Welded Condition, Primarily Plate and Structural Applications (new standard)

This standard contains the essential welding variables for carbon steel in the thickness range of 1/8 inch (3 mm) through 1-1/2 inch (38 mm), using semiautomatic self-shielded flux-cored arc welding. It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications, and the allowable joint designs for fillet and groove welds. This SWPS was developed primarily for plate and structural applications.

Single copy price: $136.00

Obtain an electronic copy from: jrosario@aws.org

Order from: Jennifer Rosario, (800) 443-9353, jrosario@aws.org

Send comments (with copy to psa@ansi.org) to: adavis@aws.org

AWS (American Welding Society)

Revision

BSR/AWS A5.8M/A5.8-201x, Specification for Filler Metals for Brazing and Braze Welding (revision of ANSI/AWS A5.8M/A5.8-2011)

This specification prescribes the requirements for the classification of brazing filler metals for brazing and braze welding. The chemical composition, physical form, and packaging of more than 120 brazing filler metals are specified. The brazing filler metal groups described include aluminum, cobalt, copper, gold, magnesium, nickel, palladium, silver, titanium, and brazing filler metals for vacuum service. Information is provided concerning the liquidus, the solidus, the brazing temperature range, and general areas of application recommended for each brazing filler metal. Additional requirements are included for manufacture, sizes, lengths, and packaging. A guide is appended to the specification as a source of information concerning the classification system employed and the intended use of the brazing filler metals for brazing and braze welding. This specification makes use of both the International System of Units (SI) and U.S. Customary Units. Since these are not equivalent, each must be used independently of the other.

Single copy price: $38.00 (Nonmembers)/$29.00 (AWS Members)

Obtain an electronic copy from: kbulger@aws.org

Send comments (with copy to psa@ansi.org) to: Kevin Bulger; kbulger@aws.org

BSR/AWS D1.1/D1.1M-201x, Structural Welding Code - Steel (revision of ANSI/AWS D1.1/D1.1M-2015)

This code covers the welding requirements for any type of welded structure made from the commonly used carbon and low-alloy constructional steels. Clauses 1 through 10 constitute a body of rules for the regulation of welding in steel construction. There are normative and informative annexes in this code. A commentary of the code is included with the document.

Single copy price: $288.00

Obtain an electronic copy from: jmolin@aws.org

Order from: Jennifer Molin, (305) 443-9353, jmolin@aws.org

Send comments (with copy to psa@ansi.org) to: jmolin@aws.org

BSR/AWS D3.9/D3.9M-201x, Specification for Classification of Weld-Through Paint Primers (revision and redesignation of ANSI/AWS D3.9-2010)

This specification prescribes the requirements for the classification of weld-through paint primers. The classification is based on paint film thickness and welding procedure. Manufacturers may classify their products to different film thicknesses or welding procedures if they provide the details of their tests.

Single copy price: $34.00 (Nonmembers)/$26.00 (AWS Members)

Obtain an electronic copy from: kbulger@aws.org

Send comments (with copy to psa@ansi.org) to: Kevin Bulger; kbulger@aws.org

ECIA (Electronic Components Industry Association)

New Standard

BSR/EIA 198-3-9-F-201x, High Voltage Ceramic Capacitors, Conformally Coated and Multilayer Surface Mount (new standard)

This standard describes fixed multiplayer ceramic capacitors with voltage ratings 500V DC and above. Only Class 1 and Class 2 dielectrics are considered appropriate for use at these voltages. The types described are conformally coated radial and multilayer surface mount capacitors.

Single copy price: $75.00

Order from: Global Engineering Documents, (800) 854-7179, www.global.ihs.com

Send comments (with copy to psa@ansi.org) to: Edward Mikoski; emikoski@eciaonline.org

ESTA (Entertainment Services and Technology Association)

Reaffirmation

BSR E1.44-2014 (R201x), Common Show File Exchange Format for Entertainment Industry Automation Control Systems - Stage Machinery (reaffirmation of ANSI E1.44-2014)

This standard is a reaffirmation of ANSI E1.44-2014, which addresses common show-file requirements for automated stage machinery control systems used in entertainment venues. It establishes a minimum level of design and performance guidelines for the integrated software design of processor-based machinery control equipment. The purpose of this guidance is to ensure that users will be able to transfer, modify, and customize a 'least common denominator' show file for the data required to tour entertainment productions from one facility to another, even when the facilities' physical conditions, hoist inventories, machinery placements, and the machinery control consoles and data topology differ.

Single copy price: Free

Obtain an electronic copy from: https://tsp.esta.org/tsp/documents/public_review_docs.php

Order from: ESTA; https://tsp.esta.org/tsp/documents/public_review_docs.php

Send comments (with copy to psa@ansi.org) to: Richard Nix, (212) 244-1505, standards@esta.org

IAPMO (ASSE Chapter) (ASSE International Chapter of IAPMO)

New Standard

BSR/ASSE 1008-201x, Performance Requirements for Plumbing Aspects of Residential Food Waste Disposer Units (new standard)

This standard applies to the plumbing aspects of residential food waste disposers intended primarily for installation in the residential kitchen sink outlet. When supplied with water from the sink supply faucet, these devices discharge into the sanitary drainage system. These devices shall be designed to reduce food-waste particle sizes for discharging into the sanitary drainage system. Devices shall include a means of self-cleaning and means to protect against mechanical shock. When a dishwasher discharge connection(s) is incorporated in the device, the device shall be designed so that if the discharge connection becomes blocked, backflow into the dishwasher shall not occur.

Single copy price: Free

Obtain an electronic copy from: http://www.iapmo.org/media/19794/asse-1008-201x-draft-c1-22feb19.pdf

Send comments (with copy to psa@ansi.org) to: Conrad Jahrling, staffengineer@asse-plumbing.org

Order from: Same

BSR/ASSE 1053-201x, Performance Requirements for Dual Check Backflow Preventer Wall Hydrants - Freeze Resistant Types (new standard)

The purpose of these devices is to provide protection of the potable water supply from contamination due to back siphonage or back pressure without damage to the device due to freezing, and is field testable to verify protection under the high hazard conditions present at a hose-threaded outlet. This device shall only be used on systems where there is low□head back pressure that does not exceed that generated by an elevated hose equal to or less than 10.0 ft (3.0 m) in height. This device shall not be subjected to more than 12 hours of continuous water pressure. These devices shall consist of two (2) independent checks, force loaded or biased to a closed position, with an atmospheric vent located between the two (2) check valves, which is force loaded or biased to an open position, and a means for attaching a hose.

Single copy price: Free

Obtain an electronic copy from: http://www.iapmo.org/media/19844/asse-1053-201x-draft-c1-28jan19-public-comment.pdf

Send comments (with copy to psa@ansi.org) to: staffengineer@asse-plumbing.org and include "PR1053" in the subject line.

IAPMO (Z) (International Association of Plumbing & Mechanical Officials)

New Standard

BSR/IAPMO Z1349-201x, Electronic Plumbing Supply System Integrity Protection Devices (new standard)

This standard covers electronic plumbing supply system integrity detection devices for commercial and residential applications and specifies requirements for materials, physical characteristics, performance testing, and markings. Electronic plumbing supply system integrity detection devices covered by this standard can include the following features: (a) Monitoring of the hydraulic conditions (pressure, temperature, flow) within the main or branch circuit; (b) Automatic shut□off or electronic alarm notification and/or isolation of the supply piping when conditions are detected that indicate a leak or equipment malfunction; (c) Iterative analysis of high□ resolution readings of system conditions to ensure contiguous integrity; and (d) Micro leak testing (drip detection).

Single copy price: $10.00

Obtain an electronic copy from: standards@iapmostandards.org

Order from: Kyle Thompson, (909) 230-5534, standards@iapmostandards.org

Send comments (with copy to psa@ansi.org) to: Same

NEMA (ASC C136) (National Electrical Manufacturers Association)

Reaffirmation

BSR C136.46-2013 (R201x), Standard for Roadway and Area Lighting Equipment - Concrete Lighting Poles (reaffirmation of ANSI C136.46-2013)

This standard applies to concrete lighting poles used in roadway and area lighting equipment and includes nomenclature, performance criteria, marking, and record keeping requirements, and certain minimal material needs. It does not cover concrete poles manufactured with any modified concrete mix incorporating the use of polymers or other modifiers.

Single copy price: $66.00

Order from: David Richmond, (703) 841-3234, David.Richmond@nema.org

Send comments (with copy to psa@ansi.org) to: Same

NEMA (ASC C136) (National Electrical Manufacturers Association)

Revision

BSR C136.16-201X, Post Top-Mounted Luminaires (revision of ANSI C136.16-2014)

Add a control-ready option using a remote antenna for post top luminaires with a control receptacle located in a metal housing while reviewing the entire document for revision.

Single copy price: $46.00

Order from: David Richmond, (703) 841-3234, David.Richmond@nema.org

Send comments (with copy to psa@ansi.org) to: Same

BSR C136.25-201x, Ingress Protection (Resistance to Dust, Solid Objects, and Moisture) for Luminaire Enclosures (revision of ANSI C136.25-2013)

This standard details the requirements for ingress protection of luminaires in roadway and area lighting equipment, installed for their intended use and specified by end user. While these requirements are suitable for most types of lighting equipment, it should not be assumed that all the listed degrees of protection are applicable to a particular type of equipment. The manufacturer of the equipment should be consulted to determine the degrees of protection available.

Single copy price: $72.00

Obtain an electronic copy from: David.Richmond@nema.org

Order from: David Richmond, (703) 841-3234, David.Richmond@nema.org

Send comments (with copy to psa@ansi.org) to: Same

NFPA (National Fire Protection Association)

The National Fire Protection Association announces the availability of NFPA First Draft Reports for concurrent review and comment by NFPA and ANSI in the next issue of Standards Action. The First Draft Report for documents in the 2020 Annual Revision Cycle have been posted on the document's specific URL site. The First Draft Reports contain the disposition of public input received for those proposed documents. Anyone wishing to review the First Draft Report for documents in the 2020 Annual Revision Cycle may do so on each document's information page under the next edition tab. The document's specific URL, for example www.nfpa.org/doc#next (www.nfpa.org/101next), can easily access the document's information page.
All comments on the 2020 Annual Revision Cycle First Draft Report must be received by May 8, 2019.
The disposition of all comments received on the First Draft Reports will be published in the Second Draft Report, which will also be located on the document's information page under the next edition tab. For more information on the rules and for up-to-date information on schedules and deadlines for processing NFPA Documents, check the NFPA website (http://www.nfpa.org) or contact NFPA's Codes and Standards Administration. Those who sent comments to NFPA (Contact Codes and Standards Administration, NFPA, One Batterymarch Park, Quincy, MA 02269-7471) on the related standards are invited to copy ANSI's Board of Standards Review.

Revision

BSR/NFPA 17-201x, Standard for Dry Chemical Extinguishing Systems (revision of ANSI/NFPA 17-2017)

This standard includes minimum requirements for dry-chemical fire-extinguishing systems that discharge dry-chemical from fixed nozzles or hand hose lines by means of expellant gas.

Obtain an electronic copy from: www.nfpa.org/17next

Send comments (with copy to psa@ansi.org) to: Same

NFPA (National Fire Protection Association)

Revision

BSR/NFPA 17A-201x, Standard for Wet Chemical Extinguishing Systems (revision of ANSI/NFPA 17A-2017)

The provisions of this standard apply to the design, installation, operation, testing, and maintenance of pre-engineered wet chemical fire-extinguishing systems that discharge wet chemical from fixed nozzles and piping by means of expellant gas. It contains only the essential requirements and recommendations needed to make the standard workable in the hands of those skilled in this field.

Obtain an electronic copy from: www.nfpa.org/17Anext

Send comments (with copy to psa@ansi.org) to: Same

BSR/NFPA 101-201x, Life Safety Code® (revision of ANSI/NFPA 101-2018)

The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life from the effects of fire, including smoke, heat, and toxic gases created during a fire. It establishes minimum criteria for the design of egress facilities so as to allow prompt escape of occupants from buildings or, where desirable, into safe areas within buildings. It addresses other considerations that are essential to life safety in recognition of the fact that life safety is more than a matter of egress. It also addresses protective features and systems, building services, operating features, maintenance activities, and other provisions in recognition of the fact that achieving an acceptable degree of life safety depends on additional safeguards to provide adequate egress time or protection for people exposed to fire. It also addresses other considerations that provide for occupant protection during emergency events involving hazardous materials. Incidents involving hazardous materials are capable of posing significant life safety challenges in buildings. It recognizes this potential and includes technical requirements to address concerns related to hazardous material inventories and associated emergencies. It also addresses reducing injury to occupants from falls. It also addresses other considerations that provide for communications to occupants under emergency conditions and to others. It also addresses other considerations that, while important in fire conditions, provide an ongoing benefit in other conditions of use, including non-fire emergencies.

Obtain an electronic copy from: www.nfpa.or/101next

Send comments (with copy to psa@ansi.org) to: Same

BSR/NFPA 160-201x, Standard for the Use of Flame Effects Before an Audience (revision of ANSI/NFPA 160-2016)

This standard shall provide requirements for the protection of the audience, support personnel, performers, operator, assistants, and property where flame effects are used.

Obtain an electronic copy from: www.nfpa.org/160next

Send comments (with copy to psa@ansi.org) to: Same

BSR/NFPA 303-201x, Standard for Fixed Guideway Transit and Passenger Rail Systems (revision of ANSI/NFPA 303-2016)

This standard shall cover life safety from fire and fire protection requirements for fixed guideway transit and passenger rail systems, including, but not limited to, stations, trainways, emergency ventilation systems, vehicles, emergency procedures, communications, and control systems. Fixed guideway transit and passenger rail stations shall pertain to stations accommodating only passengers and employees of the fixed guideway transit and passenger rail systems and incidental occupancies in the stations.This standard establishes minimum requirements for each of the identified subsystems.

Obtain an electronic copy from: www.nfpa.org/303next

Send comments (with copy to psa@ansi.org) to: Same

BSR/NFPA 1192-201x, Standard on Recreational Vehicles (revision of ANSI/NFPA 1192-2018)

This standard shall cover fire and life safety criteria for recreational vehicles.

Obtain an electronic copy from: www.nfpa.org/1192next

Send comments (with copy to psa@ansi.org) to: Same

BSR/NFPA 5000-201x, Building Construction and Safety Code® (revision of ANSI/NFPA 5000-2018)

The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life and property.

Obtain an electronic copy from: www.nfpa.org/5000next

Send comments (with copy to psa@ansi.org) to: Same

OPEI (Outdoor Power Equipment Institute)

New Standard

BSR/OPEI B175.7-201x, (Standard) for Outdoor Power Equipment - Internal Combustion Engine-Powered Hand-Held Pole Mounted Pruners - Safety and Environmental Requirements (new standard)

This standard gives safety requirements and measures for their verification for the design and construction of portable, hand-held, pole-mounted pruners, including extendable and telescopic units, having an integral combustion engine as their power head and using a drive shaft to transmit power to a cutting attachment consisting of a saw chain, a reciprocating blade, or single-piece circular saw blade with a 205-mm (8.1-in) maximum outside diameter. Methods for the elimination or reduction of hazards arising from the use of these units and the type of information on safe working practices to be provided by the manufacturer are specified.

Single copy price: Free

Obtain an electronic copy from: gknott@opei.org

Order from: Greg Knott, (703) 549-7600, gknott@opei.org

Send comments (with copy to psa@ansi.org) to: Same

SCTE (Society of Cable Telecommunications Engineers)

Revision

BSR/SCTE 135-03-201x, DOCSIS 3.0 Part 3: Security Services (revision and redesignation of ANSI/SCTE 135-3-2013)

This standard is part of the DOCSIS® family of standards. In particular, this standard is part of a series of specifications that define the third generation of high-speed data-over-cable systems. This standard was developed for the benefit of the cable industry, and includes contributions by operators and vendors from North America, Europe, China and other regions. The present document corresponds to and is the technical equivalent of the CableLabs [DOCSIS SEC3.0] specification.

Single copy price: $50.00

Obtain an electronic copy from: standards@scte.org

Order from: Global Engineering Documents, (800) 854-7179, www.global.ihs.com

Send comments (with copy to psa@ansi.org) to: Same

BSR/SCTE 135-04-201x, DOCSIS 3.0 Part 4: Operations Support Systems Interface (revision and redesignation of ANSI/SCTE 135-4 -2013)

This standard is part of the DOCSIS® family of specifications. In particular, this specification is part of a series of specifications that define the third generation of high-speed data-over-cable systems. This specification was developed for the benefit of the cable industry, and includes contributions by operators and vendors from North America, Europe, China and other regions.

Single copy price: $50.00

Obtain an electronic copy from: standards@scte.org

Order from: Global Engineering Documents, (800) 854-7179, www.global.ihs.com

Send comments (with copy to psa@ansi.org) to: Same

TIA (Telecommunications Industry Association)

Revision

BSR/TIA 607-D-201x, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises (revision and redesignation of ANSI/TIA 607-C-2015)

This Standard specifies requirements for a generic telecommunications bonding and grounding infrastructure and its interconnection to electrical systems and telecommunications systems. This Standard may also be used as a guide for the renovation or retrofit of existing systems. Revision needed to incorporate addendum, update references, and harmonize with addendum to ISO/IEC 30129.

Single copy price: $174.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

Send comments (with copy to psa@ansi.org) to: Same

UL (Underwriters Laboratories, Inc.)

Reaffirmation

BSR/UL 310-2014 (R201x), Standard for Safety for Electrical Quick-Connect Terminals (reaffirmation of ANSI/UL 310-2014)

This standard applies to quick-connect terminals, both connectors and tabs, having nominal widths of 2.8, 3.2, 4.8, 5.2, and 6.3 mm (0.110, 0.125, 0.187, 0.205, and 0.250 in). They are intended for internal wiring connections in electrical equipment and for the field termination of conductors to electrical equipment in accordance with Part I of the Canadian Electrical Code, C22.1, in Canada, and the National Electrical Code, NFPA 70, in the United States of America.

Single copy price: Free

Obtain an electronic copy from: http://www.shopulstandards.com

Send comments (with copy to psa@ansi.org) to: Mitchell Gold, (847) 664-2850, mitchell.gold@ul.com

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 121201-201X, Standard for Safety for Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations (revision of ANSI/UL 121201-2017)

This proposal includes revisions to (1) clarify the applicable division 2 standards for luminaires, motors, heaters, and trace heating cables in a similar manner as for battery-operated flashlights and lanterns; (2) clarify the protection methods for Class I and II, Division 2 and Class III requirements regarding when the UL AEx and CSA Ex Zone requirements, and when the UL 50/UL 50E and CSA 94.1/CSA 94.2 requirements are applicable; and (3) the addition of electronic medium for required instructions.

Single copy price: Free

Obtain an electronic copy from: http://www.shopulstandards.com

Send comments (with copy to psa@ansi.org) to: Vickie Hinton, (919) 549-1851, Vickie.T.Hinton@ul.com

Comment Deadline: May 7, 2019

Reaffirmations and withdrawals available electronically may be accessed at: webstore.ansi.org

ASCA (Accredited Snow Contractors Association)

Reaffirmation

BSR/ASCA A1000-2014 (R201x), Accredited Snow Contractors Association (reaffirmation of ANSI/ASCA A1000-2014)

This standard sets forth the provisions for snow and ice management companies to operate their businesses in a more efficient, organized, and safer work process, that results in a safer property condition for vehicular and pedestrian traffic.

Single copy price: $400.00

Obtain an electronic copy from: pcorrao@gie.net

Order from: pcarrao@gie.net

Send comments (with copy to psa@ansi.org) to: kgilbride@ascaonline.org

ASME (American Society of Mechanical Engineers)

Reaffirmation

BSR/ASME PTC 6S-1988 (R201x), Procedures for Routine Performance Tests of Steam Turbines (reaffirmation of ANSI/ASME PTC 6S-1988 (R2014))

This Report provides turbine-test procedures for the analysis and supervision of relative performance throughout the life of the turbine.

Single copy price: $93.00

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

For Reaffirmations and Withdrawn standards, please view our catalog at https://www.asme.org/shop/standards

Send comments (with copy to psa@ansi.org) to: Donnie Alonzo, (212) 591-7004, dalonzo@asme.org

Home Innovation (Home Innovation Research Labs)

Revision

BSR Z765-201x, Square Footage - Method for Calculating (revision of ANSI Z765-2003 (R2013))

This standard describes the procedures to be followed in measuring and calculating the square footage of detached and attached single-family houses.

Single copy price: $25.00

Obtain an electronic copy from: https://www.homeinnovation.com/about/bookstore

Send comments (with copy to psa@ansi.org) to: www.homeinnovation.com/Z765

Technical Reports Registered with ANSI

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Immediately following the end of a 30-day announcement period in Standards Action, the Technical Report will be registered by ANSI. Please submit any comments regarding this registration to the organization indicated, with a copy to the PSA Center, American National Standards Institute, 25 West 43rd Street, New York, NY 10036 or E-Mail to psa@ansi.org.

Comment Deadline: April 7, 2019

ASC X9 (Accredited Standards Committee X9, Incorporated)

ASC X9 TR 100-2019, Organization of Check-Related Payments Standards - Part 1: Organization of Standards; Part 2: Definitions Used in Standards (revise technical report)

Part 1 of this technical report provides the numbering scheme for all standards associated with paper-based and image-based check payments that collectively will be referred to as check-related payments. The basic numbering scheme is divided into two sections; core standards and application standards. Core standards cover such items as paper requirements, MICR requirements, optical requirements, and image requirements. Application standards cover such items as check documents, deposit tickets, internal documents, image replacement documents, other documents, MICR, security, and electronic. Part 2 of this technical report lists the definitions of terms used within X9's check-related payment standards. The structure covered in this technical report was developed to define and explain the requirements for automated handling of paper-based and image-based check payments. It also offers a repository of definitions used in these standards. This technical report is available in electronic form free of charge to aid the user in identifying the standards for purchase.

Single copy price: Free

Order from: ambria.frazier@x9.org

Send comments (with copy to psa@ansi.org) to: Same

B11 (B11 Standards, Inc.)

B11.TR9-2019, Guidance to Machinery Manufacturers for Consideration of Related IT-Security (Cyber Security) Aspects (technical report)

This document gives machine manufacturers guidance on potential security aspects in relation to safety of machinery when putting a machine into service or placing on the market for the first time. It provides essential information to identify and address IT-security threats which can influence safety of machinery. This document gives guidance but does not provide detailed specifications on how to address IT-security aspects which can influence safety of machinery. This document does not address the bypass or defeat of risk reduction measures through physical manipulation.

Single copy price: $95.00

Order from: Global Engineering Documents, (800) 854-7179, www.global.ihs.com

Send comments (with copy to psa@ansi.org) to: David Felinski, dfelinski@b11standard.org

Projects Withdrawn from Consideration

In accordance with clause 4.2.1.3.3 Discontinuance of a standards project of the ANSI Essential Requirements, an accredited standards developer may abandon the processing of a proposed new or revised American National Standard or portion thereof if it has followed its accredited procedures. The following projects have been withdrawn accordingly:

ASABE (American Society of Agricultural and Biological Engineers)

BSR/ASABE S634 MONYEAR-201x, Storage of Agricultural Fertilizer (new standard)

Inquiries may be directed to Jean Walsh, (269) 932-7027, walsh@asabe.org

B11 (B11 Standards, Inc.)

BSR/B11.TR9-201x (ISO/TR 22100-4-2018 IDT), Guidance to Machinery Manufacturers for Consideration of Related IT-Security (Cyber Security) Aspects (identical national adoption of ISO/TR 22100-4:2018)

Inquiries may be directed to Chris Felinski, (832) 446-6999, cfelinski@b11standards.org

Notice of Withdrawal: ANS at least 10 years past approval date

The following American National Standards have not been revised or reaffirmed within ten years from the date of their approval as American National Standards and accordingly are withdrawn:

AWS (American Welding Society)

ANSI/AWS A5.26/A5.26M-1997 (R2008), Specification for Carbon and Low-Alloy Steel Electrodes for Eletrogas Welding

ANSI/AWS B5.14-2009, Specification for the Qualification of Welding Sales Representatives

ANSI/AWS C3.9M/C3.9-2008, Specification for Resistance Brazing

IEEE (ASC N42) (Institute of Electrical and Electronics Engineers)

ANSI N42.44-2008, Performance of Checkpoint Cabinet X-Ray Imaging Security Systems

IEEE (Institute of Electrical and Electronics Engineers)

ANSI/IEEE 260.4-1996 (R2008), Letter Symbols and Abbreviations for Quantities Used in Acoustics

ANSI/IEEE 379-2000 (R2008), Standard Application of the Single-Failure Criterion to Nuclear Power Generating Station Safety Systems

ANSI/IEEE 420-2001 (R2008), Standard for the Design and Qualification of Class 1E Control Boards, Panels, and Racks Used in Nuclear Power Generating Stations

ANSI/IEEE 525-2008/Cor 1-2008, Guide for the Design and Installation of Cable Systems in Substations - Corrigendum 1

ANSI/IEEE 644-1994 (R2008), Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines

ANSI/IEEE 754-2008, Standard for Floating-Point Arithmetic

ANSI/IEEE 802.1ah-2008, Standard for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks - Amendment 6: Provider Backbone Bridges

ANSI/IEEE 802.11k-2008, Standard for Information Technology - Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications - Amendment: Radio Resource Measurement of Wireless LANs

ANSI/IEEE 802.11r-2008, Standard for Information Technology -Telecommunications and Information Exchange between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications - Amendment 2: Fast BSS-Transition

ANSI/IEEE 802.20-2008, Standard for Local and Metropolitan Area Networks - Standard Air Interface for Mobile Broadband Wireless Access Systems Supporting Vehicular Mobility - Physical and Media Access Control Layer Specification

ANSI/IEEE 829-2008, Standard for Software and System Test Documentation

ANSI/IEEE 859-2002 (R2008), Standard Terms for Reporting and Analyzing Outage Occurrences and Outage States of Electrical Transmission Facilities

ANSI/IEEE 1028-2008, Standard for Software Reviews and Audits

ANSI/IEEE 1178-1991 (R2008), Standard for the Scheme Programming Language

ANSI/IEEE 1293-1998/Cor 1-2008, Standard Specification Format Guide and Test Procedure for Linear, Single-Axis, Non-Gyroscopic Accelerometers - Corrigendum 1: Annex K & L Changes

ANSI/IEEE 1325-1996 (R2008), Recommended Practice for Reporting Field Failure Data for Power Circuit Breakers

ANSI/IEEE 1363.2-2008, Standard Specification for Password-Based Public-Key Cryptographic Techniques

ANSI/IEEE 1378-1997 (R2008), Guide for Commissioning High-Voltage Direct-Current (HVDC) Converter Stations and Associated Transmission Systems

ANSI/IEEE 1394-2008, Standard for a High Performance Serial Bus

ANSI/IEEE 1431-2004/Cor 1-2008, Standard Specification Format Guide and Test Procedure for Coriolis Vibratory Gyros - Corrigendum 1: Figure 1 - Gyro Axes and Misalignment Angles

ANSI/IEEE 1460-1996 (R2008), Guide for the Measurement of Quasi-Static Magnetic and Electric Fields

ANSI/IEEE 1474.3-2008, Recommended Practice for Communications-Based Train Control (CBTC) System Design and Functional Allocations

ANSI/IEEE 1523-2002 (R2008), Guide for the Application, Maintenance, and Evaluation of Room Temperature Vulcanising (RTV) Silicone Rubber Coatings for Outdoor Ceramic Insulators

ANSI/IEEE 1541-2002 (R2008), Standard Prefixes for Binary Multiples

ANSI/IEEE 1588-2008, Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems

ANSI/IEEE 1594-2008, Standard for Helically-Applied Fiber Optic Cable Systems (WRAP Cable) for Use on Overhead Utility Lines

ANSI/IEEE 1599-2008, Recommended Practice for Definition of a Commonly Acceptable Musical Application Using the XML Language

ANSI/IEEE 1631-2008, Recommended Practice for Measurement of 8-VSB Digital Television Transmission Mask Compliance for the USA

ANSI/IEEE 1900.1-2008, Standard Definitions and Concepts for Dynamic Spectrum Access: Terminology Relating to Emerging Wireless Networks, System Functionality, and Spectrum Management

ANSI/IEEE 1900.2-2008, Recommended Practice for the Analysis of In-Band and Adjacent Band Interference and Coexistence between Radio Systems

ANSI/IEEE 2600-2008, Standard for Information Technology: Hardcopy Device and System Security

ANSI/IEEE 11073-10408-2008, Standard for Health Informatics - Personal Health Device Communication - Device Specialization - Thermometer

ANSI/IEEE 11073-10415-2008, Standard for Health Informatics - Personal Health Device Communication - Device Specialization - Weighing Scale

ANSI/IEEE C37.2-2008, Standard Electrical Power System Device Function Numbers, Acronyms and Contact Designations

ANSI/IEEE C37.24-2003 (R2008), Guide for Evaluating the Effect of Solar Radiation on Outdoor Metal-Enclosed Switchgear

ANSI/IEEE C37.48.1-2002 (R2008), Guide for the Operation, Classification, Application, and Coordination of Current-Limiting Fuses with Rated Voltages 1-38kV

ANSI/IEEE C37.94-2002 (R2008), Standard for N Times 64 Kilobit per Second Optical Fiber Interfaces between Teleprotection and Multiplexer Equipment

ANSI/IEEE C37.104-2002 (R2008), Guide for Automatic Reclosing of Line Circuit Breakers for AC Distribution and Transmission Lines

ANSI/IEEE C37.122.1-2002 (R2008), Guide for Gas-Insulated Substations

ANSI/IEEE C57.12.32-2002 (R2008), Standard for Submersible Equipment - Enclosure Integrity

ANSI/IEEE C57.21-2008, Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA

ANSI/IEEE C57.105-1992 (R2008), Guide for Application of Transformer Connections in Three-Phase Distribution Systems

ANSI/IEEE C57.109-1993 (R2008), Guide for Liquid-Immersed Transformer Through-Fault-Current Duration

ANSI/IEEE C57.110-2008, Recommended Practice for Establishing Liquid-Filled and Dry-Type Power and Distribution Transformer Capability When Supplying Nonsinusoidal Load Currents

ANSI/IEEE C57.119-2002 (R2008), Recommended Practice for Performing Temperature Rise Tests on Oil-Immersed Power Transformers at Loads beyond Nameplate Ratings

ANSI/IEEE C62.11a-2008, Standard for Metal-Oxide Surge Arresters for AC Power Circuits (> 1 kV) - Amendment: Short-Circuit Tests for Station, Intermediate and Distribution Arresters

ANSI/IEEE C95.3-2002 (R2008), Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields with Respect to Human Exposure to Such Fields, 100 kHz-300 GHz

ANSI/IEEE C95.4-2002 (R2008), Recommended Practice for Determining Safe Distances from Radio Frequency Transmitting Antennas When Using Electric Blasting Caps During Explosive Operations

ANSI/IEEE C62.21-2003 Cor 1-2008, Guide for the Application of Surge Protective Equipment on AC Rotating Machinery 1000 Volts and Greater - Corrigendum 1: Replace Table 2 and Annexes A.1 and A.2

IES (Illuminating Engineering Society)

ANSI/IESNA LM-63-2002 (R2008), File Format for the Electronic Transfer of Photometric Data and Related Information

ISA (International Society of Automation)

ANSI/ISA 77.13.01-1999 (R2008), Fossil Fuel Power Plant Steam Turbine Bypass System

ANSI/ISA 62443-2-1 (99.02.01)-2009, Security for Industrial Automation and Control Systems - Part 2-1: Establishing an Industrial Automation and Control Systems Security Program

SCTE (Society of Cable Telecommunications Engineers)

ANSI/SCTE 42-2008, IP Multicast for Digital MPEG Networks

ANSI/SCTE 53-2008, Methods for Asynchronous Data Services Transport

ANSI/SCTE 55-2-2008, Digital Broadband Delivery System: Out of Band Transport - Part 2: Mode B

SIA (Security Industry Association)

ANSI/SIA OSIPS-01-2008, Open, Systems Integration and Performance Standards

SMACNA (Sheet Metal and Air-Conditioning Contractors' National Association)

ANSI/SMACNA 001-2008, Seismic Restraint Manual: Guidelines for Mechanical Systems

TIA (Telecommunications Industry Association)

ANSI/TIA 102.AABC-B-5-2008, Trunking Control Channel Messages - Radio Unit Monitor Enhancements

TMA (The Monitoring Association)

ANSI/CSAA CS-CO-01-2008, Carbon Monoxide Supervising Station Response Standard

Call for Members (ANS Consensus Bodies)

Directly and materially affected parties who are interested in participating as a member of an ANS consensus body for the standards listed below are requested to contact the sponsoring standards developer directly and in a timely manner.

AAMI (Association for the Advancement of Medical Instrumentation)

Office: 901 N. Glebe Road, Suite 300
Arlington, VA 22203
Contact: Will Vargas
Phone: (703) 647-2779
E-mail: wvargas@aami.org

BSR/AAMI 2700-1-201x, Medical Devices and Medical Systems - Essential safety requirements for equipment comprising the patient-centric integrated clinical environment (ICE) - Part 1: General requirements and conceptual model (new standard)

BSR/AAMI PB70-201x, Liquid barrier performance and classification of protective apparel and drapes intended for use in health care facilities (revision of ANSI/AAMI PB70-2012)

BSR/AAMI ST8-201X, Hospital steam sterilizers (revision of ANSI/AAMI ST8-2013 (R2018))

BSR/AAMI/ISO 14971-201x, Medical devices - Application of risk management to medical devices (identical national adoption of ISO 14971 and revision of ANSI/AAMI/ISO 14971-2007 (R2016))

ASA (ASC S3) (Acoustical Society of America)

Office: 1305 Walt Whitman Road
Suite 300
Melville, NY 11747
Contact: Caryn Mennigke
Phone: (631) 390-0215
E-mail: asastds@acousticalsociety.org

BSR/ASA S3.71-201x, Methods for Measuring the Effect of Head-Worn Devices on Directional Sound Localization in the Horizontal Plane (new standard)

ASQ (American Society for Quality)

Office: 600 N Plankinton Ave
Milwaukee, WI 53203
Contact: Julie Sharp
Phone: (800) 248-1946
E-mail: standards@asq.org

BSR/ASQ E4-2014 (R201x), Quality management systems for environmental information and technology programs - Requirements with guidance for use (reaffirmation of ANSI/ASQ E4:2014)

ASSP (ASC A10) (American Society of Safety Professionals)

Office: 520 N. Northwest Highway
Park Ridge, IL 60068
Contact: Tim Fisher
Phone: (847) 768-3411
E-mail: TFisher@ASSP.org

BSR/ASSP A10.31-201X, Safety Requirements, Definitions and Specifications for Digger Derricks (revision and redesignation of ANSI/ASSE A10.31-2013)

ASSP (Safety) (American Society of Safety Professionals)

Office: 520 N. Northwest Highway
Park Ridge, IL 60068
Contact: Tim Fisher
Phone: (847) 768-3411
E-mail: TFisher@ASSP.org

BSR/ASSP Z10.1-201X, Occupational Health and Safety Management Systems (revision and redesignation of ANSI/ASSE Z10-2012 (R2017))

CTA (Consumer Technology Association)

Office: 1919 South Eads Street
Arlington, VA 22202
Contact: Veronica Lancaster
Phone: (703) 907-7697
E-mail: vlancaster@cta.tech

BSR/CTA 709.1-D-2014 (R201x), Control Network Protocol Specification (reaffirmation of ANSI/CTA 709.1-D-2014)

BSR/CTA 852.1-A-2014 (R201x), Enhanced Protocol for Tunneling Component Network Protocols over Internet Protocol Channels (reaffirmation of ANSI/CTA 852.1-A-2014)

BSR/CTA 852-C-2014 (R201x), Tunneling Device Area Network Protocols over Internet Protocol Channels (reaffirmation of ANSI/CTA 852-C-2014)

BSR/CTA 2031-A-201x, Testing and Measurement Methods for Mobile Loudspeaker Systems (revision and redesignation of ANSI/CTA 2031 -2008 (R2014))

BSR/CTA 2045.1-A-201x, Modular Communications Interface for Firmware Transfer Message Set (revision and redesignation of ANSI/CTA 2045.1-2014)

BSR/CTA 2045.2-A-201x, Modular Communications Interface for Generic Display Message Set (revision and redesignation of ANSI/CTA 2045.2-2014)

BSR/CTA 2045.3-A-201x, Modular Communications Interface for Thermostat Message Set (revision and redesignation of ANSI/CTA 2045.3-2014)

BSR/CTA 2047-A-201x, CE Energy Usage Information (CE-EUI) (revision and redesignation of ANSI/CTA 2047-2014)

BSR/CTA 2089-201x, Definitions and Characteristics of Artificial Intelligence (new standard)

ECIA (Electronic Components Industry Association)

Office: 13873 Park Center Road
Suite 315
Herndon, VA 20171
Contact: Laura Donohoe
Phone: (571) 323-0294
E-mail: ldonohoe@ecianow.org

BSR/EIA 198-3-9-F-201x, High Voltage Ceramic Capacitors, Conformally Coated and Multilayer Surface Mount (new standard)

ESTA (Entertainment Services and Technology Association)

Office: 630 Ninth Avenue
Suite 609
New York, NY 10036-3748
Contact: Richard Nix
Phone: (212) 244-1505
E-mail: standards@esta.org

BSR E1.44-2014 (R201x), Common Show File Exchange Format for Entertainment Industry Automation Control Systems - Stage Machinery (reaffirmation of ANSI E1.44-2014)
The Stage Machinery Working Group seeks members in the Dealer/Rental interest category.

HI (Hydraulic Institute)

Office: 6 Campus Drive
Parsippany, NJ 07054
Contact: Edgar Suarez
Phone: (973) 267-9700
E-mail: esuarez@pumps.org

BSR/HI 14.6-201x, Rotodynamic Pumps for Hydraulic Performance Acceptance Tests (revision of ANSI/HI 14.6-2016)

Home Innovation (Home Innovation Research Labs)

Office: 400 Prince George's Boulevard
Upper Marlboro, MD 20774-8731
Contact: Kevin Kauffman
Phone: (301) 430-6314
E-mail: kkauffman@Homeinnovation.com

BSR Z765-201x, Square Footage - Method for Calculating (revision of ANSI Z765-2003 (R2013))

IAPMO (Z) (International Association of Plumbing & Mechanical Officials)

Office: 5001 East Philadelphia Street
Ontario, CA 91761
Contact: Kyle Thompson
Phone: (909) 230-5534
E-mail: standards@iapmostandards.org

BSR/IAPMO Z1349-201x, Electronic Plumbing Supply System Integrity Protection Devices (new standard)

LIA (ASC Z136) (Laser Institute of America)

Office: 13501 Ingenuity Drive
Suite 128
Orlando, FL 32826
Contact: Barbara Sams
Phone: (407) 380-1553
E-mail: bsams@lia.org

BSR Z136.3-201x, Standard for Safe Use of Lasers in Health Care (revision of ANSI Z136.3-2018)

NEMA (ASC C136) (National Electrical Manufacturers Association)

Office: 1300 North 17th Street
Suite 900
Rosslyn, VA 22209
Contact: David Richmond
Phone: (703) 841-3234
E-mail: David.Richmond@nema.org

BSR C136.25-201x, Ingress Protection (Resistance to Dust, Solid Objects, and Moisture) for Luminaire Enclosures (revision of ANSI C136.25-2013)

BSR C136.46-2013 (R201x), Standard for Roadway and Area Lighting Equipment - Concrete Lighting Poles (reaffirmation of ANSI C136.46 -2013)

NFRC (National Fenestration Rating Council)

Office: 6305 Ivy Lane
Suite 140
Greenbelt, MD 20770
Contact: Jen Padgett
Phone: (301) 589-1776
E-mail: jpadgett@nfrc.org

BSR/NFRC 202-201x, Procedure for Determining Translucent Fenestration Product Visible Transmittance at Normal Incidence (new standard)

BSR/NFRC 203-201x, Procedure for Determining Visible Transmittance of Tubular Daylighting Devices (new standard)

NSF (NSF International)

Office: 789 N. Dixboro Road
Ann Arbor, MI 48105-9723
Contact: Jason Snider
Phone: (734) 418-6660
E-mail: jsnider@nsf.org

BSR/NSF 50-201x (i150r1), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2018)

BSR/NSF 61-201x (i148r1), Drinking Water System Components - Health Effects (revision of ANSI/NSF 61-2018)

BSR/NSF 360-201x (i4r1), Wastewater Treatment Systems - Field Performance Verification (revision of ANSI/NSF 360-2014)

RESNA (Rehabilitation Engineering and Assistive Technology Society of North America)

Office: 1560 Wilson Blvd.
Suite 850
Arlington, VA 22209-1903
Contact: Yvonne Meding
Phone: (703) 524-6686
E-mail: YMeding@resna.org

BSR/RESNA SS-1-201x, RESNA Standard for Support Surfaces - Volume 1: Requirements and Test Methods for Full Body Support Surfaces (revision of ANSI/RESNA SS-1-2019)

TAPPI (Technical Association of the Pulp and Paper Industry)

Office: 15 Technology Parkway South
Suite 115
Peachtree Corners, GA 30092
Contact: Priscila Briggs
Phone: (770) 209-7249
E-mail: standards@tappi.org

BSR/TAPPI T 257 sp-2014 (R201x), Sampling and preparing wood for analysis (reaffirmation of ANSI/TAPPI T 257 sp-2014)

BSR/TAPPI T 277 sp-2014 (R201x), Macro stickies content in pulp: the pick-up method (reaffirmation of ANSI/TAPPI T 277 sp-2014)

TIA (Telecommunications Industry Association)

Office: 1320 North Courthouse Road
Suite 200
Arlington, VA 22201
Contact: Teesha Jenkins
Phone: (703) 907-7706
E-mail: standards@tiaonline.org

BSR/TIA 102.AACA-A-1-201x, Project 25 Digital Radio Over-The-Air-Rekeying (OTAR) Messages and Procedures - Addendum 1 (addenda to ANSI/TIA 102.AACA-A-2014)

BSR/TIA 569-E-201x, Telecommunications Pathways and Spaces (revision and redesignation of ANSI/TIA 569-D-2015)

BSR/TIA 607-D-201x, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises (revision and redesignation of ANSI/TIA 607-C-2015)

UL (Underwriters Laboratories, Inc.)

Office: 12 Laboratory Dr.
Research Triangle Park, NC 27709
Contact: Jennifer Fields
Phone: (919) 549-1007
E-mail: jennifer.fields@ul.com

BSR/UL 1795-201x, Standard for Safety for Hydromassage Bathtubs (new standard)

Call for Members (ANS Consensus Bodies)

Call for Committee Members

ASC O1 – Safety Requirements for Woodworking Machinery

Are you interested in contributing to the development and maintenance of valuable industry safety standards? The ASC O1 is currently looking for members in the following categories:

- General Interest
- Government
- Producer
- User

If you are interested in joining the ASC O1, contact WMMA Associate Director Jennifer Miller at jennifer@wmma.org.

Final Actions on American National Standards

The standards actions listed below have been approved by the ANSI Board of Standards Review (BSR) or by an ANSI-Audited Designator, as applicable.

ASME (American Society of Mechanical Engineers)

Reaffirmation

ANSI/ASME A112.4.1-2014 (R2019), Water Heater Relief Valve Drain Tubes (reaffirmation of ANSI/ASME A112.4.1-2014): 2/27/2019

ANSI/ASME A112.19.12-2014 (R2019), Wall Mounted, Pedestal Mounted, Adjustable, Elevating, Tilting, and Pivoting Lavatory, Sink, and Shampoo Bowl Carrier Systems and Drain Waste Systems (reaffirmation of ANSI/ASME A112.19.12-2014): 2/27/2019

* ANSI/ASME B89.1.7-2009 (R2019), Performance Standard for Steel Measuring Tapes (reaffirmation of ANSI/ASME B89.1.7-2009 (R2014)): 2/27/2019

Revision

ANSI/ASME B18.2.6-2019, Fasteners for Use in Structural Applications (revision, redesignation and consolidation of ANSI/ASME B18.2.6-2010 and ANSI/ASME B18.2.6 (Supplement)-2010): 2/27/2019

ANSI/ASME BPE-2019, Bioprocessing Equipment (revision of ANSI/ASME BPE -2014): 2/27/2019

AWS (American Welding Society)

New Standard

ANSI/AWS B2.1-1-201-2019, Standard Welding Procedure Specification (SWPS) for Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 3/4 inch [19 mm] Thick, E6010 (Vertical Uphill) Followed by E7018 (Vertical Uphill), in the As-Welded Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-202-2019, Standard Welding Procedure Specification (SWPS) for Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 3/4 inch [19 mm] Thick, E6010 (Vertical Downhill) Followed by E7018 (Vertical Uphill), in the As-Welded Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-203-2019, Standard Welding Procedure Specification (SWPS) for Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 3/4 inch [19 mm] Thick, E6010 (Vertical Uphill), in the As-Welded Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-204-2019, Shielded Metal Arc Welding of Carbon Steel (M -1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 3/4 inch [19 mm] Thick, E6010 (Vertical Downhill Root with the Balance Vertical Uphill), in the As-Welded Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-205-2019, Standard Welding Procedure Specification (SWPS) for Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, E6010 (Vertical Uphill) Followed by E7018 (Vertical Uphill), in the As-Welded or PWHT Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-206-2019, Shielded Metal Arc Welding of Carbon Steel (M -1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, E6010 (Vertical Downhill) Followed by E7018 (Vertical Uphill), in the As-Welded or PWHT Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-207-2019, Standard Welding Procedure Specification (SWPS) for Gas Tungsten Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, ER70S-2, in the As-Welded or PWHT Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-208-2019, Standard Welding Procedure Specification (SWPS) for Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, E7018, in the As-Welded or PWHT Condition, Primarily Pipe Applications (new standard): 3/1/2019

ANSI/AWS B2.1-1-209-2019, Standard Welding Procedure Specification (SWPS) for Gas Tungsten Arc Welding Followed by Shielded Metal Arc Welding of Carbon Steel (M-1/P-1, Group 1 or 2), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, ER70S-2 and E7018, in the As-Welded or PWHT Condition, Primarily Pipe Applications (new standard): 3/1/2019

ECIA (Electronic Components Industry Association)

Revision

ANSI/EIA 364-1000B-2019, Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications (revision and redesignation of ANSI/EIA 364 -1000-A-2016): 2/27/2019

HPS (ASC N13) (Health Physics Society)

Reaffirmation

ANSI N13.6-2010 (R2019), Practice for Occupational Radiation Exposure Records Systems (reaffirmation of ANSI N13.6-2010): 3/1/2019

ITI (INCITS) (InterNational Committee for Information Technology Standards)

Reaffirmation

INCITS/ISO/IEC 10538:1991 [R2019], Information technology - Control functions for text communication (reaffirm a national adoption INCITS/ISO/IEC 10538:1991 [R2013]): 12/31/2018

Stabilized Maintenance

INCITS/ISO/IEC 24703:2004 [S2018], Information technology - Participant identifiers (stabilized maintenance of INCITS/ISO/IEC 24703:2004 [R2013]): 12/31/2018

PLASTICS (Plastics Industry Association)

Reaffirmation

ANSI/PLASTICS B151.20-2013 (R2018), Safety Requirements for Plastic Sheet Production Machinery (reaffirmation and redesignation of ANSI/SPI B151.20-2013): 2/27/2019

TIA (Telecommunications Industry Association)

New Standard

ANSI/TIA 455-171-B-2019, Attenuation by Substitution Measurement for Short Length Multimode Graded Index and Single-Mode Optical Fiber Cable Assemblies (new standard): 3/1/2019

UL (Underwriters Laboratories, Inc.)

New Standard

ANSI/AAMI/UL 2800-1-2019, Standard for Safety for Medical Device Interoperability (new standard): 2/25/2019

Project Initiation Notification System (PINS)

ANSI Procedures require notification of ANSI by ANSI-accredited standards developers (ASD) of the initiation and scope of activities expected to result in new or revised American National Standards (ANS). Early notification of activity intended to reaffirm or withdraw an ANS and in some instances a PINS related to a national adoption is optional. The mechanism by which such notification is given is referred to as the PINS process. For additional information, see clause 2.4 of the ANSI Essential Requirements: Due Process Requirements for American National Standards.

Following is a list of proposed actions and new ANS that have been received recently from ASDs. Please also review the section in Standards Action entitled "American National Standards Maintained Under Continuous Maintenance" for additional or comparable information with regard to standards maintained under the continuous maintenance option. Use the following Public Document Library url to access PDF & EXCEL reports of approved & proposed ANS: List of Approved and Proposed ANS

Directly and materially affected interests wishing to receive more information or to submit comments are requested to contact the standards developer directly within 30 days of the publication of this announcement.

ASME (American Society of Mechanical Engineers)

Contact: Mayra Santiago, (212) 591-8521, ansibox@asme.org
Two Park Avenue, New York, NY 10016-5990

New Standard

BSR/ASME A112.14.7-201x, Automatic Water Leak Detection and Shutoff System (new standard)

Stakeholders: Manufacturers, users, laboratories, government agencies.

Project Need: Develop a new Standard for Automatic Water Leak Detection and Shutoff System that would cover testing and verification for the automatic closure of the valve upon change in excessive pressure or flow.

This Standard covers valves that will automatically close when water leakage is detected. The valve will be installed on mainline into building and the system may be controlled by either control panel and/or phone application.

Revision

BSR/ASME A112.18.8-201x, In-Line Sanitary Waste Valves for Plumbing Drainage Systems (revision of ANSI/ASME A112.18.8-2009 (2014))

Stakeholders: Manufacturers, users, laboratories, government agencies.

Project Need: Revise the Standard to propose an alternate pressure test and to update references to other Standards.

This Standard establishes minimum requirements for materials in the construction of sanitary waste valves (referred to in this standard as "the valve") for use as an alternate to tubular p-traps, and prescribes minimum test requirements for the performance of the valve, together with methods of marking and identification.

AWS (American Welding Society)

Contact: Stephen Borrero, (305) 443-9353, sborrero@aws.org
8669 NW 36th Street, Suite 130, Doral, FL 33166

New Standard

BSR/AWS D10.21M/D10.21-201x, Guideline for Welding Creep Strength Enhanced Ferritic (CSEF) Steel Pipe and Tubing (new standard)

Stakeholders: Fabricators and engineers.

Project Need: CSEF, such as alloy P91, have found broad applications in the industry for critical pressure components including pipe and tubing. However, service experience has confirmed that CSEF pipe and tubing have failed very early in their service life due to the microstructure not being properly developed or maintained during fabrication activities. This publication will provide recommendation for the proper steps and practices to be considered during fabrication to obtain the required elevated temperature properties of CSEF materials.

This document presents recommendations for welding advanced chromium-molybdenum steel pipe and tubing to itself and to various other materials. Advanced chromium-molybdenum pipe and tubing such as 9 CrMoV, tungsten- and/or boron-enhanced materials (i.e., Grades 92, 122, E911, 23, 24 , etc.) are included in this document. Subjects covered in detail include filler metal selection, joint design, preheating, and postheating. Emphasis is placed on the importance of maintaining preheat, interpass temperature and dangers inherent in interrupted heating cycles or improper post-weld heat treatment plus detailed attention to filler metal procurement to avoid metallurgical complications.

CTA (Consumer Technology Association)

Contact: Veronica Lancaster, (703) 907-7697, vlancaster@cta.tech
1919 South Eads Street, Arlington, VA 22202

New Standard

BSR/CTA 2089-201x, Definitions and Characteristics of Artificial Intelligence (new standard)

Stakeholders: Consumers, manufacturers, and retailers.

Project Need: To define terms related to artificial intelligence and associated technologies.

This standard defines terms related to artificial intelligence and associated technologies.

Reaffirmation

BSR/CTA 709.1-D-2014 (R201x), Control Network Protocol Specification (reaffirmation of ANSI/CTA 709.1-D-2014)

Stakeholders: Consumers and manufacturers.

Project Need: To reaffirm ANSI/CTA 709.1-D.

This specification applies to a communication protocol for networked control systems. The protocol provides peer-to-peer communication for networked control and is suitable for implementing both peer-to-peer and primary-secondary control strategies.

BSR/CTA 852.1-A-2014 (R201x), Enhanced Protocol for Tunneling Component Network Protocols over Internet Protocol Channels (reaffirmation of ANSI/CTA 852.1-A-2014)

Stakeholders: Consumers, manufacturers, service providers, and retailers.

Project Need: Reaffirm ANSI/CTA 852.1-A.

The ANSI/CTA-852.1-A standard specifies a communications method that allows networked data acquisition and control devices to communicate with each other over the internet. The purpose of such devices are widely varying and include functions such as appliance monitoring, meter reading, and HVAC and lighting control, to name a few.

BSR/CTA 852-C-2014 (R201x), Tunneling Device Area Network Protocols Over Internet Protocol Channels (reaffirmation of ANSI/CTA 852-C-2014)

Stakeholders: Consumers, manufacturers, service providers, and retailers.

Project Need: To reaffirm ANSI/CTA 852-C.

ANSI/CTA-852-C specifies a communications method that allows networked data acquisition and control devices to communicate with each other over the Internet. The purpose of such devices are widely varying and include functions such as appliance monitoring, meter reading, and HVAC and lighting control, to name a few. ANSI/CTA-852-C does not replace existing device communications protocols, but instead allows those protocols to use the Internet as a communications medium.

Revision

BSR/CTA 2031-A-201x, Testing and Measurement Methods for Mobile Loudspeaker Systems (revision and redesignation of ANSI/CTA 2031-2008 (R2014))

Stakeholders: Consumers, manufacturers, service providers, and retailers.

Project Need: To revise ANSI/CTA 2031 R-2014.

This standard defines test procedures for rating the performance and physical size of mobile loudspeakers, and requirements for reporting these characteristics. This standard, when used in conjunction with CTA 2006-A, Testing & Measurement Methods for Mobile Audio Amplifiers, enables consumers to select mobile loudspeakers with power handling capabilities that are appropriate for the power output characteristics of their mobile amplifiers.

BSR/CTA 2045.1-A-201x, Modular Communications Interface for Firmware Transfer Message Set (revision and redesignation of ANSI/CTA 2045.1-2014)

Stakeholders: Consumers, manufacturers, service providers, retailers, utility providers.

Project Need: To revise ANSI/CTA 2045.1

This specification is an extension of the ANSI/CTA 2045-A Modular Communications Interface (MCI) for Energy Management Specification. It presents messages and methods that enable reprogramming the SGD firmware over the MCI interface.

BSR/CTA 2045.2-A-201x, Modular Communications Interface for Generic Display Message Set (revision and redesignation of ANSI/CTA 2045.2-2014)

Stakeholders: Consumers, manufacturers, service providers, retailers, utility providers.

Project Need: To revise ANSI/CTA 2045.2.

This specification is an extension of the ANSI/CTA 2045-A Modular Communications Interface (MCI) for Energy Management Specification. It presents messages and methods that enable generic message display over the MCI interface.

BSR/CTA 2045.3-A-201x, Modular Communications Interface for Thermostat Message Set (revision and redesignation of ANSI/CTA 2045.3-2014)

Stakeholders: Consumers, manufacturers, service providers, retailers, utility providers.

Project Need: To revise ANSI/CTA 2045.3.

The specification is an extension of the ANSI/CTA 2045-A Modular Communications Interface (MCI) for Energy Management Specification. It presents messages and methods for Thermostat-based functionality.

BSR/CTA 2047-A-201x, CE Energy Usage Information (CE-EUI) (revision and redesignation of ANSI/CTA 2047-2014)

Stakeholders: Consumers, manufacturers, service providers, retailers, utility providers.

Project Need: To revise ANSI/CTA 2047.

This standard will enable consumer electronic devices to communicate their energy usage information for example over a home network as well as optionally respond to basic demand/response commands. The usage data may be a measured or estimated value or may use other methods to indicate energy usage. This standard should enable mapping to/from the NAESB/PAP10 EUI model as well as utilize ANSI/CTA 2045-A Modular Communications Interface for Energy Management messaging where possible.

HI (Hydraulic Institute)

Contact: Edgar Suarez, (973) 267-9700, esuarez@pumps.org
6 Campus Drive, Parsippany, NJ 07054

Revision

BSR/HI 14.6-201x, Rotodynamic Pumps for Hydraulic Performance Acceptance Tests (revision of ANSI/HI 14.6-2016)

Stakeholders: Pump manufacturers, specifiers, purchasers, and users.

Project Need: There is a need to revise the existing ANSI/HI 14.6-2016 standard to include updated requirements.

This standard provides acceptance criteria and uniform procedures for performance, net positive suction head, and hydrostatic pressure testing, and data recording and reporting of test results for rotodynamic pumps. It provides acceptance grades that can be specified for various types of applications. It also defines test procedures that will result in consistent and repeatable results.

ICC (International Code Council)

Contact: Karl Aittaniemi, (888) 422-7233 Ext.-4205, kaittaniemi@iccsafe.org
4051 Flossmoor Road, Country Club Hills, IL 60478

Revision

BSR/ICC 900-201x, Standard for Solar Water Heating Systems (revision and redesignation of ANSI/ICC 900/SRCC 300-2015)

Stakeholders: Consumers, builders, architects, solar thermal collector and system designers, solar thermal system installers, sustainability advocates, energy utilities and providers, product manufacturers, standards development organizations, product testing and certification organizations.

Project Need: To remain consistent with current industry practices.

The objective of this Standard is to establish minimum requirements for the system design, performance evaluation and installation instructions of solar water heating systems. This Standard establishes a methodology for rating the performance of solar water heating systems based on performance projections and solar collector test data. This Standard is applicable to residential and commercial solar water heating systems intended for use within swimming pool heating, building space heating, building space cooling and/or water heating systems. It is applicable to both direct and indirect solar water heating systems.

BSR/ICC 901-201x, Standard for Solar Thermal Collectors (revision and redesignation of ANSI/ICC 901/SRCC 100-2015)

Stakeholders: Consumers, builders, architects, solar thermal collector and system designers, solar thermal system installers, sustainability advocates, energy utilities and providers, product manufacturers, standards development organizations, product testing and certification organizations.

Project Need: To remain consistent with current industry practices.

The objective of this Standard is to establish minimum requirements for the system design, construction, performance and testing of liquid and air heating solar thermal collectors, including those containing distributed assembly and integral concentrating components and integral storage and non-separable thermosiphon units. This Standard is applicable to solar collectors intended for use within swimming pool and spa heating, building space heating and cooling, water heating systems, industrial/commercial process heating, and thermal input to electrical power production systems.

LIA (ASC Z136) (Laser Institute of America)

Contact: Barbara Sams, (407) 380-1553, bsams@lia.org
13501 Ingenuity Drive, Suite 128, Orlando, FL 32826

Revision

BSR Z136.3-201x, Standard for Safe Use of Lasers in Health Care (revision of ANSI Z136.3-2018)

Stakeholders: Stakeholders include, but are not limited to, health care personnel, practitioners, clinicians, ancillary personnel and others, including patients, who use or may be exposed to laser medical devices in the health care environment.

Project Need: User standards and guidelines are needed for the safe use of lasers as diagnostic and therapeutic modalities in health care environments and applications.

The standard provides guidance for the safe use of lasers in the health care environment. This guidance assists the establishment and monitoring of programs that promote the safe use of lasers in health care. The scope of this standard includes all circumstances when people may be exposed to a laser used in health care. Specific processes are provided to protect anyone who might become exposed to laser radiation in health care environments and applications.

NEMA (National Electrical Manufacturers Association)

Contact: Zack Hornberger, (703) 841-3285, ZHornberger@medicalimaging.org
1300 N 17th St, Rosslyn, VA 22209

New Standard

BSR/NEMA/MITA MII-1-201x, Manufacturer Disclosure Statement for Medical Device Security (new standard)

Stakeholders: Manufacturers, health delivery organizations.

Project Need: This will update HIMSS/NEMA Standard HN 1-2013.

Information provided on the MDS2 form is intended to assist professionals responsible for security risk assessment processes in their management of medical device security issues. The information on the MDS2 form is not intended, and may be inappropriate, for other purposes.

NFRC (National Fenestration Rating Council)

Contact: Jen Padgett, (301) 589-1776, jpadgett@nfrc.org
6305 Ivy Lane, Suite 140, Greenbelt, MD 20770

New Standard

BSR/NFRC 202-201x, Procedure for Determining Translucent Fenestration Product Visible Transmittance at Normal Incidence (new standard)

Stakeholders: Manufacturers and vendors of fenestration products or components; consumers and consumer advocacy organizations; construction and building professionals; education and research institutions; energy building code officials; organizations concerned with energy efficiency.

Project Need: NFRC 202 is necessary for the fenestration industry to accurately rate energy performance of products to enable code compliance and a fair marketplace.

To specify a test method for translucent panels to determine the visible transmittance (VTcog) at normal (perpendicular) incidence in accordance with ASTM E972 and ASTM E108.4 (except where noted).

BSR/NFRC 203-201x, Procedure for Determining Visible Transmittance of Tubular Daylighting Devices (new standard)

Stakeholders: Manufacturers and vendors of fenestration products or components; consumers and consumer advocacy organizations; construction and building professionals; education and research institutions; energy building code officials; organizations concerned with energy efficiency.

Project Need: NFRC 203 is necessary for the fenestration industry to accurately rate energy performance of products to enable code compliance and a fair marketplace.

To specify a method for measuring the visible transmittance (VT) of Tubular Daylighting Devices (TDD at an NFRC pre-determined set of representative annual solar incidence angles in accordance with ASTM E1175 (except where noted), and determining the annual visible transmittance rating (VT annual) according to a prescribed weighted-average method.

RESNA (Rehabilitation Engineering and Assistive Technology Society of North America)

Contact: Yvonne Meding, (703) 524-6686, YMeding@resna.org
1560 Wilson Blvd., Suite 850, Arlington, VA 22209-1903

Revision

BSR/RESNA SS-1-201x, RESNA Standard for Support Surfaces - Volume 1: Requirements and Test Methods for Full Body Support Surfaces (revision of ANSI/RESNA SS-1-2019)

Stakeholders: Clinicians, manufacturers, and vendors of full body support surfaces, researchers, test laboratories, patients, caregivers, hospital managers, and purchasing agents

Project Need: Since no one full-body support surface is best for all patients, a wide variety of surfaces are available. There is a need for consistent information to evaluate characteristics of support surfaces based on standardized testing that simulates body loading. The current standard is being revised to add additional test methods to address (1) performance tests for active support surfaces such as support surfaces with alternating pressure features and (2) performance tests for characterizing the support surface response to a user sitting on the edge of the bed or moving toward the edge of the bed.

This standard applies to full-body support surfaces (i.e., mattresses, mattress overlays, and integrated bed systems). Revisions will address the following methods: measuring horizontal stiffness, measuring envelopment or conformation to the irregularities of a body to distribute pressure, characterizing how well a support surface envelopes a dual semispherical indenter, measuring the alternating pressure characteristics, measuring the response to a person sitting on or moving toward the edge of a bed and measuring heat and water vapor dissipation properties of full-body support surfaces. This information intends to help differentiate performance characteristics of support surfaces and is not intended to determine overall performance, ranking, or scoring of such surfaces.

SCTE (Society of Cable Telecommunications Engineers)

Contact: Rebecca Yaletchko, (484) 252-2330, ryaletchko@scte.org
140 Philips Road, Exton, PA 19341-1318

Revision

BSR/SCTE 128-1-201x, AVC Video Constraints for Cable Television - Part 1: Coding (revision of ANSI/SCTE 128-1-2018)

Stakeholders: Telecommunications.

Project Need: Update to current technology.

This document defines the video coding constraints on ITU-T Rec. H.264 | ISO/IEC 14496-10 video compression (called "AVC" in this standard) for Cable Television. In particular, this document describes the constraints on AVC-coded video elementary streams in an MPEG-2 service multiplex (single- or multi-program Transport Stream).

BSR/SCTE 215-1-201x, HEVC Video Constraints for Cable Television - Part 1: Coding (revision of ANSI/SCTE 215-1-2015)

Stakeholders: Telecommunications.

Project Need: Update to current technology.

This document defines the coding constraints on ITU-T Rec. H.265 | ISO/IEC 23008-2 video compression (called "HEVC" in this standard) for Cable Television. In particular, this document describes the coding of a single HEVC-coded video elementary stream carried in MPEG-2 transport (ISO/IEC 13818-1) for linear delivery systems supporting ad insertion services. Beyond linear delivery with DPI, signaling is provided for segmentation of content for xDVR applications.

TAPPI (Technical Association of the Pulp and Paper Industry)

Contact: Priscila Briggs, (770) 209-7249, standards@tappi.org
15 Technology Parkway South, Suite 115, Peachtree Corners, GA 30092

Reaffirmation

BSR/TAPPI T 257 sp-2014 (R201x), Sampling and preparing wood for analysis (reaffirmation of ANSI/TAPPI T 257 sp-2014)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products, consumers or converters of such products, and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This practice is applicable to the sampling of wood for all chemical tests. The procedures describe the sampling of wood in all forms, i.e., logs, chips, or sawdust. Two sampling plans are described: A probability sampling plan which provides test units from which some property of the wood may be determined within known and controlled limits at a minimum total cost; an economic or engineered sampling plan which minimizes errors due to variations in the raw material or the quality of the lot.

BSR/TAPPI T 277 sp-2014 (R201x), Macro stickies content in pulp: The pick-up method (reaffirmation of ANSI/TAPPI T 277 sp -2014)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products, consumers or converters of such products, and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This standard practice describes removing and preparation of a test specimen that can be analyzed for determining heat-set area and number of macro stickies in a specified amount of pulp screened. The method applies to a wide range of pulps, typically, recycled pulp. The standard practice does not quantify content of micro-stickies.

TIA (Telecommunications Industry Association)

Contact: Teesha Jenkins, (703) 907-7706, standards@tiaonline.org
1320 North Courthouse Road, Suite 200, Arlington, VA 22201

Addenda

BSR/TIA 102.AACA-A-1-201x, Project 25 Digital Radio Over-The-Air-Rekeying (OTAR) Messages and Procedures - Addendum 1 (addenda to ANSI/TIA 102.AACA-A-2014)

Stakeholders: Manufacturers and users of Over-The-Air-Rekeying (OTAR) equipment.

Project Need: Update standard.

This addendum provides clarifications to the key selection rules for encrypted communications when a single key radio and a multi-key radio are both engaged in the same protected call.

UL (Underwriters Laboratories, Inc.)

Contact: Jennifer Fields, (919) 549-1007, jennifer.fields@ul.com
12 Laboratory Dr., Research Triangle Park, NC 27709

New Standard

BSR/UL 1795-201x, Standard for Safety for Hydromassage Bathtubs (new standard)

Stakeholders: Manufacturers of massaging bathtubs, manufacturers of their components, consumers.

Project Need: To obtain national recognition of a standard covering hydromassage bathtubs.

These requirements cover indoor hydromassage bathtubs, rated 250 volts or less, for household and commercial use, for permanent connection to the plumbing of the building. They are intended for either permanent connection to the electrical supply or are factory-provided with a cord terminating in an attachment plug, and are intended for installation and use in accordance with the National Electrical Code, NFPA 70.

BSR/UL 2452-201x, Standard for Safety for Electric Swimming Pool and Spa Cover Operators (new standard)

Stakeholders: Manufacturers of swimming pool cover operators and other parts and accessories, consumers, regulatory agencies.

Project Need: To obtain national recognition of a standard covering electric swimming pool and spa cover operators.

These requirements cover electric swimming pool cover operators intended for installation and use in accordance with Article 680 of the National Electrical Code, NFPA 70. These requirements are intended to address, but not be limited to, electric fire, shock, and casualty hazards. The requirements are not intended to address the ability of the cover to function as a barrier to unauthorized access to a swimming pool or spa to help prevent drowning.

American National Standards Maintained Under Continuous Maintenance

The ANSI Essential Requirements: Due Process Requirements for American National Standards provides two options for the maintenance of American National Standards (ANS): periodic maintenance (see clause 4.7.1) and continuous maintenance (see clause 4.7.2). Continuous maintenance is defined as follows:

The standard shall be maintained by an accredited standards developer. A documented program for periodic publication of revisions shall be established by the standards developer. Processing of these revisions shall be in accordance with these procedures. The published standard shall include a clear statement of the intent to consider requests for change and information on the submittal of such requests. Procedures shall be established for timely, documented consensus action on each request for change and no portion of the standard shall be excluded from the revision process. In the event that no revisions are issued for a period of four years, action to reaffirm or withdraw the standard shall be taken in accordance with the procedures contained in the ANSI Essential Requirements.

The Executive Standards Council (ExSC) has determined that for standards maintained under the Continuous Maintenance option, separate PINS announcements are not required. The following ANSI Accredited Standards Developers have formally registered standards under the Continuous Maintenance option

- **AAMI (Association for the Advancement of Medical Instrumentation)**
- **AARST (American Association of Radon Scientists and Technologists)**
- **AGA (American Gas Association)**
- **AGSC-AGRSS (Auto Glass Safety Council)**
- **ASC X9 (Accredited Standards Committee X9, Incorporated)**
- **ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)**
- **ASME (American Society of Mechanical Engineers)**
- **ASTM (ASTM International)**
- **GBI (Green Building Initiative)**
- **HL7 (Health Level Seven)**
- **IES (Illuminating Engineering Society)**
- **ITI (InterNational Committee for Information Technology Standards)**
- **MHI (Material Handling Industry)**
- **NAHBRC (NAHB Research Center, Inc.)**
- **NBBPVI (National Board of Boiler and Pressure Vessel Inspectors)**
- **NCPDP (National Council for Prescription Drug Programs)**
- **NEMA (National Electrical Manufacturers Association)**
- **NISO (National Information Standards Organization)**
- **NSF (NSF International)**
- **PRCA (Professional Ropes Course Association)**
- **RESNET (Residential Energy Services Network, Inc.)**
- **SAE (SAE International)**
- **TCNA (Tile Council of North America)**
- **TIA (Telecommunications Industry Association)**
- **UL (Underwriters Laboratories, Inc.)**

To obtain additional information with regard to these standards, including contact information at the ANSI Accredited Standards Developer, please visit ANSI Online at www.ansi.org/asd, select “Standards Activities,” click on “Public Review and Comment” and “American National Standards Maintained Under Continuous Maintenance.” This information is also available directly at www.ansi.org/publicreview

Alternatively, you may contact the Procedures & Standards Administration department (PSA) at psa@ansi.org or via fax at 212-840-2298. If you request that information be provided via E-mail, please include your E-mail address; if you request that information be provided via fax, please include your fax number. Thank you.

ANSI-Accredited Standards Developers Contact Information

The addresses listed in this section are to be used in conjunction with standards listed in PINS, Call for Comment and Final Actions. This section is a list of developers who have submitted standards for this issue of *Standards Action* – it is not intended to be a list of all ANSI-Accredited Standards Developers. Please send all address corrections to Standards Action Editor at standact@ansi.org.

AAMI
Association for the Advancement of Medical Instrumentation
901 N. Glebe Road, Suite 300
Arlington, VA 22203
Phone: (703) 647-2779
Web: www.aami.org

ASA (ASC S3)
Acoustical Society of America
1305 Walt Whitman Road
Suite 300
Melville, NY 11747
Phone: (631) 390-0215
Web: www.acousticalsociety.org

ASC X9
Accredited Standards Committee X9, Incorporated
275 West Street
Suite 107
Annapolis, MD 21401
Phone: (410) 267-7707
Web: www.x9.org

ASCA
Accredited Snow Contractors Association
4012 Kinross Lakes Parkway, #201
Valley View, OH 44125
Phone: (216) 393-0303
Web: www.ascaonline.org

ASHRAE
American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329-2305
Phone: (678) 539-1125
Web: www.ashrae.org

ASME
American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990
Phone: (212) 591-8521
Web: www.asme.org

ASPE
American Society of Plumbing Engineers
6400 Shafer Court
Suite 350
Rosemont, IL 60018
Phone: (847) 296-0002
Web: www.aspe.org

ASQ
American Society for Quality
600 N Plankinton Ave
Milwaukee, WI 53203
Phone: (800) 248-1946
Web: www.asq.org

ASSP (Safety)
American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, IL 60068
Phone: (847) 768-3411
Web: www.assp.org

AWS
American Welding Society
8669 NW 36th Street
Suite 130
Doral, FL 33166
Phone: (305) 443-9353
Web: www.aws.org

B11
B11 Standards, Inc.
PO Box 690905
Houston, TX 77269-0905
Phone: (832) 446-6999

CTA
Consumer Technology Association
1919 South Eads Street
Arlington, VA 22202
Phone: (703) 907-7697
Web: www.cta.tech

ECIA
Electronic Components Industry Association
13873 Park Center Road
Suite 315
Herndon, VA 20171
Phone: (571) 323-0294
Web: www.ecianow.org

ESTA
Entertainment Services and Technology Association
630 Ninth Avenue
Suite 609
New York, NY 10036-3748
Phone: (212) 244-1505
Web: www.esta.org

HI
Hydraulic Institute
6 Campus Drive
Parsippany, NJ 07054
Phone: (973) 267-9700
Web: www.pumps.org

Home Innovation
Home Innovation Research Labs
400 Prince George's Boulevard
Upper Marlboro, MD 20774-8731
Phone: (301) 430-6314
Web: www.HomeInnovation.com

HPS (ASC N13)
Health Physics Society
1313 Dolley Madison Blvd #402
McLean, VA 22101
Phone: (703) 790-1745
Web: www.hps.org

IAPMO (ASSE Chapter)
ASSE International Chapter of IAPMO
18927 Hickory Creek Dr Suite 220
Mokena, IL 60448
Phone: (708) 995-3017
Web: www.asse-plumbing.org

IAPMO (Z)
International Association of Plumbing & Mechanical Officials
5001 East Philadelphia Street
Ontario, CA 91761
Phone: (909) 230-5534
Web: www.iapmort.org

ICC
International Code Council
4051 Flossmoor Road
Country Club Hills, IL 60478
Phone: (888) 422-7233 Ext.-4205
Web: www.iccsafe.org

ITI (INCITS)
InterNational Committee for Information Technology Standards
1101 K Street NW
Suite 610
Washington, DC 20005-3922
Phone: (202) 737-8888
Web: www.incits.org

LIA (ASC Z136)
Laser Institute of America
13501 Ingenuity Drive
Suite 128
Orlando, FL 32826
Phone: (407) 380-1553
Web: www.laserinstitute.org

NEBB
National Environmental Balancing Bureau
8575 Grovemont Circle
Gaithersburg, MD 20877
Phone: (301) 591-0492
Web: www.nebb.org

NEMA (ASC C136)
National Electrical Manufacturers Association
1300 North 17th Street
Suite 900
Rosslyn, VA 22209
Phone: (703) 841-3234
Web: www.nema.org

NEMA (Canvass)
National Electrical Manufacturers Association
1300 N 17th St
Rosslyn, VA 22209
Phone: (703) 841-3285
Web: www.nema.org

NFPA
National Fire Protection Association
One Batterymarch Park
Quincy, MA 02269-9101
Phone: (617) 984-7248
Web: www.nfpa.org

NFRC
National Fenestration Rating Council
6305 Ivy Lane
Suite 140
Greenbelt, MD 20770
Phone: (301) 589-1776
Web: www.nfrc.org

NSF
NSF International
789 N. Dixboro Road
Ann Arbor, MI 48105-9723
Phone: (734) 418-6660
Web: www.nsf.org

OPEI
Outdoor Power Equipment Institute
1605 King Street
Alexandria, VA 22314
Phone: (703) 549-7600
Web: www.opei.org

PLASTICS
Plastics Industry Association
1425 K Street NW, Suite 500
Washington, DC 20005
Phone: (202) 974-5217
Web: www.plasticsindustry.org

RESNA
Rehabilitation Engineering and Assistive Technology Society of North America

1560 Wilson Blvd.
Suite 850
Arlington, VA 22209-1903
Phone: (703) 524-6686

Web: www.resna.org

SCTE
Society of Cable Telecommunications Engineers

140 Philips Road
Exton, PA 19341-1318
Phone: (484) 252-2330

Web: www.scte.org

TAPPI
Technical Association of the Pulp and Paper Industry

15 Technology Parkway South
Suite 115
Peachtree Corners, GA 30092
Phone: (770) 209-7249

Web: www.tappi.org

TIA
Telecommunications Industry Association

1320 North Courthouse Road
Suite 200
Arlington, VA 22201
Phone: (703) 907-7706

Web: www.tiaonline.org

UL
Underwriters Laboratories, Inc.

12 Laboratory Dr.
Research Triangle Park, NC 27709
Phone: (919) 549-1007

Web: www.ul.com

ISO & IEC Draft International Standards

This section lists proposed standards that the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) are considering for approval. The proposals have received substantial support within the technical committees or subcommittees that developed them and are now being circulated to ISO and IEC members for comment and vote. Standards Action readers interested in reviewing and commenting on these documents should order copies from ANSI.

Comments

Comments regarding ISO documents should be sent to ANSI's ISO Team (isot@ansi.org); comments on ISO documents must be submitted electronically in the approved ISO template and as a Word document as other formats will not be accepted.

Those regarding IEC documents should be sent to Tony Zertuche, General Secretary, USNC/IEC, at ANSI's New York offices (tzertuche@ansi.org). The final date for offering comments is listed after each draft.

Ordering Instructions

ISO and IEC Drafts can be made available by contacting ANSI's Customer Service department. Please e-mail your request for an ISO or IEC Draft to Customer Service at sales@ansi.org. When making your request, please provide the date of the Standards Action issue in which the draft document you are requesting appears.

ISO Standards

AIR QUALITY (TC 146)

IEC/DIS 62990-2, Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours and oxygen, $125.00

CAST IRON AND PIG IRON (TC 25)

ISO/DIS 17804, Founding - Ausferritic spheroidal graphite cast irons - Classification - 5/17/2019, $98.00

FLUID POWER SYSTEMS (TC 131)

ISO/DIS 10770-3, Hydraulic fluid power - Electrically modulated hydraulic control valves - Part 3: Test methods for pressure control valves - 5/18/2019, $107.00

INTERNAL COMBUSTION ENGINES (TC 70)

ISO/DIS 3046-6, Reciprocating internal combustion engines - Performance - Part 6: Overspeed protection - 5/19/2019, $40.00

MACHINE TOOLS (TC 39)

ISO/DIS 14955-3, Machine tools - Environmental evaluation of machine tools - Part 3: Principles for testing metal-cutting machine tools with respect to energy efficiency - 5/20/2019, $102.00

PULLEYS AND BELTS (INCLUDING VEEBELTS) (TC 41)

ISO/DIS 21178, Light conveyor belts - Determination of electrical resistances - 5/20/2019, $82.00

REFRIGERATION (TC 86)

ISO/DIS 22043, Ice-cream freezers - Classification, requirements and test conditions - 5/20/2019, $119.00

RISK MANAGEMENT (TC 262)

ISO/DIS 31022, Risk management - Guidelines for the management of legal risk - 5/23/2019, $112.00

ROAD VEHICLES (TC 22)

ISO/DIS 4513, Road vehicles - Visibility - Method for establishment of eyellipses for drivers eye location - 5/19/2019, $102.00

SHIPS AND MARINE TECHNOLOGY (TC 8)

ISO/DIS 23430, Ships and marine technology - Specification of high manganese austenitic steel thin strips used for LNG tanks on board ships - 5/20/2019, $40.00

ISO/IEC JTC 1, Information Technology

ISO/IEC DIS 18038, Information technology - Computer graphics, image processing and environmental representation - Sensor representation in mixed and augmented reality - 5/18/2019, $146.00

ISO/IEC DIS 30107-4, Information technology - Biometric presentation attack detection - Part 4: Profile for testing of mobile devices - 5/20/2019, $53.00

IEC Standards

2/1949/FDIS, IEC 60034-18-41/AMD1 ED1: Amendment 1 - Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in electrical rotating machines fed from voltage converters - Qualification and quality control tests, 2019/4/12

9/2492/FDIS, IEC 62848-2 ED1: Railway applications - DC surge arresters and voltage limiting devices - Part 2: Voltage limiting devices, 2019/4/12

10/1078/FDIS, IEC 63012 ED1: Insulating liquids - Unused modified or blended esters for electrotechnical applications, 2019/4/12

21/998/CD, IEC 63193 ED1: Lead-acid batteries for propulsion and operation of lightweight vehicles and equipment - General requirements and methods of test, 2019/4/26

22F/518/CDV, IEC 62823/AMD1 ED1: Thyristor valves for thyristor controlled series capacitors (TCSC) - Electrical testing, 2019/5/24

23B/1280(F)/CDV, IEC 60669-2-1 ED5: Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches, 019/5/3/

31/1445/CDV, IEC 62990-2 ED1: Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours and oxygen, 2019/5/24

34/598/CD, IEC 63117 ED1: General requirements for lighting systems - Safety, 2019/5/24

34/597/CD, IEC 63116 ED1: Lighting systems - General requirements, 2019/5/24

36A/198/INF, Proposed technical corrigendum to IEC 60137:2017 ED7, Insulated bushings for alternating voltages above 1000 V, 2019/4/12

38/603/NP, PNW 38-603: Station Service Voltage Transformers (SSVT), 2019/5/24

48B/2727/CD, IEC 61076-3-106 ED2: Connectors for electrical and electronic equipment - Product requirements - Part 3-106: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface, 2019/5/24

48B/2720/CDV, IEC 63171-6 ED1: Connectors for electrical and electronic components - Product requirements - Part 6: Connectors - Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for transmission capability and power supply capability with frequencies up to 600 MHz., 2019/5/24

57/2080A/DC, IEC TR 61850-90-20 ED1, Communication networks and systems for power utility automation - Part 90-20: Guideline to redundancy systems, 2019/3/29

61/5796/FDIS, IEC 60335-2-27 ED6: Household and similar electrical appliances - Safety - Part 2-27: Particular requirements for appliances for skin exposure to optical radiation, 2019/4/12

61/5797/FDIS, IEC 60335-2-9 ED7: Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances, 2019/4/12

61/5798/FDIS, IEC 60335-2-7 ED8: Household and similar electrical appliances - Safety - Part 2-7: Particular requirements for washing machines, 2019/4/12

61C/792/FDIS, IEC 60335-2-89 ED3: Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor, 2019/4/12

64/2369/DTR, IEC TR 60479-4 ED3: Effects of current on human beings and livestock - Part 4: Effects of lightning strokes, 2019/4/26

69/642/CD, IEC 61851-24 ED2: Electric vehicle conductive charging system - Part 24: Digital communication between a DC EV charging station and an electric vehicle for control of DC charging, 2019/5/24

69/641/CD, IEC 61851-23 ED2: Electric vehicle conductive charging system - Part 23: DC electric vehicle supply equipment, 2019/5/24

77B/798/CDV, IEC 61000-4-3 ED4: Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test, 2019/5/24

79/617(F)/CDV, IEC 60839-11-5 ED1: Alarm and electronic security systems - Part 11-5: Electronic access control systems - Open Supervised Device Protocol (OSDP), 2019/5/10

82/1566/DTS, IEC TS 62804-1-1 ED1: Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation - Part 1-1: Crystalline silicon - Delamination, 2019/5/24

82/1565/FDIS, IEC 63202-1 ED1: Photovoltaic cells - Part 1: Measurement of light-induced degradation of crystalline silicon photovoltaic cells, 2019/4/12

82/1570/CD, IEC TS 62910 ED2: Utility-interconnected photovoltaic inverters - Test procedure for low voltage ride-through measurements, 2019/4/26

101/580/NP, PNW 101-580: Standard test methods for specific applications --Testing of electrostatic properties of composite IBC - Testing within the scope of quality assurance and safety, 2019/5/24

104/823/CDV, IEC 60068-2-70 ED2: Environmental Testing - Part 2 -70: Tests - Test Xb: Abrasion of markings, letterings, surfaces and materials caused by rubbing of fingertips and hands, 2019/5/24

107/349/DTS, IEC TS 62686-1 ED3: Process management for avionics - Electronic components for aerospace, defence and high performance (ADHP) applications - Part 1: General requirements for high reliability integrated circuits and discrete semiconductors, 2019/5/24

107/351/DTR, IEC TR 63238-1 ED1: Process Management for Avionics - Electronics Design - Part 1: Interface Control Document (ICD), 2019/4/26

109/179(F)/CDV, IEC 60664-1 ED3: Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests, 2019/5/17

110/1086/CD, IEC TR 62977-5-1 ED1: Electronic displays - Part 5-1: Evaluation of optical performances - Visual assessment based on colour discrimination in dependence of viewing direction, 2019/4/26

111/514/CDV, IEC 62321-3-2 ED2: Determination of certain substances in electrotechnical products - Part 3-2: Screening of fluorine, bromine and chlorine in polymer and electronics by Combustion-Ion Chromatography (C-IC), 2019/5/24

113/461/NP, PNW TS 113-461: IEC TS 62607-6-16: Nanomanufacturing - Key control characteristics - Part 6-16: Two-dimensional materials - Doping concentration: Field effect transistor method, 2019/5/24

113/462/NP, PNW TS 113-462: Nanomanufacturing - Key control characteristics - Part 6-25: Two-dimensional materials - Doping concentration: Kelvin Probe Force Microsopy, 2019/5/24

119/256/FDIS, IEC 62899-204 ED1: Printed electronics - Part 204: Materials - Insulator ink, 2019/4/12

SyCLVDC/53/NP, PNW TS SYCLVDC-53: Systems Reference Document (SRD)- Predicting Electrical Compatibility - Part 2: Test Methods and Data Packet Coding, 2019/5/24

JTC1-SC25/2860/NP, PNW JTC1-SC25-2860: Information Technology - Fibre Channel - Security Prorcols-2 (FC-SP-2), 2019/5/24

Newly Published ISO Standards

Listed here are new and revised standards recently approved and promulgated by ISO - the International Organization for Standardization. Most are available at the ANSI Electronic Standards Store (ESS) at www.ansi.org. All paper copies are available from Standards resellers (http://webstore.ansi.org/faq.aspx#resellers).

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 20613:2019, Sensory analysis - General guidance for the application of sensory analysis in quality control, $68.00

CRANES (TC 96)

ISO 9927-3:2019, Cranes - Inspections - Part 3: Tower cranes, $138.00

ISO 10245-3:2019, Cranes - Limiting and indicating devices - Part 3: Tower cranes, $68.00

DIMENSIONAL AND GEOMETRICAL PRODUCT SPECIFICATIONS AND VERIFICATION (TC 213)

ISO 25178-600:2019, Geometrical product specifications (GPS) - Surface texture: Areal - Part 600: Metrological characteristics for areal topography measuring methods, $138.00

DOCUMENTS AND DATA ELEMENTS IN ADMINISTRATION, COMMERCE AND INDUSTRY (TC 154)

ISO 8601-1:2019, Date and time - Representations for information interchange - Part 1: Basic rules, $185.00

ISO 8601-2:2019, Date and time - Representations for information interchange - Part 2: Extensions, $209.00

ENERGY MANAGEMENT AND ENERGY SAVINGS (TC 301)

ISO 50046:2019, General methods for predicting energy savings, $209.00

EQUIPMENT FOR FIRE PROTECTION AND FIRE FIGHTING (TC 21)

ISO 6182-4:2019, Fire protection - Automatic sprinkler systems - Part 4: Requirements and test methods for quick opening devices, $68.00

FINE CERAMICS (TC 206)

ISO 21618:2019, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for fracture resistance of monolithic ceramics at room temperature by indentation fracture (IF) method, $103.00

GEOSYNTHETICS (TC 221)

ISO 10320:2019, Geosynthetics - Identification on site, $45.00

OTHER

IWA 29:2019, Professional farmer organization - Guidelines, $103.00

ISO 17072-1:2019, Leather - Chemical determination of metal content - Part 1: Extractable metals, $68.00

ISO 17072-2:2019, Leather - Chemical determination of metal content - Part 2: Total metal content, $68.00

PIGMENTS, DYESTUFFS AND EXTENDERS (TC 256)

ISO 473:2019, Lithopone pigments - General requirements and methods of testing, $68.00

ISO 787-9:2019, General methods of test for pigments and extenders - Part 9: Determination of pH value of an aqueous suspension, $45.00

ISO 787-14:2019, General methods of test for pigments and extenders - Part 14: Determination of resistivity of aqueous extract, $45.00

PLAIN BEARINGS (TC 123)

ISO 4384-1:2019, Plain bearings - Hardness testing of bearing metals - Part 1: Multilayer bearings materials, $45.00

PLASTICS (TC 61)

ISO 846:2019, Plastics - Evaluation of the action of microorganisms, $138.00

ISO 1183-1:2019, Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method, $68.00

ISO 1183-2:2019, Plastics - Methods for determining the density of non-cellular plastics - Part 2: Density gradient column method, $68.00

ISO 15023-2:2019, Plastics - Poly(vinyl alcohol) (PVAL) materials - Part 2: Determination of properties, $103.00

ISO 19062-2:2019, Plastics - Acrylonitrile-butadiene-styrene (ABS) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties, $68.00

ISO 19065-2:2019, Plastics - Acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties, $68.00

PLASTICS PIPES, FITTINGS AND VALVES FOR THE TRANSPORT OF FLUIDS (TC 138)

ISO 6964:2019, Polyolefin pipes and fittings - Determination of carbon black content by calcination and pyrolysis - Test method, $68.00

ISO 10146:2019, Crosslinked polyethylene (PE-X) and crosslinked medium density polyethylene (PE-MDX) - Effect of time and temperature on expected strength, $68.00

ROAD VEHICLES (TC 22)

ISO 20078-1:2019, Road vehicles - Extended vehicle (ExVe) web services - Part 1: Content, $103.00

ISO 20078-2:2019, Road vehicles - Extended vehicle (ExVe) web services - Part 2: Access, $138.00

RUBBER AND RUBBER PRODUCTS (TC 45)

ISO 19385/Amd1:2019, Rubber and plastics hoses and hose assemblies, wire- or textile-reinforced, for water jetting or water blasting applications - Specification - Amendment 1, $19.00

SOIL QUALITY (TC 190)

ISO 21286:2019, Soil quality - Identification of ecotoxicological test species by DNA barcoding, $138.00

TECHNICAL DRAWINGS, PRODUCT DEFINITION AND RELATED DOCUMENTATION (TC 10)

ISO 20318-1:2019, Mechanical pencils and leads for general use - Classification, dimensions, quality and test methods - Part 1: Mechanical pencils, $68.00

TEXTILES (TC 38)

ISO 1833-12:2019, Textiles - Quantitative chemical analysis - Part 12: Mixtures of acrylic, certain modacrylics, certain chlorofibres, certain elastane fibres with certain other fibres (method using dimethylformamide), $45.00

TRADITIONAL CHINESE MEDICINE (TC 249)

ISO 21317:2019, Traditional Chinese medicine - Lonicera japonica flower, $103.00

WATER QUALITY (TC 147)

ISO 12010:2019, Water quality - Determination of short-chain polychlorinated alkanes (SCCP) in water - Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionization (NCI), $185.00

ISO Technical Specifications

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO/TS 16393:2019, Molecular biomarker analysis - Determination of the performance characteristics of qualitative measurement methods and validation of methods, $162.00

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO/TS 19139-1:2019, Geographic information - XML schema implementation - Part 1: Encoding rules, $185.00

SERVICE ACTIVITIES RELATING TO DRINKING WATER SUPPLY SYSTEMS AND WASTEWATER SYSTEMS - QUALITY CRITERIA OF THE SERVICE AND PERFORMANCE INDICATORS (TC 224)

ISO/TS 24522:2019, Event detection process: Guidelines for water and wastewater utilities, $209.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 30129/Amd1:2019, Information technology - Telecommunications bonding networks for buildings and other structures - Amendment 1, $45.00

ISO/IEC 15434:2019, Information technology - Automatic identification and data capture techniques - Syntax for high-capacity ADC media, $103.00

ISO/IEC 18039:2019, Information technology - Computer graphics, image processing and environmental data representation - Mixed and augmented reality (MAR) reference model, $209.00

ISO/IEC 19479:2019, Information technology for learning, education, and training - Learner mobility achievement information (LMAI), $162.00

ISO/IEC 20546:2019, Information technology - Big data - Overview and vocabulary, $68.00

ISO/IEC 23005-5:2019, Information technology - Media context and control - Part 5: Data formats for interaction devices, $232.00

ISO/IEC 23008-3:2019, Information technology - High efficiency coding and media delivery in heterogeneous environments - Part 3: 3D audio, $232.00

ISO/IEC 14496-33:2019, Information technology - Coding of audio-visual objects - Part 33: Internet video coding, $232.00

Proposed Foreign Government Regulations

Call for Comment

U.S. manufacturers, exporters, regulatory agencies and standards developing organizations may be interested in proposed foreign technical regulations notified by Member countries of the World Trade Organization (WTO). In accordance with the WTO Agreement on Technical Barriers to Trade (TBT Agreement), Members are required to notify proposed technical regulations that may significantly affect trade to the WTO Secretariat in Geneva, Switzerland. In turn, the Secretariat issues and makes available these notifications. The purpose of the notification requirement is to provide global trading partners with an opportunity to review and comment on the regulations before they become final.

The USA Inquiry Point for the WTO TBT Agreement is located at the National Institute of Standards and Technology (NIST) in the Standards Coordination Office (SCO). The Inquiry Point distributes the notified proposed foreign technical regulations (notifications) and makes the associated full-texts available to U.S. stakeholders via its online service, Notify U.S. Interested U.S. parties can register with Notify U.S. to receive e-mail alerts when notifications are added from countries and industry sectors of interest to them.

To register for Notify U.S., please visit http://www.nist.gov/notifyus/.

The USA WTO TBT Inquiry Point is the official channel for distributing U.S. comments to the network of WTO TBT Enquiry Points around the world. U.S. business contacts interested in commenting on the notifications are asked to review the comment guidance available on Notify U.S. at https://tsapps.nist.gov/notifyus/data/guidance/guidance.cfm prior to submitting comments.

For further information about the USA TBT Inquiry Point, please visit: https://www.nist.gov/standardsgov/what-we-do/trade-regulatory-programs/usa-wto-tbt-inquiry-point

Contact the USA TBT Inquiry Point at:(301) 975-2918; Fax: (301) 926-1559; E-mail: usatbtep@nist.gov or notifyus@nist.gov.

Information Concerning

American National Standards

Call for Members

INCITS Executive Board – ANSI Accredited SDO and US TAG to ISO/IEC JTC 1, Information Technology

The InterNational Committee for Information Technology Standards (INCITS), an ANSI accredited SDO, is the forum of choice for information technology developers, producers and users for the creation and maintenance of formal de jure IT standards. INCITS' mission is to promote the effective use of Information and Communication Technology through standardization in a way that balances the interests of all stakeholders and increases the global competitiveness of the member organizations.

The INCITS Executive Board serves as the consensus body with oversight of its 40+ Technical Committees. Additionally, the INCITS Executive Board has the international leadership role as the US Technical Advisory Group (TAG) to ISO/IEC JTC 1, Information Technology.

Membership in the INCITS Executive Board is open to all directly and materially affected parties in accordance with INCITS membership rules. To find out more about participating on the INCITS Executive Board, contact Jennifer Garner at jgarner@itic.org or visit http://www.incits.org/participation/membership-info for more information.

Membership in all interest categories is always welcome; however, the INCITS Executive Board seeks to broaden its membership base in the following categories:

- Service Providers
- Users
- Standards Development Organizations and Consortia
- Academic Institutions

Society of Cable Telecommunications

ANSI Accredited Standards Developer

SCTE, an ANSI-accredited SDO, is the primary organization for the creation and maintenance of standards for the cable telecommunications industry. SCTE's standards mission is to develop standards that meet the needs of cable system operators, content providers, network and customer premises equipment manufacturers, and all others who have an interest in the industry through a fair, balanced and transparent process.

SCTE is currently seeking to broaden the membership base of its consensus bodies and is interested in new members in all membership categories to participate in new work in fiber-optic networks, advanced advertising, 3D television, and other important topics. Of particular interest is membership from the content (program and advertising) provider and user communities.

Membership in the SCTE Standards Program is open to all directly a materially affected parties as defined in SCTE's membership rules and operating procedures. More information is available at www.scte.org or by e-mail from standards@scte.org.

ANSI Accredited Standards Developers

Application for Accreditation and Request for Approval as TAG Administrator

Association of Equipment Manufacturers (AEM)

Comment Deadline: April 8, 2019

The Association of Equipment Manufacturers (AEM) has submitted an Application for Accreditation for a new proposed U.S. Technical Advisory Group (TAG) to ISO TC 82/SC 8, Advanced automated mining systems and a request for approval as TAG Administrator. The proposed TAG intends to operate using the Model Operating Procedures for U.S. Technical Advisory Groups to ANSI for ISO Activities as contained in Annex A of the ANSI International Procedures.

To obtain a copy of the TAG application or to offer comments, please contact: Mr. Michael Pankonin, Senior Director, Tech & Safety Services, Association of Equipment Manufacturers, 6737 W. Washington Street, Suite 2400, Milwaukee, WI 53214; phone: 414.298.4128; e-mail: mpankonin@aem.org (please copy jthompso@ansi.org). Please submit your comments by April 8, 2019.

Approval of Reaccreditation

Aerospace Industries Association (AIA)

The reaccreditation of the Aerospace Industries Association (AIA), an ANSI member and Accredited Standards Developer (ASD), has been approved at the direction of ANSI's Executive Standards Council, under its recently revised operating procedures for documenting consensus on AIA-sponsored American National Standards, effective March 5, 2019. For additional information, please contact: Mr. Christopher Carnahan, AVP, Technical Operations & Standards, Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209; phone: 703.358.1052; e-mail: chris.carnahan@aia-aerospace.org.

AMC Institute (AMCI)

The reaccreditation of the AMC Institute (AMCI), an ANSI member and Accredited Standards Developer (ASD), has been approved at the direction of ANSI's Executive Standards Council, under its recently revised operating procedures for documenting consensus on AMCI-sponsored American National Standards, effective March 5, 2019. For additional information, please contact: Ms. Erin Carter, Associate Executive Director, AMC Institute, 908 King Street, Suite 320, Alexandria, VA 22314; phone: 703.570.8954; e-mail: ecarter@amcinstitute.org.

Concrete Reinforcing Steel Institute (CRSI)

The reaccreditation of the Concrete Reinforcing Steel Institute (CRSI), an ANSI member and Accredited Standards Developer (ASD), has been approved at the direction of ANSI's Executive Standards Council, under its recently revised operating procedures for documenting consensus on CRSI-sponsored American National Standards, effective March 5, 2019. For additional information, please contact: Ms. Amy Trygestad, Director of Codes & Standards, Concrete Reinforcing Steel Institute, 933 N. Plum Grove Road, Schaumburg, IL 60173; phone: 630.380.5874; e-mail: atrygestad@crsi.org.

Reaccreditation

Outdoor Power Equipment Institute (OPEI)

Comment Deadline: April 8, 2019

The Outdoor Power Equipment Institute (OPEI), an ANSI member and Accredited Standards Developer (ASD), has submitted revisions to its currently accredited operating procedures for documenting consensus on OPEI-sponsored American National Standards, under which it was last reaccredited in 2018. As the revisions appear to be substantive in nature, the reaccreditation process is initiated.

To obtain a copy of the revised procedures or to offer comments, please contact: Mr. Greg Knott, Vice-President, Standards and Regulatory Affairs, Outdoor Power Equipment Institute, 1605 King Street, Alexandria, VA 22314; phone: 703.549.7600; e-mail: GKnott@opei.org. You may view/download a copy of the revisions during the public review period at the following URL: www.ansi.org/accredPR. Please submit any public comments on the revised procedures to OPEI by April 8, 2019, with a copy to the ExSC Recording Secretary in ANSI's New York Office (E-mail: Jthompso@ANSI.org).

X12. Inc. (X12)

Comment Deadline: April 8, 2019

X12, Inc. (X12), an ANSI member and Accredited Standards Developer (ASD), has submitted revisions to its currently accredited operating procedures for documenting consensus on X12-sponsored American National Standards, under which it was last reaccredited in 2014. As the revisions appear to be substantive in nature, the reaccreditation process is initiated.

To obtain a copy of the revised procedures or to offer comments, please contact: Ms. Cathy Sheppard, X12 Executive Director, X12, Inc., 24654 N. Lake Pleasant Parkway, Suite 103, #275, Peoria, AZ 85383; phone: 703.970.4480; e-mail: csheppard@x12.org. You may view/download a copy of the revisions during the public review period at the following URL: www.ansi.org/accredPR. Please submit any public comments on the revised procedures to X12, Inc. by April 8, 2019, with a copy to the ExSC Recording Secretary in ANSI's New York Office (E-mail: Jthompso@ANSI.org).

International Organization for Standardization (ISO)

Call for U.S. TAG Administrator

ISO/TC 234 – Fisheries and Aquaculture

ANSI has been informed that American Society of Agricultural and Biological Engineers (ASABE), the ANSI-accredited U.S. TAG Administrator for ISO/TC 234, wishes to relinquish their role as U.S. TAG Administrator.

ISO/TC 234 operates under the following scope:

Standardization in the field of fisheries and aquaculture, including, but not limited to, terminology, technical specifications for equipment and for their operation, characterization of aquaculture sites and maintenance of appropriate physical, chemical and biological conditions, environmental monitoring, data reporting, traceability and waste disposal.

Excluded:

- methods of analysis of food products and traceability (covered by ISO/TC 34);
- personal protective clothing (covered by ISO/TC 94);
- environmental monitoring (covered by ISO/TC 207).

Organizations interested in serving as the U.S. TAG Administrator or participating on a U.S. TAG should contact ANSI's ISO Team (isot@ansi.org).

Information Concerning

ANSI Accredited Standards Developer

3-A SSI Announces Vacancies in 3-A Steering Committee User Interest Category

3-A Sanitary Standards, Inc. is 501(c)(3) not-for-profit, Accredited Standards Developer (ASD) with the global mission of enhancing product safety for consumers of food, beverages, and pharmaceutical products through the development and use of 3-A Sanitary Standards and 3-A Accepted Practices. To accomplish this mission, we ensure that all active industry stakeholders are engaged in standardization of food processing equipment and systems.

As a requirement and condition of maintaining our ANSI accreditation (American National Standards Institute), our Procedures for the Development and Maintenance of 3-A SSI Standards and 3-A Accepted Practices http://www.3-a.org/Standards-Committees/Working-Groups model the ANSI Essential Requirements: Due Process Requirements for American National Standards, wherein, Clause 1.1 of the ANSI ER states: Participation shall be open to all persons who are directly and materially affected by the activity in question. There shall be no undue financial barriers to participation. Voting membership on the consensus body shall not be conditional upon membership in any organization, nor unreasonably restricted on the basis of technical qualifications or other such requirements. As such, 3-A SSI is announcing the open vacancy of several User Interest Category Steering Committee (consensus body) voting positions.

If you are a person who is directly and materially affected by our standards development activities and would like to be a part of a valuable standards developing organization and assist our mission, please contact us to learn more: Eric Schweitzer, (703) 790-0295, erics@3-a.org.

Information Concerning

Call for Proposals

National Electrical Manufacturers Association (ASC C84)

New revision to ANSI C84.1-2016 – American National Standard for Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

Comment Deadline: May 30, 2019

A new revision of ANSI C84.1 is scheduled for publication in June 2020. This edition is likely to consider higher allowable voltage ranges and/or voltage rise in dedicated circuits for renewable energy resources to coordinate with IEEE 1547 and the National Electrical Code. Please review the standard individually and send any comments and proposals for revision you may have by May 30, 2019. Please submit your proposals/comments on the form in the link below and provide in your proposal the exact language you would like to see in the standard using underline for new text and strikethrough for text to be deleted. A copy of the standard and proposal/comments form can be downloaded from this link. The Scope of ANSI C84.1 is as follows:

This standard establishes nominal voltage ratings and operating tolerances for 60Hz electric power systems above 100 volts. It also makes recommendations to other standardizing groups with respect to voltage ratings for equipment used on power systems and for utilization devices connected to such systems.

This standard includes preferred voltage ratings up to and including 1200 kV maximum system voltage, as defined in the standard.

In defining maximum system voltage, voltage transients and temporary overvoltages caused by abnormal system conditions such as faults, load rejection, and the like are excluded. However, voltage transients and temporary overvoltages may affect equipment operating performance and are considered in equipment application.

If you have any questions, please contact Khaled Masri, Program Manager, at khaled.masri@nema.org.

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Information Concerning

Call for U.S. TAG Administrators

TC 72 – *Textile Machinery and Accessories*

There is currently no ANSI-accredited U.S. TAG Administrator for TC 72, TC 72/SC 1, TC 72/SC 3, TC 72/SC 5, TC 72/SC 8, and TC 72/SC 10, and therefore ANSI is not a member of these committees. The Secretariats for these committees are currently held by Switzerland (SNV) for TC 72, TC 72,SC 1, and TC 72/SC 10; and Germany (DIN) for TC 72/SC 3, TC 72/SC 5, and TC 72/SC 8.

TC 72 operates under the following scope:

Standardization of textile machinery, parts thereof and of accessories; machinery for dry-cleaning and industrial laundering and parts thereof and of accessories.

TC 72/SC 1 operates under the following scope:

Spinning preparatory, spinning, twisting and winding machinery and accessories

TC 72/SC 3 operates under the following scope:

Machinery for fabric manufacturing including preparatory machinery and accessories

TC 72/SC 5 operates under the following scope:

Industrial laundry and dry-cleaning machinery and accessories

TC 72/SC 8 operates under the following scope:

Safety requirements for textile machinery

TC 72/SC 10 operates under the following scope:

Common standards

Organizations interested in serving as the U.S. TAG Administrator or participating on a U.S. TAG for these committees should contact ANSI's ISO Team (isot@ansi.org) for more information.

Summary of changes to proposed AAMI/ISO 14971/Ed.3, Medical devices - Application of risk management to medical devices

The following substantive changes were made following final ballot of the AAMI working group responsible for developing the standard:

1. Forward, “The requirements to disclose residual risks are merged into one requirement, after the overall residual risk has been evaluated and judged acceptable” was changed to “The requirements to disclose residual risks have been moved and merged into one requirement, after the overall residual risk has been evaluated and judged acceptable”
2. Forward, “The clause on production and post-production information is clarified and restructured. More detail is given on the information to be collected and the actions to take when the information is determined to be relevant to safety.” Was changed to The requirements for production and post-production activities have been clarified and restructured.” and “… the actions to be taken when the collected information has been reviewed and determined to be relevant to safety.”
3. Introduction, “Risks can be related to injury or damage, primarily to the patient, but also to the operator, other persons, data, property, other equipment and the environment.” was changed to “Risks can be related to injury, not only to the patient, but also to the operator and other persons. Risks can also be related to damage to property (objects, data, other equipment) or the environment.”
4. Introduction, “Risk management is a complex subject because each stakeholder can place a different value on the probability of harm occurring and its severity.” was changed to “Risk management is a complex subject because each stakeholder can place a different value on the acceptability of risks in relation to the anticipated benefits.”
5. Introduction, “The acceptability of a risk to a stakeholder is influenced by the key components listed above and by the stakeholder’s perception of the risk. Each stakeholder’s perception of the risk can vary depending upon their cultural background, the socio-economic and educational background of the society concerned and the actual and perceived state of health of the patient.” was changed to “The acceptability of a risk to a stakeholder is influenced by the key components listed above and by the stakeholder’s perception of the risk and the benefit. Each stakeholder’s perception can vary depending upon their cultural background, the socio-economic and educational background of the society concerned and the actual and perceived state of health of the patient.”
6. Introduction, “Such judgments are beyond the scope of this document and should take into account the intended use, the circumstances of use, the performance and risks associated with the medical device, as well as the risks and benefits associated with the clinical procedure. Some of these judgments can be made only by a qualified medical practitioner with knowledge of the state of health of an individual patient or the patient’s own opinion” was changed to “Such decisions are beyond the scope of this document and should take into account the intended use, the circumstances of use, the performance and risks associated with the medical device, as well as the risks and benefits associated with the clinical procedure. Some of these decisions can be made only by a qualified medical practitioner with knowledge of the state of health of an individual patient or the patient’s own opinion”
7. Section 1, “The process described in this document applies to risks associated with a medical device, such as for example those related to biocompatibility, data and systems security, electricity, moving parts, radiation, usability, and other risks.” was replaced with “The process described in this document applies to risks associated with a medical device, such as risks related to biocompatibility, data and systems security, electricity, moving parts, radiation, and usability.”

8. Section 1, ““The process described in this document can also be applied to products that are not necessarily medical devices in some jurisdictions and can also be used by others involved in the medical device life cycle.” was added
9. Section 4, “General requirements for risk management” was changed to “General requirements for risk management system”.
10. Section 4.2, “Top management shall define and document a policy for establishing and reviewing criteria for risk acceptability.” was changed to “Top management shall define and document a policy for establishing criteria for risk acceptability.”
11. Section 4.2, Note 1 “The manufacturer’s policy for establishing criteria for risk acceptability can define the approaches to risk control, for example reducing risk as low as reasonably practicable, reducing risk as low as reasonably achievable, or reducing risk as far as possible without adversely affecting the benefit-risk ratio.” Was changed to “The manufacturer’s policy for establishing criteria for risk acceptability can define the approaches to risk control, reducing risk as low as reasonably practicable, reducing risk as low as reasonably achievable, or reducing risk as far as possible without adversely affecting the benefit-risk ratio.”
12. Section 4.4, Part E, “a method to evaluate the overall residual risk and the criteria for acceptability of the overall residual risk” was changed to “a method to evaluate the overall residual risk, and criteria for acceptability of the overall residual risk based on the manufacturer’s policy for determining acceptable risk”.
13. Section 4.4, Part F, “verification activities; and” was changed to “activities for *verification* of the implementation and effectiveness of *risk control* measures; and”
14. Section 5.4, “The manufacturer shall identify and document known and foreseeable hazards associated with the medical device based on the intended use, reasonably foreseeable misuse and the characteristics related to safety in both normal and fault conditions.” was changed to “The manufacturer shall identify and document known and foreseeable hazards associated with the medical device based on the intended use, reasonably foreseeable misuse and the characteristics related to safety in both normal and fault conditions."
15. Section 5.5, “The system used for qualitative or quantitative categorization of probability of occurrence of harm or severity of harm shall be recorded in the risk management file.” was changed to “The system used for qualitative or quantitative categorization of probability of occurrence of harm and severity of harm shall be recorded in the risk management file.”.
16. Section 5.5, Note 1, “Risk estimation incorporates an analysis of the probability of occurrence and the consequences” was changed to “Risk estimation incorporates an analysis of the probability of occurrence of harm and the severity of the harm.”
17. Section 6, “If the risk is acceptable, the requirements given in 7.1 to 7.5 do not apply to this hazardous situation (i.e., proceed 565 to 7.6) and the estimated risk shall be treated as residual risk.” was changed to “If the risk is acceptable, it is not required to apply the requirements given in 7.1 to 7.5 to this hazardous situation (i.e., proceed to 7.6) and the estimated risk shall be treated as residual risk.”
18. Section 6, the note was deleted
19. Section 7.1, Part C, “information for safety and, where appropriate, training” was replaced with “information for safety and, where appropriate, training to users”
20. Section 7.2, Note 2, “Verification of effectiveness can be performed as part of design validation within a quality management system, and can include testing with users, for example by usability testing (see IEC 62366-1 [13]), by clinical investigation of medical devices (see ISO 14155 [6]) or by clinical performance studies for in vitro diagnostic medical devices (see ISO 20916 [8])” was changed to “Verification of effectiveness can be performed as part of design and development validation within a quality management system and can include testing with users. See A.2.7.2.”
21. Section 7.4, “If this evidence does not support the conclusion that the medical benefits outweigh this residual risk, then the manufacturer may consider modifying the medical device or its intended use. Otherwise, this risk remains unacceptable. If the medical benefits outweigh the residual risk, then proceed to 7.5.” was changed to “If this evidence does not support the

conclusion that the benefits outweigh this residual risk, then the manufacturer may consider modifying the medical device or its intended use (go back to 5.2). Otherwise, this risk remains unacceptable. If the benefits outweigh the residual risk, then proceed to 7.5."

22. Section 7.6, "The manufacturer shall review the risk control activities to ensure that the risk(s) from all identified hazardous situations have been considered. The results of this review shall be recorded in the risk management file" was changed to "the manufacturer shall review the risk control activities to ensure that the risks from all identified hazardous situations have been considered and all risk control activities are completed."
23. Section 8, Note 1 was deleted and moved to Section 4.4 Part E Note 2
24. Section 8, "If the overall residual risk is judged acceptable, the manufacturer shall inform users of significant residual risks and shall include the necessary information in the accompanying documentation in order to disclose those residual risks." was added before Note 1
25. Section 8, Note 1 "The rationale for the disclosure of significant *residual risks* is given in A.2.8." was added
26. Section 8, "If the overall residual risk is not judged acceptable in relation to the benefit(s) of the intended use, the manufacturer may consider implementing additional risk control measures or modifying the medical device or its intended use. Otherwise, the overall residual risk remains unacceptable." was changed to "If the overall residual risk is not judged acceptable in relation to the benefits of the intended use, the manufacturer may consider implementing additional risk control measures (go back to 7.1) or modifying the medical device or its intended use (go back to 5.2). Otherwise, the overall residual risk remains unacceptable."
27. Section 9, "appropriate methods are in place to collect and review relevant production and post-production information" was changed to "appropriate methods are in place to collect and review information in the production and post-production phases"
28. Section 10.1, "When establishing this system, the manufacturer shall consider relevant methods for the collection and processing of information, including the need to collect and review publicly available information. Information to be collected and reviewed shall include, but is not limited to, information:" was changed to "When establishing this system, the manufacturer shall consider appropriate methods for the collection and processing of information, including the need to collect and review publicly available information. The manufacturer shall collect, where applicable:"
29. Section 10.1 was renamed "General" from "Information Collection"
30. Section 10.2 was created named "Information Collection"
31. Section 10.1, "Compliance is checked by inspection of the appropriate documents." was added to the end of the section
32. Section 10.2, "The information collected shall be reviewed for possible relevance to safety, especially whether:" was changed to "The manufacturer shall review the information collected for possible relevance to safety, especially whether:"
33. Section 10.2, "The results of the review shall be recorded in the risk management file. Compliance is checked by inspection of the risk management file." was added to the end of the section.
34. Section 10.3, "if there is a potential that the residual risk(s) is/are no longer acceptable, the impact on previously implemented risk control measures shall be evaluated and shall be considered as an input for improvement or modification of the medical device" was changed to " if a residual risk is no longer acceptable, the impact on previously implemented risk control measures shall be evaluated and should be considered as an input for modification of the medical device;"
35. Section 10.3, Note 2 "See also 7.3.3, 8.2.1 and 8.4 of ISO 13485:2016 [5]" was replaced with "See also 7.3.3, 8.2.1, 8.4 and 8.5 of ISO 13485:2016 [5]."
36. Section A.1, "A separate document allows for more frequent updates of the guidance independent of revising the standard." was replaced with "This allows for more frequent updates of the guidance independent of revising the standard."

37. Section A.2.1, “This does not preclude the possibility of developing specific standards, to be used in conjunction with ISO 14971, in which specific methods and requirements are provided for the evaluation and reduction of security risks.” Was replaced with “This does not preclude the possibility of developing specific standards, in which specific methods and requirements are provided for the evaluation and reduction of security risks.”
38. Section A.2.3, “Breaches of data and systems security can lead to harm, e.g. through loss of data, uncontrolled access to data, corruption or loss of diagnostic information.” Was replaced with “Breaches of data and systems security can lead to harm, e.g. through loss of data, uncontrolled access to data, corruption or loss of diagnostic information, or corruption of software leading to malfunction of the medical device.”
39. Section A.2.3, “It was intended that, when considering the intended use of a medical device, the manufacturer take account of the intended users, patients and use environment.” was replaced with “It was intended that, when determining the intended use of a medical device, the manufacturer takes into account the intended medical indication, patient population, part of the body or type of tissue interacted with, user profile, use environment, and operating principle.”
40. Section A.2.3,” The term “benefit” is defined because of the increased emphasis by regulators on balancing the (residual) risks against the benefits of the medical device” was changed to “The term benefit is defined because of the increased emphasis by regulatory bodies on balancing the (residual) risks against the benefits of the medical device.”
41. Section A.2.4 Title, “General requirements for risk management” was changed to “General requirements for risk management system”
42. Section A.2.4, “The *risk management* system consists of the elements in 4.1 through 4.5.” was added to the beginning of that section.
43. Section A.2.4.1, “This clause addresses that need. This clause also recognises that there can be some differences in regulatory approach to applying risk management to medical devices” was changed to “This need is addressed in 4.1. This subclause also recognises that there can be some differences in regulatory approaches to applying risk management to medical devices.”
44. Section A.2.4.3, “The balance and relation between individuals performing risk management tasks should be considered” was changed to “The balance and relation between those representatives should be considered.”
45. Section A.2.4.4 Part A, “There are two distinct elements in the scope of the plan. The first identifies the intended medical device, the other identifies the phase of the life-cycle covered by each element in the plan.” was changed to “The first identifies the medical device, the other identifies the phase of the life cycle for which each element of the plan is applicable.”
46. Section A.2.4.4, “After implementing all risk control measures, the manufacturer is required to evaluate the combined impact of all residual risks together” was changed to “After implementing all risk control measures, the manufacturer is required to evaluate the overall impact of all residual risks together”
47. Section A.2.5.2, “The intended use of the medical device is the starting point of the risk analysis” was changed to “The *intended use* of the *medical device* is an important aspect and is the starting point of the *risk analysis*.”
48. Section A.2.5.3, “Such characteristics can relate to the measuring function or the sterility of the medical device, the materials used for parts coming into contact with the patient, the use of radiation for diagnostic or therapeutic purposes, or other” was changed to “Such characteristics can relate to the performance or operating principle of the medical device, the measuring function or the sterility of the medical device, the materials used for parts coming into contact with the patient, the use of radiation for diagnostic or therapeutic purposes, or other”
49. Section A.2.5.5, “Frequently, good quantitative data are not readily available, especially in development of an entirely new medical device” was changed to “Frequently, good quantitative data are not readily available, especially in development of an entirely new medical device or for security risks.”

50. Section A.2.7.1, added a second paragraph, “The manufacturing process can contribute to risks, for example originating from contamination of components, residues of hazardous substances used in the process or mix-up of parts. Such risks can be controlled by designing the manufacturing process to be inherently safe (e.g. eliminating hazardous substances or using separate production lines) or by applying protective measures (e.g. visual inspection steps in the process).”
51. Section A.2.7.1, “The manufacturer can consider to provide mandatory training for the intended users.” was added to the end of the first paragraph.
52. Section A.2.7.2, “For high risks, a study might be needed to verify the effectiveness of the risk controls. A usability study can verify effectiveness of information for safety and a test according to a test standard can verify effectiveness of designed risk control measures related to, for example, mechanical strength” was replaced with “Testing with users might be needed to verify the effectiveness of the risk controls, for example, usability testing (see IEC 62366-1 [13]), clinical investigation of medical devices (see ISO 14155 [6]) or clinical performance studies for in vitro diagnostic medical devices (see ISO 20916 [8]). A usability test can verify effectiveness of information for safety and a test according to a test standard can verify effectiveness of designed risk control measures related to, for example, mechanical strength.”
53. Section A.2.7.4, “Only the medical benefits to the patient can outweigh the residual risks of the medical device” was changed to “However, this subclause cannot be used to weigh residual risks against economic advantages or business advantages (i.e. for business decision making).”
54. Section A.2.8, “This is particularly true for complex systems and medical devices with a large number of risks. The method to evaluate the overall residual risk as defined in the risk management plan can include balancing the overall residual risk against the benefits of the medical device. This can be particularly relevant to determine whether a high-risk, but highly beneficial, medical device should be marketed” was changed to “This is particularly true for complex systems and medical devices with a large number of risks. The method to evaluate the overall residual risk as defined in the risk management plan includes balancing the overall residual risk. This is particularly relevant in determining whether a high-risk, but highly beneficial, medical device should be marketed.”
55. Section A.2.9, “The risk management review is an important step before the commercial release of the medical device. The final results of the risk management process, as obtained by executing the risk management plan, are reviewed. The risk management report is intended to be a summary of this review and is a crucial part of the risk management file. The report serves as the high-level document that provides evidence that the manufacturer has ensured that the risk management plan has been satisfactorily fulfilled and the results confirm that the required objective has been achieved. Subsequent reviews of the execution of the risk management plan and updates of the risk management report can be needed during the life-cycle of the medial device” was changed to " The risk management review is an important step before the commercial release of the medical device. The final results of the risk management process, as obtained by executing the risk management plan, are reviewed. The risk management report contains the results of this review and is a crucial part of the risk management file. The report serves as the high-level document that provides evidence that the manufacturer has ensured that the risk management plan has been satisfactorily fulfilled and the results confirm that the required objective has been achieved. Subsequent reviews of the execution of the risk management plan and updates of the risk management report can be needed during the life cycle of the medical device, as a result of the execution of production and post-production activities."
56. Section A.2.10, “Therefore, the manufacturer needs to collect and review production and post-production information for data and information that relates to the identification of new hazards or hazardous situations, and/or that can affect their risk estimates. Either can impact the manufacturer's risk management decisions” was changed to “Therefore, the manufacturer needs to collect and review production and post-production information and evaluate its relevance to

safety. The information can relate to new hazards or hazardous situations, and/or can affect their risk estimates or the balance between benefit and overall residual risk."

57. Section B, Figure B.1, added new categories of "Risk Management Review" and "Evaluation of overall residual risk" to the figure.
58. Section B, Figure B.1, the two diamonds for Section 8 were combined into one diamond, "Is the overall residual risk acceptable in relation to the benefits?"
59. Section C, Figure C.1, "Sequence of events leading to exposure" was changed to "Sequence of events"
60. Section C.1, "The review should take into account a manufacturer's own experience as well as the experience of other manufacturers as reported in adverse event databases, publications and other available sources." was replaced with "The review should take into account a manufacturer's own experience and, where appropriate, the experience of other manufacturers as reported in adverse event databases, publications and other available sources."
61. Section C.1, "Thus, more than one risk analysis technique, and especially the use of complementary techniques, are needed to complete a comprehensive analysis." was changed to "Thus, more than one risk analysis technique, and especially the use of complementary techniques, are often used to complete a comprehensive analysis."
62. Section C.1, Table C.1, the "energy hazards" column:

Electric energy

Electric fields

Leakage current

—enclosure leakage

—earth leakage

Line voltage

Magnetic fields

Static discharge

Mechanical energy

Kinetic energy

—falling objects

—high pressure fluid injection

—moving parts

—vibrating parts

Potential (stored) energy

—bending

—compression

—cutting, shearing

—gravitational pull

—suspended mass

—tension

—torsion

Radiation energy

Ionizing radiation

—gamma

—x-ray

Non-ionizing radiation

—infrared

—laser

—microwave
—ultraviolet

Thermal energy
Hyperthermic effects
Cryogenic effects

Acoustic energy
—ultrasonic
—infrasound
—sound pressure

was changed to:

Acoustic energy
—infrasound
—sound pressure
—ultrasonic

Electric energy
Electric fields
Leakage current
—earth leakage
—enclosure leakage
Magnetic fields
Static discharge
Voltage

Mechanical energy
Kinetic energy
—falling objects
—high pressure fluid injection
—moving parts
—vibrating parts
Potential (stored) energy
—bending
—compression
—cutting, shearing
—gravitational pull
—suspended mass
—tension
—torsion

Radiation energy
Ionizing radiation
—accelerated particles (alpha particles, electrons, protons, neutrons)
—gamma
—x-ray
Non-ionizing radiation
—infrared
—laser

—microwave
—ultraviolet

Thermal energy

Cryogenic effects
Hyperthermic effects

63. Section C.1, Table C.1, the “functionality and information hazards” column:

Functionality

Delivery
—too fast, too much
—too slow, not enough

Other functionality
—failure to alarm
—incorrect measurement
—loss of critical function

Information

Diagnostic information
—Incorrect IVD examination results
—Loss of image or insufficient resolution
—Presence of image artefacts
—Incorrect image orientation
—Incorrect patient identity or demographic information

Data communication
—erroneous data transfer
(data integrity)
—loss of data
(data availability)
—unauthorized data access
(data confidentiality)

was changed to:

Data

—access
—availability
—confidentiality
—data transfer
—integrity

Delivery

—quantity
—rate

Diagnostic information

—examination result
—image artefacts
—image orientation
—image resolution

—patient identity / information

Functionality

—alarm

—critical performance

—measurement

64. Section C.3, Table C.2, new row added for “Security” with “Unsecured data ports that are externally accessible (e.g. network, serial or USB ports), Data without encryption, Software vulnerabilities that can be exploited, Software updates without authenticity confirmation”
65. Section C.3, Table C.2, for the row “Failure modes”, “Unexpected loss of electrical or mechanical integrity, Deterioration in function (e.g. gradual occlusion of fluid or gas path, change in resistance to flow, electrical conductivity) as a result of ageing, wear and repeated use, Fatigue failure” was changed to “Functionality” and “Loss of electrical or mechanical integrity, Deterioration in performance (e.g. gradual occlusion of fluid or gas path, change in resistance to flow, electrical conductivity) as result of ageing, wear and repeated use, Failure of a component due to ageing, wear or fatigue”
66. Section C.4, Table C.3, “Death” was removed from the “Harm” column.
67. Section C.4, Table C.3, “Information” was changed to “Measurement (incorrect information)”
68. Section C.4, Table C.3, “Electromagnetic energy (line voltage)” was changed to “Electromagnetic energy (high voltage)”
69. Section C.4, Table C.3, Row 4, “Function (no delivery)” was changed to “Functionality (no delivery)”
70. Section C.4, Table C.3, Row 5, “Function (no delivery)” was changed to “Functionality (no output)”

BSR/ASHRAE Addendum f
to ANSI/ASHRAE Standard 90.4-2016

Public Review Draft

Proposed Addendum f to Standard 90.4-2016, *Energy Standard for Data Centers*

First Public Review (March 2019)
(Draft Shows Proposed Changes to Current Standard)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, www.ashrae.org.

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

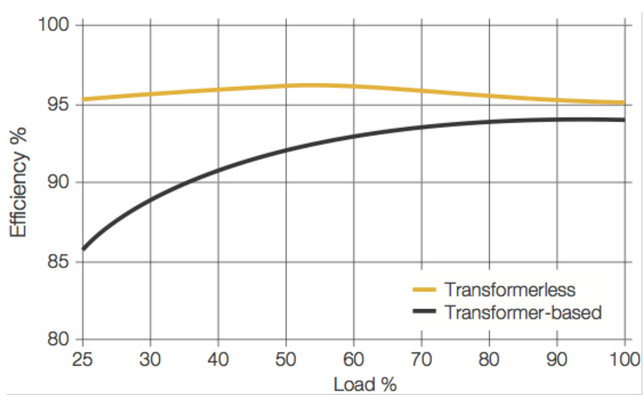
FOREWORD

The original issue of Standard 90.4 (90.4-2016) was published in July 2016. Accordingly, the basis for the standard's Electrical Loss Component (ELC) were based on the published efficiencies of electrical distribution equipment on the market and deployed in the industry in the 2 – 3 years preceding the publication of 90.4-2016. In the intervening years, the market has witnessed material improvements in the efficiency of core electrical distribution equipment, particularly in the performance of the UPS module. This has been borne out via two distinct developments:

1) UPS Modules have become incrementally more efficient

2) The UPS module efficiency curve has flattened such that the modules maintain the higher efficiency levels along a greater extent of the curve, including at the lower end of the x-axis (Load %), where previously the efficiency would exhibit a sharp drop-off. This is the case both for the movement by manufacturers of bringing transformer-less solutions to market (as illustrated by the example in the graph below) and for general improvements in efficiency across the board for various UPS module technologies.

Further, this development is consistent across the offerings of the major UPS vendors and independent of various UPS module operating modes (e.g. Economy mode).



This addendum to the standard is being proposed to better align with current vintages of UPS technology in terms of performance and industry evolution over the period since the original publication of 90.4-2016.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by <u>underlining</u> (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum f to 90.4-2016

Modify the standard as follows (IP and SI Units)

Modify Tables 8.2.1.1 and 8.2.1.2 as follows:

TABLE 8.2.1.1 Maximum *Design Electrical Loss Component (Design ELC)* and *ELC Segments Systems* (IT Design Load <100 *kW*)[a]

***UPS Redundancy* Configuration**	**Single Feed *UPS* (*N*, *N+1*, etc.) or No *UPS*[b]**		**Active Dual Feed *UPS* (*2N*, *2N+1*, etc.)[c]**	
Calculation Percentage	100% of IT design load segment ELC	50% of IT design load segment ELC	50% of IT design load segment ELC	25% of IT design load segment ELC
Segments of ELC and Overall ELC	*Loss*/*efficiency*	*Loss*/*efficiency*	*Loss*/*efficiency*	*Loss*/*efficiency*
Incoming Electrical Service Segment	15.0%/85.0%	11.0%/89.0%	11.0%/89.0%	10.0%/90.0%
UPS Segment	~~12.0%/88.0%~~ <u>8.0% / 92.0%</u>	~~14.0%/86.0%~~ <u>10.0% / 90.0%</u>	~~14.0%/86.0%~~ <u>10.0% / 90.0%</u>	~~20.0%/80.0%~~ <u>13.5% / 86.5%</u>
ITE Distribution Segment	6.0%/94.0%	4.0%/96.0%	4.0%/96.0%	3.0%/97.0%
Electrical *Loss*/*Efficiency* Total	~~29.7%/70.3%~~ <u>26.5% / 73.5%</u>	~~26.5%/73.5%~~ <u>23.1% / 76.9%</u>	~~26.5%/73.5%~~ <u>23.1% / 76.9%</u>	~~30.2%/69.8%~~ <u>24.5% / 75.5%</u>
ELC	~~0.297~~ <u>0.265</u>	~~0.265~~ <u>0.231</u>	~~0.265~~ <u>0.231</u>	~~0.302~~ <u>0.245</u>

a. ***Informative Note:*** Example calculations are shown in Informative Appendix C.

b. ***Informative Note:*** These columns apply to electrical configurations resulting in a single output feed from the *UPS*, irrespective of the number of *UPS* modules that may be paralleled prior to the output feed, or the number of branches or subfeeders into which that output feeder may be divided.

c. ***Informative Note:*** These columns apply to electrical configurations made up of two distinct and electrically separated *UPS systems* resulting in two distinct and electrically separate output feeds, either of which is capable of independently supporting the total design load. *Systems* that meet these criteria may be made up of any number of *UPS* modules that are paralleled prior to each output feed. Crossties and/or transfer switches downstream of the independent feeds shall not continually tie the two output sections together.

TABLE 8.2.1.2 Maximum *Design Electrical Loss Component (Design ELC)* and *ELC Segments Systems* (IT Design Load ≥ 100 *kW*)[a]

***UPS Redundancy* Configuration**	**Single Feed *UPS* (*N*, *N+1*, etc.) or No *UPS*[b]**		**Active Dual Feed *UPS* (*2N*, *2N+1*, etc.)[c]**	
Calculation Percentage	100% of IT design load segment ELC	50% of IT design load segment ELC	50% of IT design load segment ELC	25% of IT design load segment ELC
Segments of ELC and Overall ELC	*Loss*/*efficiency*	*Loss*/*efficiency*	*Loss*/*efficiency*	*Loss*/*efficiency*
Incoming Electrical Service Segment	15.0%/85.0%	11.0%/89.0%	11.0%/89.0%	10.0%/90.0%
UPS Segment	~~9.0%/91.0%~~ 6.5% / 93.5%	~~10.0%/90.0%~~ 8% / 92%	~~10.0%/90.0%~~ 8% / 92%	~~15.0%/85.0%~~ 11.0% / 89.0%
***ITE* Distribution System**	5.0%/95.0%	4.0%/96.0%	4.0%/96.0%	3.0%/97.0%
Electrical *Loss/Efficiency* Total	~~26.5%/73.5%~~ 24.5% / 75.5%	~~23.1%/76.9%~~ 18.9% / 81.1%	~~23/1%/76.9%~~ 18.9% / 81.1%	~~25.8%/74.2%~~ 22.3% / 77.7%
ELC	~~0.265~~ 0.245	~~0.231~~ 0.189	~~0.231~~ 0.189	~~0.258~~ 0.223

a. ***Informative Note:*** Example calculations are shown in Informative Appendix C.

b. ***Informative Note:*** These columns apply to electrical configurations resulting in a single output feed from the *UPS*, irrespective of the number of *UPS* modules that may be paralleled prior to the output feed, or the number of branches or subfeeders into which that output feeder may be divided.

c. ***Informative Note:*** These columns apply to electrical configurations made up of two distinct and electrically separated *UPS* systems resulting in two distinct and electrically separate output feeds, either of which is capable of independently supporting the total design load. Systems that meet these criteria may be made up of any number of *UPS* modules that are paralleled prior to each output feed. Crossties and/or transfer switches downstream of the independent feeds shall not continually tie the two output sections together.

BSR/ASHRAE Addendum g
to ANSI/ASHRAE Standard 90.4-2016

Public Review Draft

Proposed Addendum g to Standard 90.4-2016, *Energy Standard for Data Centers*

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BSR/ASHRAE Addendum g to ANSI/ASHRAE Standard 90.4-2016, *Energy Standard for Data Centers*
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FOREWORD

The MLC values in 90.4-2016 are unnecessarily high. They were intended by the committee only as non-controversial interim values in order to quickly facilitate the first publication of 90.4. The committee's intention was to revisit and strengthen the MLC after the first publication. It turns out that the MLC values are less efficient than the data center efficiency requirements in 90.1-2010 and far less efficient than the data center requirements in other energy standards such as the energy codes in California, Oregon and Washington. One of the controversial issues that the committee did not want to tackle was the use of air economizers for data centers. In order to improve the MLC while still avoiding the issue of air economizers, the committee has calculated new MLCs that can easily be achieved using many readily available packaged cooling products including (a) packaged computer room air conditioners with indirect evaporative cooling (IEC) and (b) packaged air-cooled chillers with integrated dry-coolers serving packaged computer room air handlers without airside economizers. Packaged IEC units are readily available from most of the leading computer room air conditioner manufacturers. An IEC unit uses an air-to-air heat exchanger to cool return air from the data center by spraying water on the outside of the heat exchanger and drawing outside air (scavenger air) across the outside of the heat exchanger. The outside air does not mix with the recirculated data center air. No outside air or humidity is introduced into the data center, which eliminates any air quality or humidity control issues associated with an airside economizer. A DX coil handles any load that cannot be handled by the indirect evaporative air cooler. Packaged air-cooled chillers with integrated dry-cooler coils are also readily available from multiple manufacturers.

The MLCs proposed herein are still conservative. They can easily be achieved by one or both of the non-air economizer systems described above. Considerably lower MLCs can be achieved using airside economizers, while still adhering to the ASHRAE TC 9.9 Recommended Thermal Guidelines.

Design MLC was also an interim step that is not a good indicator of actual energy efficiency or actual annual energy use. There are now readily available tools and techniques for calculating Annualized MLC. Therefore, Design MLC is removed as a compliance option.

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Addendum g to 90.4-2016

Modify Section 3.2 as follows:

~~***design mechanical load component (design MLC):*** the sum of all cooling, fan, pump, and heat rejection design power divided by the *data center ITE design power*.~~

Modify Section 4.2.2.2 as follows:

If compliance is to be shown for mechanical *systems* only, the designer performs the calculations in Sections ~~6.2.1.1 or~~ 6.2.1.2.

Delete Section 6.2.1.1 and Table 6.2.1.1.

Modify Section 6.2.1.2 as follows:

6.2.1.2 **Maximum** *Annualized Mechanical Load Component*. *Annualized MLC* shall be calculated using Equation 6.2.1.2. The resulting value shall be less than or equal to the value in Table 6.2.1.2, "Maximum *Annualized Mechanical Load Component*," ~~when evaluated at 100% *ITE* load for the appropriate climate zone. The calculated MLC shall also be less than or equal to the corresponding Table 6.2.1.2 MLC value when evaluated at 50% of design *ITE* load~~.

…When evaluating the cooling design energy at ~~50%~~ part load, any change in *UPS* or transformer *efficiency* at that reduced load must be included in the ~~50%~~ part load cooling design energy….

… The systems' energy calculation may consider operation of economizer capacity in the design and available redundant equipment at the 100% ITE load condition and separately at the ~~50%~~ ITE part load conditions if calculated using partially loaded equipment efficiencies.

… The *data center energy* calculations shall be completed separately for 100% and for ~~50% of design~~ part load *ITE* capacity in the calculations. The *system's UPS* and transformer cooling loads must also be included in this term, evaluated at their corresponding part-load efficiencies.

Replace Equation 6.2.1.2 with the following:

Annualized MLC = (Mech-Energy25% + Mech-Energy50% + Mech-Energy75% + Mech-Energy100%) / (Data Center ITE Energy25% + Data Center ITE Energy50% + Data Center ITE Energy75% + Data Center ITE Energy100%)
where

Mech-EnergyX% = total annual Cooling Energy + Pump Energy + Heat Rejection Fan Energy + Air Handler Fan Energy at a constant ITE load of X% of the design ITE load. This requires calculating annual energy use at each of the following ITE loads: 25%, 50%, 75%, 100%.

Data Center ITE EnergyX% = design ITE load * 8760* X% (e.g. Data Center ITE Energy50% for a design ITE load of 1,000 kW = 1,000 kW * 8760 hrs * 0.5 = 4,380,000 kWhrs)

Modify Table 6.2.1.2 as follows:

TABLE 6.2.1.2 Maximum *Annualized Mechanical Load Component (Annualized MLC)*

Climate Zones as Listed in ASHRAE Standard 169	HVAC Maximum *Annualized MLC* ~~at 100% and at 50% *ITE* Load~~ for *data center ITE design power* > 300 kW	HVAC Maximum *Annualized MLC* for *data center ITE design power* <= 300 kW
0A	~~0.37~~ 0.25	0.31
0B	~~0.40~~ 0.28	0.34
1A	~~0.36~~ 0.26	0.31
1B	~~0.38~~ 0.27	0.32
2A	~~0.35~~0.23	0.29
3A	~~0.33~~0.21	0.27
4A	~~0.33~~ 0.18	0.26
5A	~~0.33~~ 0.16	0.25
6A	~~0.32~~ 0.16	0.24
2B	~~0.36~~ 0.17	0.27
3B	~~0.35~~ 0.17	0.26

4B	~~0.35~~ 0.14	0.24
5B	~~0.33~~ 0.14	0.23
6B	~~0.34~~ 0.14	0.24
3C	~~0.32~~ 0.14	0.23
4C	~~0.32~~ 0.14	0.23
5C	~~0.32~~ 0.14	0.23
7	~~0.32~~ 0.14	0.23
8	~~0.32~~ 0.13	0.22

Revise Section 8.2.1.2 as follows:

8.2.1.2 **Maximum** *Design Electrical* **Loss Component** for Designs Involving Both Electrical and Mechanical *Systems*. *Design ELC* shall be calculated in accordance with Section 8.3 and shall be combined with the ~~Design~~ *Annualized MLC* in accordance with Section 11.

Revise Section 11 as follows:

11.1.1 **Sections 6 and 8 Trade-Off Method Scope.** The Sections 6 and 8 Trade-Off Method is an alternative to individually demonstrating compliance with Sections 6 and 8 requirements. It shall be allowed for demonstrating compliance when evaluating the proposed designs when either the ~~Design~~ *Annualized MLC* or *design ELC* is greater than the maximum allowed by the standard.

…

b. The sum of the calculated values of the ~~design~~ *Annualized MLC* value and the *design ELC* shall be equal to or less than the maximum overall *systems* design value. (The sum of the ~~design~~ *Annualized MLC* value and the *design ELC* value create an overall *Systems* design value.)

…

Examples

For a particular design in Climate Zone 1A with a single-feed *UPS* at 100% load, the maximum MLC = ~~0.460~~ 0.260 from Table ~~6.2.1.1~~ 6.2.1.2, and the maximum ELC = 0.297 from Table 8.2.1.1. Adding the two values together provides a maximum overall *systems* design value of ~~0.757~~ 0.557.

Max MLC Value [~~0.460~~ 0.260] + Max ELC Value [0.297] =
Maximum Overall *Systems* Value [~~0.757~~ 0.557]

If the electrical *system* design produces a *design ELC* of 0.328, which exceeds the maximum ELC value, a more efficient mechanical *system* can be used to offset this. If the mechanical *system* had a ~~design~~ annualized MCL of ~~0.390~~ 0.190 then the overall *systems* design value would be less than the maximum overall *systems* design value and would demonstrate compliance with the standard.

~~*Design*~~ *Annualized MLC* Value [~~0.390~~ 0.190] + *Design ELC* Value [0.327] = Overall *Systems* Design Value [~~0.717~~ 0.517]

BSR/ASHRAE Addendum h
to ANSI/ASHRAE Standard 90.4-2016

Public Review Draft

Proposed Addendum h to Standard 90.4-2016, *Energy Standard for Data Centers*

First Public Review (March 2019)
(Draft Shows Proposed Changes to Current Standard)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, www.ashrae.org.

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ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305

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FOREWORD

This new compliance approach simplifies compliance for data centers and computer rooms such as small IDF closets in an office building that are served by a VAV box off of the house air handling system by providing an alternate compliance path. Simulations have shown that VAV systems with air economizers have lower annualized MLCs than the MLCs in 90.4-2016 and also lower than the annualized MLCs proposed in addendum g to 90.4-2016. This option saves the user from having to provide a simulation model for every little computer closet and it relieves the AHJ from the burden of reviewing that simulation model. Hopefully this option will improve adoption of 90.4 as well as compliance and enforcement. Note that a computer room still complies with this option if it is served by a system without an air economizer, such as a standby CRAC unit, as long as the primary cooling source has an air economizer. This allows flexibility in terms of redundancy, reliability, minimizing emergency power and UPS loads, etc.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum h to 90.4-2016

Modify Section 4.2 as follows:

4.2.1 Compliance Paths

4.2.1.1 **New** *Data Centers*. New *data centers* shall comply with the provisions of Sections 5, 7, 9, and 10 and one of the following:

a. Sections 6 and 8
b. Section 11
c. Sections 8 and 13

Informative Note: See Figure C-1 for an illustrative diagram.

4.2.1.2 **Additions to Existing** *Data Centers*. Additions to existing *data centers* shall comply with the provisions of Sections 5, 7, 9, and 10 and one of the following:

a. Sections 6 and 8
b. Section 11

c. Sections 8 and 13

…

4.2.1.3 ***Alterations*** to Existing *Data Centers*. *Alterations* to existing *data centers* shall comply with the provisions of Sections 5, 7, 8, and 10 and with either Sections 6 and 8, or Sections 8 and 13, or Section 11, provided such compliance will not result in the increase of energy consumption of the building.

…

4.2.2.2 **Supplemental Information.** Supplemental information necessary to verify compliance with this standard, such as calculations, worksheets, compliance forms, vendor literature, or other data, shall be made available when required by the building official. Compliance may be documented using mechanical and electrical calculations to complete each required path. If compliance is to be shown for mechanical *systems* only, the designer performs the calculations in Sections 6.2.1.1 or 6.2.1.2 or

provides documentation demonstrating compliance with Section 13. If compliance is to be shown for electrical *systems* only, the designer performs the calculations in Section 8.2.1.1. The calculations in Section 6.2.1.2 can be used to take credit for existing mechanical *system* efficiencies when compliance is to be shown for electrical *systems* only. The calculations in Sections 8.2.1.1 and 6.2.1.2 can be used to take credit for existing electrical *system* efficiencies when compliance is to be shown for mechanical *systems* only.

Add new section:

13. PRESCRIPTIVE HVAC OPTION

The primary cooling system for the data center shall be a *VAV system* with an *air economizer* that is sized to meet the design cooling load of the data center. If the VAV system also serves non-data center spaces, such as office spaces, then it shall be capable of shutting off flow to the non-data center spaces when they are unoccupied while continuing to serve the data center. The data center may also be served by a secondary cooling system if the secondary system only runs when the primary system is not available or when running the secondary system is more energy efficient.

Informative Note: If the Prescriptive HVAC Option is selected the data center shall still comply with Section 8 and shall not use the tradeoff option described in Section 11.

Public Review Draft

Proposed Addendum q to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (March 2019)
(Draft Shows Proposed Changes to Current Standard)

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Foreword: This addendum identifies a number of requirements from Section 8 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction. The new table is modeled on Table 302.1 of the 2015 IgCC and is not applicable to compliance with the standard, but is intended to be normative in the IgCC. Compliance with all requirements, including those listed in Table 4.2, remain required for compliance with Standard 189.1.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum q to 189.1-2017

Add a new informative Section 4.2 including a new informative Table 4.2, and move Sections 4.1.1 through 4.1.4 to a new Section 4.3:

4. ADMINISTRATION AND ENFORCEMENT

4.1 General. *Building projects* shall comply with Sections 4 through 11. Within each of those sections, *building projects* shall comply with all mandatory provisions (x.3) and, where offered, either the

a. Prescriptive Option (x.4) or

b. Performance Option (x.5).

Informative Note – to become normative in IgCC:

4.2 Requirements determined by the jurisdiction. The jurisdiction shall indicate the following information in Informative Table 4.2 for inclusion in its code adopting ordinance:

1. Where "No" boxes are provided, the jurisdiction shall check the box to indicate where that section is not to be enforced as a requirement in the jurisdiction. Where the "No" box is not checked, that section is to be enforced.

2. Where a numerical value is required to specify the level of performance required, the jurisdiction shall indicate the required value. Where a numerical value is not indicated, the value in the text is to be enforced.

Informative Note: *The jurisdictional requirements listed in Table 4.2 are formatted to afford jurisdictions the flexibility to adapt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. Enforcement of these jurisdictional requirements will result in higher performing buildings, but may go beyond the needs of specific jurisdictions. Jurisdictional option provisions are indicated in the body of the standard with the symbol [JO] after the section number.*

INFORMATIVE TABLE 4.2 – ***to become normative in IgCC***
REQUIREMENTS DETERMINED BY THE JURISDICTION

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
8.3.1.5.1	Vented Combustion	No
8.3.1.10	Preoccupancy Ventilation Control	No
8.3.3.4	Interior Sound Reverberation	No
8.4.1.3	Shading for Offices	No

4.3 References and Appendices.

4.1~~1~~3.1 Referenced Standards. The standards referenced in this standard and listed in Section 11 shall be considered part of the requirements of this standard to the prescribed extent of such reference. Where differences exist between provisions of this standard and a referenced standard, the provisions of this standard shall apply. Informative references in Informative Appendix G are cited to acknowledge sources and are not part of this standard.

4.1~~1~~3.2 Normative Appendices. The normative appendices to this standard are considered to be integral parts of the mandatory requirements of this standard, which for reasons of convenience are placed apart from all other normative elements.

4.1~~1~~3.3 Informative Appendices. The informative appendices to this standard, and informative notes located within this standard, contain additional information and are not mandatory or part of this standard.

4.1~~1~~3.4 Reference Standard Reproduction Annexes. The reference standard reproduction annexes contain material that is cited in this standard but that is contained in another standard. The reference standard reproduction annexes are not part of this standard but are included in its publication to facilitate its use.

Add [JO] following the section number to indicate that Section 8.3.1.5.1 is a jurisdictional option:

8.3.1.5 Venting of Combustion Products

8.3.1.5.1 [JO] **Vented Combustion.** *Permanently installed* appliances shall have products of combustion vented to the outdoors.

Exceptions to 8.3.1.5.1:

1. Ovens and ranges in *residential spaces*.

2. Heaters certified to ANSI Z83.19/CSA 2.35, mounted greater than or equal to 10 ft (3 m) above the occupied floor.
3. Heaters certified to ANSI Z83.4/CAN 3.7.
4. Heaters certified to ANSI Z21.11.2, provided that the aggregate input rating of all such appliances does not exceed 1000 Btu/h per 1500 ft^3 (700 W per 100 m^3) of *space* volume.

8.3.1.5.2 Ranges in Residential Spaces. Gas and electric ranges in *residential spaces* shall comply with ASHRAE Standard 62.2, Section 5.1, using a range hood.

Add [JO] following the section number to indicate that Section 8.3.1.10 is a jurisdictional option:

8.3.1.10 [JO] **Preoccupancy Ventilation Control.** Ventilation systems serving zones that are not continuously occupied shall have controls designed to automatically provide *outdoor air* to the zones, prior to their scheduled occupancy, where the zones served by the ventilation system have been unoccupied for 24 hours or longer. This preoccupancy ventilation shall be provided continuously at the system design *minimum outdoor airflow* for a period of one hour prior to the expected occupancy, or at an *outdoor air* rate and for a time period that provides the same number of air changes as the design *minimum outdoor airflow* for one hour. If the preoccupancy ventilation period requires ventilation earlier than as required by ANSI/ASHRAE/IES Standard 90.1, Section 6.4.3, the preoccupancy ventilation start time of Section 8.3.1.7 shall take precedence.

Exception to 8.3.1.10: Hotel and motel guest rooms subject to *automatic* control of HVAC and lighting as required in Sections 7 and 8.

Add [JO] following the section number to indicate that Section 8.3.3.4 is a jurisdictional option:

8.3.3.4 [JO] **Interior Sound Reverberation.** The reverberation time *T60* for designated *spaces* shall be calculated in accordance with ANSI/ASA S12.60-2010, Part 1, Annex A, for the octave bands 500, 1000, and 2000 Hz and shall not exceed the values specified in Table 8.3.3.4 for fully furnished rooms.

Add [JO] following the section number to indicate that Section 8.4.1.3 is a jurisdictional option:

8.4.1.3 [JO] **Shading for Offices.** For office *spaces* 250 ft^2 (23m^2) and larger, each façade shall be designed with a shading *projection factor* (*PF*). The *PF* shall not be less than 0.5 for the first story above grade and 0.25 for other abovegrade stories. Shading is allowed to be external or internal using the *interior PF*. Shading devices shall be limited to the following:

a. Louvers, sun shades, light shelves, and any other permanent device. Any *vertical fenestration* that employs a combination of interior and external shading is allowed to be separated into multiple segments for compliance purposes. Each segment shall comply with the requirements for either external or *interior PF*.

b. Building self-shading through *roof* overhangs or recessed windows.

Exceptions to 8.4.1.3:

1. Facades facing within 45 degrees of true north in the northern hemisphere or facades facing 45 degrees from true south in the southern hemisphere.
2. Translucent panels and glazing systems with a measured haze value greater than 90% when tested according to ASTM D1003 or other test method approved by the *AHJ*, and that are entirely 8 ft (2.5 m) above the floor do not require external shading devices.
3. Where equivalent shading of the *vertical fenestration* is provided by buildings, structures, geological formations, or permanent exterior projections that are not horizontal, as determined by sun-angle studies at the peak solar altitude on the summer solstice and three hours before and after the peak solar altitude on the summer solstice.
4. *Vertical fenestration* with automatically controlled shading devices in compliance with Exception (2) of Section 7.4.2.5.
5. *Vertical fenestration* with automatically controlled *dynamic glazing* in compliance with Exception (3) of Section 7.4.2.5.
6. Existing buildings undergoing alteration, repair, relocation, or a change in occupancy.

Public Review Draft

Proposed Addendum r to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (March 2019)
(Draft Shows Proposed Changes to Current Standard)

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Foreword: This addendum identifies a number of requirements from Section 8 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction. The new table is modeled on Table 302.1 of the 2015 IgCC and is not applicable to compliance with the standard, but is intended to be normative in the IgCC. Compliance with all requirements, including those listed in Table 4.2, remain required for compliance with Standard 189.1.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum r to 189.1-2017

Add a new informative Section 4.2 including a new informative Table 4.2, and move Sections 4.1.1 through 4.1.4 to a new Section 4.3:

4. ADMINISTRATION AND ENFORCEMENT

4.1 General. *Building projects* shall comply with Sections 4 through 11. Within each of those sections, *building projects* shall comply with all mandatory provisions (x.3) and, where offered, either the

a. Prescriptive Option (x.4) or

b. Performance Option (x.5).

Informative Note – to become normative in IgCC:

4.2 Requirements determined by the jurisdiction. The jurisdiction shall indicate the following information in Informative Table 4.2 for inclusion in its code adopting ordinance:

1. Where "No" boxes are provided, the jurisdiction shall check the box to indicate where that section is not to be enforced as a requirement in the jurisdiction. Where the "No" box is not checked, that section is to be enforced.

2. Where a numerical value is required to specify the level of performance required, the jurisdiction shall indicate the required value. Where a numerical value is not indicated, the value in the text is to be enforced.

Informative Note: *The jurisdictional requirements listed in Table 4.2 are formatted to afford jurisdictions the flexibility to adapt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. Enforcement of these jurisdictional requirements will result in higher performing buildings, but may go beyond the needs of specific jurisdictions. Jurisdictional option provisions are indicated in the body of the standard with the symbol [JO] after the section number.*

INFORMATIVE TABLE 4.2 – ***to become normative in IgCC***
REQUIREMENTS DETERMINED BY THE JURISDICTION

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
8.3.1.3.(b)	Ozone	No
8.3.1.4	Building Pressure	No
8.3.1.9	Guest Room Preoccupancy Outdoor Air Purge Cycle	No
8.3.4	Soil Gas Control	No

4.3 References and Appendices.

4.~~1~~3.1 Referenced Standards. The standards referenced in this standard and listed in Section 11 shall be considered part of the requirements of this standard to the prescribed extent of such reference. Where differences exist between provisions of this standard and a referenced standard, the provisions of this standard shall apply. Informative references in Informative Appendix G are cited to acknowledge sources and are not part of this standard.

4.~~1~~3.2 Normative Appendices. The normative appendices to this standard are considered to be integral parts of the mandatory requirements of this standard, which for reasons of convenience are placed apart from all other normative elements.

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Add [JO] following the section number to indicate that Section 8.3.1.3(b) is a jurisdictional option:

8.3.1.3 Filtration and Air Cleaner Requirements

a. **Particulate Matter.** The following requirements shall apply in all buildings.

Exception to 8.3.1.3(a): In health care facilities, the particulate filter requirements of ASHRAE/ASHE Standard 170 shall apply.

1. **Wetted Surfaces.** Particulate matter filters or air cleaners having a minimum efficiency reporting value (MERV) of not less than 8 when rated in accordance with ANSI/ASHRAE Standard 52.2 shall be provided upstream of all cooling coils or other devices with wetted surfaces through which air is supplied to an *occupiable space*. These requirements supersede the requirements in ASHRAE Standard 62.1, Section 5.8.
2. **Particulate Matter Smaller than 10 Micrometers (PM10).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section 6.2.1.1, with the following modification. Such filters or air cleaners shall have a MERV of not less than 8 when rated in accordance with ASHRAE Standard 52.2.
3. **Particulate Matter Smaller than 2.5 Micrometers (PM2.5).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section 6.2.1.2, with the following modification. Such filters or air cleaners shall have a MERV of not less than 13 when rated in accordance with ASHRAE Standard 52.2.

b. [JO] **Ozone.** Air cleaning devices for ozone shall be provided for buildings located in an area that is designated "nonattainment" in an area that exceeds the National Ambient Air Quality Standards (NAAQS) for ozone, as determined by the *authority having jurisdiction* (*AHJ*). Such air cleaning devices shall have an ozone removal efficiency of no less than 40% where installed, operated, and maintained in accordance with the manufacturer's recommendations. Such air cleaning devices shall be operated whenever the outdoor ozone level is expected to exceed the NAAQS. This requirement supersedes the requirements of ASHRAE Standard 62.1, Section 6.2.1.3. This requirement applies to all buildings, including health care facilities covered by ASHRAE/ASHE Standard 170.

c. **Sealing.** Where particulate matter filters or air cleaners are required by Section 8.3.1.3, filter tracks, filter sup- ports, filters, and access doors shall be sealed in accordance with the following:

1. Where filter track and filter support systems incorporate multiple filters, the gap between each filter shall be sealed with a gasket, and the gap between the filter and its track or support shall be sealed using gaskets that expand when the filter is removed. Filter support systems shall include a filter-to-support gasket *permanently installed* on the filter support, except for filter track and filter support systems that seal around the filter by means of a friction fit.
2. Filter tracks and filter supports shall be sealed to the HVAC equipment housing and ducts by a sealant or other sealing method.
3. Filter access doors shall be sealed to minimize filter bypass and air leakage into or out of the system.
4. Gaskets and seals used to comply with the requirements of this section shall be capable of effecting a seal for the anticipated life of the equipment, and the system shall be designed such that the seals are readily accessible.
5. Field- or shop-fabricated *spacers* shall not be installed for the purpose of replacing the intended-size filter with a smaller-size filter.

Add [JO] following the section number to indicate that Section 8.3.1.4 is a jurisdictional option:

8.3.1.4 [JO] **Building Pressure.** The requirements in Section 8.3.1.4 supersede the requirements in ASHRAE Standard 62.1, Section 5.9.2. *Building projects* shall be designed in accordance with the following subsections.

8.3.1.4.1 Mechanical Exhaust. Mechanical systems shall include controls capable of disabling exhaust fans and closing exhaust dampers whenever mechanical intake airflow is discontinued.

8.3.1.4.2 Exfiltration. Mechanical air-conditioning systems with dehumidification capability shall include system controls capable of maintaining static pressure inside the building, at the top floor, equal to or greater than the static pressure outside of the building during *mechanical cooling* operation.

Exceptions to 8.3.1.4.2:

1. Where excess exhaust is required by process considerations, such as certain industrial or healthcare facilities.
2. Warehouse facilities.
3. Buildings in *Climate Zones* 0B, 1B, 2B, 3B, 3C, 4B, 4C, 5, 6, 7 and 8.

Add [JO] following the section number to indicate that Section 8.3.1.9 is a jurisdictional option:

8.3.1.9 [JO] **Guest Room Preoccupancy Outdoor Air Purge Cycle.** Guest room ventilation systems controlled according to Section 7.4.3.9.4 shall have an *automatic* preoccupancy purge cycle that shall provide *outdoor air* ventilation at the design ventilation rate for 60 minutes, or at a rate and duration equivalent to one air change. In guest rooms with a *networked guest room control system*, the purge cycle shall be completed within 60 minutes prior to the time the room is scheduled to be occupied. Where guest rooms are not connected to a *networked guest room control system*, the preoccupancy purge cycle shall occur daily.

Add [JO] following the section number to indicate that Section 8.3.4 is a jurisdictional option:

8.3.4 [JO] Soil-Gas Control. Soil-gas entry into *enclosed spaces* that are immediately above crawlspaces, slabs-on- grade, and basement slabs shall be controlled in accordance with Sections 8.3.4.1 or 8.3.4.2.

Chair will add text of Sections 8.3.4.1 and 8.3.4.2 as currently published.

Public Review Draft

Proposed Addendum s to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

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Foreword: This addendum modifies Section 6 of Standard 189.1 to identify requirements that are non-core. These requirements are listed in a new Table 4.2 to provide flexibility for local jurisdictions to adopt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. In addition, text changes are included in Section 6.3.1.2 which are intended to clarify the requirements, and some additional text changes intended to correct errors are included.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum s to 189.1-2017

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4.1 General. *Building projects* shall comply with Sections 4 through 11. Within each of those sections, *building projects* shall comply with all mandatory provisions (x.3) and, where offered, either the

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b. Performance Option (x.5).

Informative Note – to become normative in IgCC:

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INFORMATIVE TABLE 4.2 – ***to become normative in IgCC***
REQUIREMENTS DETERMINED BY THE JURISDICTION

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
6.3.1.2.1 a3	Irrigation System Design, Master Valve	□ No
6.3.1.2.1 a4	Irrigation System Design, Flow Sensors	□ No
6.3.3	Special Water Features	□ No
6.3.4.2	Consumption Data Collection	□ No
6.3.4.3	Data Storage and Retrieval	□ No
6.3.8	Dual Water Supply Plumbing	□ No

Add [JO] following the section number to indicate that Sections 6.3.1.2.1 a3 and 6.3.1.2.1 a4 are jurisdictional options. Modify the language of Section 6.3.1.2 and the exception to 6.3.1.2.3 and add a new item 3 under 6.3.1.2.1(d) as follows:

6.3.1.2 Irrigation. ~~For golf courses and driving ranges, only municipally reclaimed water or *alternate on-site sources of water* shall be used to irrigate the landscape.~~ For ~~other~~ landscaped areas, not greater than one-third of *improved landscape* area is allowed to be irrigated with *potable water*. The area of dedicated athletic fields shall be excluded from the calculation of the *improved landscape* for schools, *residential* common areas, and public recreational facilities. All other irrigation shall be provided from *alternate ~~on-site~~ sources of water*. ~~or municipally reclaimed water.~~

Exception to 6.3.1.2:

Potable water is allowed to be ~~temporarily~~ used on such newly installed landscape for the *landscape establishment period*. The amount of *potable water* allowed to be applied to the newly planted areas during the ~~temporary~~ *landscape establishment period* shall not exceed 70% of *ETo* for *turfgrass* and 55% of *ETo* for other plantings.

~~Where municipally reclaimed water is available at a water main within 200 ft (60 m) of the project *site*, such water shall be used instead of *potable water* during the *landscape establishment period*. After the *landscape establishment period* has expired, all irrigation water use shall comply with the requirements established elsewhere in this standard.~~

6.3.1.2.1 Irrigation System Design. The design of the irrigation system shall be performed by an

accredited or certified irrigation professional and shall be in accordance with the following:

a. Irrigation systems
   1. shall be based on *hydrozones*. *Turfgrass* areas shall be on their own *irrigation stations*.
   2. shall have backflow prevention in accordance with the plumbing code.
   3. [JO] shall have a master valve on municipally supplied water sources that allows pressurization of the irrigation mainline only when irrigation is scheduled.
   4. [JO] shall have a flow sensor and monitoring equipment that will shut off the control valve if the flow exceeds normal flow from an *irrigation station*.
   5. shall prevent piping from draining between irrigation events.
b. Irrigation emission devices shall comply with ASABE/ICC 802, *Landscape Irrigation Sprinkler and Emitter Standard*.
c. Irrigation sprinklers
   1. shall not spray water directly on buildings or *hardscape* area.
   2. shall have matched precipitation rate nozzles within an *irrigation station*.
   3. shall be prohibited on landscape areas having any dimension less than 4 ft ~~(1220 mm)~~(1.2 m).
   4. shall have an application rate less than or equal to 0.75 in. (19 mm) per hour on slopes greater than 1 unit vertical in 4 units horizontal.
   5. shall be limited to use with *turfgrass* or *ground cover* areas with vegetation maintained at 8 in. (~~203~~200 mm) or less in height.
   6. where of the pop-up configuration, shall have a pop-up height of not less than 4 in (100 mm).
d. Microirrigation zones
   1. shall be equipped with pressure regulators, filters, and flush assemblies.
   2. shall have indicators that allow confirmation of operation by visual inspection.
   3. drip emitters shall be of pressure compensating type.

6.3.1.2.3 Irrigation of Rainfall-ET_c Compatible Plants. The use of *potable water* or *reclaimed water* for irrigation of *adapted plants* is prohibited after the *landscape establishment period*. In-ground irrigation systems for *rainfall-ET_c compatible plants* using potable or off-site treated *reclaimed water* are prohibited. After the *landscape establishment period* of *adapted plants*, the irrigation system using *potable water* or *reclaimed water* shall be permanently disabled or removed from *site*.

Exception to 6.3.1.2.3: *Plants* deemed equivalent to *rainfall-ET_c compatible plants* by Section 6.3.1.1, Exception 3, shall be exempt from the requirements of Section 6.3.1.2.3 ~~6.3.1.3.~~

Add [JO] following the section number to indicate that Section 6.3.3 is a jurisdictional option:

6.3.3 [JO] Special Water Features. Water use shall comply with the following:

a. Ornamental fountains and other ornamental water features shall be supplied either by *alternate on-site sources of water* or by municipally reclaimed water delivered by the local water utility acceptable to the *AHJ*. Fountains and other features equipped with *automatic* water refilling valves shall be equipped with (1) makeup water meters (2) leak detection devices that shut off water flow if a leak of more than 1.0 gal/h (3.8 L/h) is detected, and (3) equipment to recirculate, filter, and treat all water for reuse within the system.

Exception to 6.3.3(a): Where *alternate on-site sources of water* or municipally reclaimed water are not available within 500 ft (150 m) of the *building project site*, *potable water* is allowed to be used for water features with less than 10,000 gal (38,000 L) capacity.

b. Pools and spas:

1. Recover filter backwash water for reuse on landscaping or other applications, or treat and reuse backwash water within the system.

2. For filters with removable cartridges, only reusable cartridges and systems shall be used. For filters with backwash capability, use only pool filter equipment that includes a pressure drop gage to determine when the filter needs to be backwashed and a sight glass enabling the operator to determine when to stop the backwash cycle.

3. Pool splash troughs, if provided, shall drain back into the pool system.

Add [JO] following the section number to indicate that Section 6.3.4.2 is a jurisdictional option:

6.3.4.2 [JO] Consumption Data Collection. All building measurement devices, monitoring systems, and submeters installed to comply with the threshold limits in Section 6.3.4.1 shall be configured to communicate water consumption data to a meter data management system. At a minimum, meters shall provide daily data and shall record hourly consumption of water.

Add [JO] following the section number to indicate that Section 6.3.4.3 is a jurisdictional option:

6.3.4.3 [JO] Data Storage and Retrieval. The meter data management system shall be capable of electronically storing water meter, monitoring systems, and submeter data and creating user reports showing calculated hourly, daily, monthly, and annual water consumption for each measurement device and submeter and provide alarm notification capabilities as needed to support the requirements of the water user efficiency plan for operation in Section 10.3.2.1.2.

Add [JO] following the section number to indicate that Section 6.3.8 is a jurisdictional option:

6.3.8 [JO] Dual Water Supply Plumbing

~~**6.3.8.1**~~ Where sufficient supply of *reclaimed water* or *alternate on-site sources of water* is available, or planned to be available, within five years of completed building construction, the

water supply system within the building shall be installed to allow the supply of reclaimed or alternative water to all urinals and water closets.

Exceptions to 6.3.8~~.1~~:

1. Existing buildings under renovation, where the water supply to the urinals and water closets within the building is to remain intact, shall not be required to supply *nonpotable water* to urinals and water closets.

2. Urinals and water closets designed to operate without the use of water shall not be required to have alternate or reclaimed water supply to the fixture.

Public Review Draft

Proposed Addendum t to Standard 189.1-2017

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Except Low-Rise Residential Buildings

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Foreword: *This addendum identifies a requirement from Section 9 of Standard 189.1 as being appropriate for local jurisdictions to consider excluding from their adopting ordinances. A new Table 4.2 is added which lists these requirements in a format intended to simplify review by the jurisdiction. The new table is modeled on Table 302.1 of the 2015 IgCC and is not applicable to compliance with the standard, but is intended to be normative in the IgCC. Compliance with all requirements, including those listed in Table 4.2, remain required for compliance with Standard 189.1.*

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Addendum t to 189.1-2017

Add a new informative Section 4.2 including a new informative Table 4.2, and move Sections 4.1.1 through 4.1.4 to a new Section 4.3:

4. ADMINISTRATION AND ENFORCEMENT

4.1 General. *Building projects* shall comply with Sections 4 through 11. Within each of those sections, *building projects* shall comply with all mandatory provisions (x.3) and, where offered, either the

a. Prescriptive Option (x.4) or

b. Performance Option (x.5).

Informative Note – to become normative in IgCC:

4.2 Requirements determined by the jurisdiction. The jurisdiction shall indicate the following information in Informative Table 4.2 for inclusion in its code adopting ordinance:

1. Where "No" boxes are provided, the jurisdiction shall check the box to indicate where that section is not to be enforced as a requirement in the jurisdiction. Where the "No" box is not checked, that section is to be enforced.

2. Where a numerical value is required to specify the level of performance required, the jurisdiction shall indicate the required value. Where a numerical value is not indicated, the value in the text is to be enforced.

Informative Note: *The jurisdictional requirements listed in Table 4.2 are formatted to afford jurisdictions the flexibility to adapt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. Enforcement of these jurisdictional requirements will result in higher performing buildings, but may go beyond the needs of specific jurisdictions. Jurisdictional option provisions are indicated in the body of the standard with the symbol [JO] after the section number.*

INFORMATIVE TABLE 4.2 – ***to become normative in IgCC***
REQUIREMENTS DETERMINED BY THE JURISDICTION

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
9.3.1.2	Total Waste	No

4.3 References and Appendices.

4.1~~1~~3.1 Referenced Standards. The standards referenced in this standard and listed in Section 11 shall be considered part of the requirements of this standard to the prescribed extent of such reference. Where differences exist between provisions of this standard and a referenced standard, the provisions of this standard shall apply. Informative references in Informative Appendix G are cited to acknowledge sources and are not part of this standard.

4.1~~1~~3.2 Normative Appendices. The normative appendices to this standard are considered to be integral parts of the mandatory requirements of this standard, which for reasons of convenience are placed apart from all other normative elements.

4.1~~1~~3.3 Informative Appendices. The informative appendices to this standard, and informative notes located within this standard, contain additional information and are not mandatory or part of this standard.

4.1~~1~~3.4 Reference Standard Reproduction Annexes. The reference standard reproduction annexes contain material that is cited in this standard but that is contained in another standard. The reference standard reproduction annexes are not part of this standard but are included in its publication to facilitate its use.

Add [JO] following the section number to indicate that Section 9.3.1.2 is a jurisdictional option:

9.3.1.2 [JO] Total Waste. For new *building projects* on *sites* with less than 5% existing buildings, structures, or *hardscape,* the total amount of construction waste generated prior to the issuance of the final certificate of occupancy on the project shall not exceed 42 yd^3 or 12,000 lbs per 10,000 ft^2 (35 m^3 or 6000 kg per 1000 m^2) of new building floor area. This shall apply to all waste, whether diverted, landfilled, incinerated, or otherwise disposed of. Excavated soil and land-clearing debris shall not be included in the calculation. The amount of waste shall be tracked throughout the construction process in accordance with the construction waste management plan required in Section 9.3.1.3.

Public Review Draft

Proposed Addendum u to Standard 189.1-2017

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Foreword
This addendum proposes to delete 8.3.6.3 in its entirety because flashing and sealants are addressed by the IBC and other model building codes.

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Addendum u to 189.1-2017

Delete Section 8.3.6.3:

~~**8.3.6.3 Flashing of Fenestration, Door Assemblies, Mechanical Equipment, and Other Penetrations of Building Envelope.** Flashing or sealants shall be installed around *fenestration*, door assemblies, and penetrations associated with mechanical equipment and utility services, except where there is a mechanism for drainage to the outdoors or where the materials are designed for long-term contact with water.~~

Public Review Draft

Proposed Addendum v to Standard 189.1-2017

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Foreword
This addendum proposes to add the word “new” to clarify that Sections 8.4.2.5 and 8.5.2 apply to new office furniture products.

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Addendum v to 189.1-2017

Revise Sections 8.4.2.5 and 8.5.2g as follows:

8.4.2.5 Office Furniture Systems and Seating. New *office* ~~*Office*~~ *furniture systems* and *seating* installed prior to occupancy shall comply with the requirements of both Sections 8.4.2.5.1 and 8.4.2.5.2, based on testing according to ANSI/BIFMA M7.1.
8.4.2.5.1 At least 95% of the total number of installed new *office furniture system* workstations, and at least 95% of the total number of *seating* units installed, shall comply with ANSI/BIFMA X7.1.
8.4.2.5.2 At least 50% of the total number of installed new *office furniture system* workstations, and at least 50% of the total number of new *seating* units installed, shall comply with Section 7.6.2 of ANSI/BIFMA e3.

8.5.2 Materials.
g. New *office* ~~*Office*~~ *furniture systems* and *seating* installed prior to initial occupancy. Emissions of these items shall be obtained in accordance with the BIFMA M7.1.

Public Review Draft

Proposed Addendum w to Standard 189.1-2017

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Foreword

This revision adds a requirement that buildings under 50,000 sf of conditioned floor area verify air tightness through leakage testing. The referenced Standard 90.1 has multiple options for verifying air tightness. This requirement directs new buildings under 50,000 sf of conditioned floor area and under 75 feet in height to comply with the testing option, and allows all other buildings to comply using any verification option.

The two methods of verification in Section 5.9.2.2 of ASHRAE 90.1-2016 are (1.) design review and periodic field inspection of the continuous air barrier, and (2.) whole building pressurization testing. One of these must be performed to meet the requirements of both ASHRAE 90.1-2016 and ASHRAE 189.1-2017. This change to require testing for some buildings could potentially result in more energy savings in cases where significant gaps in the continuous air barrier are not identified during the periodic field inspection.

The 50,000 sf and under 75 feet in height were chosen as a threshold because this is the size of building that can still generally be tested utilizing the kind of equipment used for residential air tightness testing. This ensures that there is a sufficient market of testing equipment and professionals. Larger buildings can certainly be tested, but this can require either different equipment or different expertise that may not be available or affordable in all markets. "Conditioned floor area" was the chosen metric for the area threshold since the energy savings of air tightness is directly connected to space conditioning energy.

The proposal adds the definition of "high-rise building" from the International Building Code to leverage a threshold and definition already in use in the market.

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Addendum w to 189.1-2017

Add new definition as follows:

High-rise building: A building with an occupied floor located more than 75 feet (23 m) above the lowest level of fire department vehicle access.

Gross conditioned floor area: See ANSI/ASHRAE/IES Standard 90.1.

Revise Section 10.3.1.3.5 as follows:

10.3.1.3.5 Building Envelope Airtightness. *Building envelope* airtightness shall comply with ANSI/ASHRAE/IES Standard 90.1, with the following modifications and additions. Air leakage *verification* in *high-rise buildings*, *buildings* greater than 50,000 ft^2 (5000 m^2) of *gross conditioned floor area*, and existing *buildings* shall be ~~determined~~ in accordance with ANSI/ASHRAE/IES Standard 90.1, Section 5.9.2.2. Air leakage *verification* in all other *buildings* shall be in accordance with ANSI/ASHRAE/IES Standard 90.1, Section 5.9.2.2(b).

a. When implementing the testing option in ANSI/ASHRAE/ IES Standard 90.1, Sections 5.9.2.2(b) and 5.4.3.1.3(a), whole-building pressurization testing shall meet the following requirements:
    1. It shall be conducted in accordance with ASTM E779, ASTM E1827, CAN/CGSB-149.10, CAN/CGSB-149.15, ISO 9972, or equivalent standard by an independent third party.
    2. The measured air leakage rate of the building envelope shall not exceed 0.25 cfm/ft^2 (1.25 L/s·m^2) under a pressure differential of 0.3 in. of water (75 Pa), with this air leakage rate normalized by the sum of the above- and below-grade building envelope areas of the conditioned and semiheated space.
    3. Section 5.4.3.1.3(a), Exception (1), is not allowed.
    4. Section 5.4.3.1.3(a), Exception (2), is allowed where the measured air leakage rate exceeds 0.25 cfm/ft^2 (1.25 L/s·m^2) but does not exceed 0.40 cfm/ft^2 (2.0 L/s·m^2).
b. When implementing the verification program option in ANSI/ASHRAE/IES Standard 90.1, Section 5.9.2.2(a), the air barrier design review shall be performed by an independent third party.

Public Review Draft

Proposed Addendum x to Standard 189.1-2017

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Foreword

This new section adds requirements for traction elevators. It is limited to elevators with a rise over 75 ft, so that it does not include shorter elevators where energy savings may not be substantial enough to justify the requirements. The requirements are also based on elevator rise height rather than building height so that they do not apply to shorter elevators that may be present in taller buildings. The proposal increases efficiency by requiring more efficient drive motors and regenerative braking.

The first requirement places an efficiency requirement on drive motors. These motors will need to meet a minimum efficiency standard. This will save energy on all elevator calls that utilize the motor.

The second is a requirement for the inclusion of regenerative drives on the elevator. Elevators are counter-weighted so that the elevator motor never has to move the whole weight of the elevator and its passengers. Depending on the load of the elevator, sometimes the motor will be moving the load but sometimes the elevator will be braking against the counter-weight or the elevator load. Regenerative drives capture the potential energy from elevator braking and convert it into electrical energy that can be fed back into the building electrical system of the building and then used in the building.

Both of these technologies are common and widely used, so these requirements will ensure best practices in buildings that follow Standard 189.1.

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Addendum x to 189.1-2017

Add a new Section 7.4.7.6 as follows:

7.4.7.6 Elevator Power Conversion System. Traction elevators with a rise of 75 feet (23 m) or more in new buildings shall have a power conversion system that includes all of the following:

1. A drive motor with a minimum Class IE2 efficiency rating, as defined by IEC EN 60034-30.

2. A regenerative drive that recovers potential energy released during motion, converts it to electrical energy and supplies it to the building electrical system.

Add a new normative reference as follows:

International Electrotechnical Commission
IEC Regional Centre for North America (IEC-ReCNA)
446 Main Street, 16th Floor
Worcester, MA 01608
U.S.A.
1-508-755-5663; www.iec.ch

IEC EN 60034-30	Rotating electrical machines - Part 30-1: Efficiency classes of line operated AC motors (IE code)	7.4.7.6

Public Review Draft

Proposed Addendum y to Standard 189.1-2017

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Foreword

This new section addresses situations where wall-mounted mechanical equipment – such as PTACs – can account for a significant portion of the wall area. PTACs can cover as much as 20% of the wall area, having a significant impact on the thermal performance of the wall. ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 is titled Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps, Single-Package Vertical Air Conditioners, Single-Package Vertical Heat Pumps, Room Air Conditioners, and Room Air Conditioner Heat Pumps—Minimum Efficiency Requirements.

This proposal creates a new section that requires the U-factor of mechanical equipment to be incorporated into the total U-factor of the wall when that equipment comprises over 1% of the wall area. This ensures that the thermal impact of significant mechanical penetrations is not ignored. Since mechanical equipment is not typically rated for its U-factor, the U-factor for equipment has been set at 0.50. The 1% threshold ensures that de minimis penetrations such as vents and refrigerant lines do not create the need to go through extra steps.

The proposal makes the same modification to the performance approach in Appendix C.

This proposal is based on code language that is currently in the New York City Energy Conservation Code.

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Addendum y to 189.1-2017

Add a new Section 7.4.2.2 as follows and renumber subsequent sections:

7.4.2.2. **Mechanical Equipment Penetration Requirements**. Where the total area of penetrations from mechanical equipment listed in ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 exceeds 1% of the opaque above-grade wall area, the mechanical equipment penetration area shall be calculated as a separate assembly with a default U-factor of 0.5 Btu/h·ft^2·°F (3 W/m^2·K) in accordance with ANSI/ASHRAE/IES Standard 90.1, Section 5.5.3 method b.

7.4.2.2~~3~~ …
7.4.2.3~~4~~ …
7.4.2.4~~5~~ …
7.4.2.5~~6~~ …

7.4.2.~~6~~7 …
7.4.2.~~7~~8 …
7.4.2.~~8~~9 …
7.4.2.~~9~~10 …

Revise Appendix C, Table C1.1, as follows:

Table C1.1 Modifications and Additions to ANSI/ASHRAE/IES Standard 90.1, Appendix G, Table G3.1

Proposed Building Performance	**Baseline Building Performance**
5. Building Envelope ~~No modifications~~ When the total area of penetrations from mechanical equipment listed in ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 exceeds 1% of the opaque above-grade wall area, the mechanical equipment penetration area shall be calculated as a separate assembly with a default *U-factor* of 0.5 Btu/h·ft^2·°F (3 W/m^2·K).	No modifications

B30.10-201X

(Proposed revision
of ASME
B30.10-2014)

Hooks

Feburary 2019 Draft Revisions

FOREWORD

This American National Standard, Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, has been developed under the procedures accredited by the American National Standards Institute (ANSI). This Standard had its beginning in December 1916 when an eight-page Code of Safety Standards for Cranes, prepared by an ASME Committee on the Protection of Industrial Workers, was presented at the annual meeting of ASME.

Meetings and discussions regarding safety on cranes, derricks, and hoists were held from 1920 to 1925 involving the ASME Safety Code Correlating Committee, the Association of Iron and Steel Electrical Engineers, the American Museum of Safety, the American Engineering Standards Committee (AESC) [later changed to American Standards Association (ASA), then to the United States of America Standards Institute (USASI), and finally to ANSI], Department of Labor — State of New Jersey, Department of Labor and Industry — State of Pennsylvania, and the Locomotive Crane Manufacturers Association. On June 11, 1925, AESC approved the ASME Safety Code Correlating Committee's recommendation and authorized the project with the U.S. Department of the Navy, Bureau of Yards and Docks, and ASME as sponsors.

In March 1926, invitations were issued to 50 organizations to appoint representatives to a Sectional Committee. The call for organization of this Sectional Committee was sent out October 2, 1926, and the committee organized November 4, 1926, with 57 members representing 29 national organizations. Commencing June 1, 1927, and using the eight-page code published by ASME in 1916 as a basis, the Sectional Committee developed the Safety Code for Cranes, Derricks, and Hoists. The early drafts of this safety code included requirements for jacks but, due to inputs and comments on those drafts, the Sectional Committee decided in 1938 to make the requirements for jacks a separate code. In January 1943, ASA B30.2-1943 was published addressing a multitude of equipment types, and in August 1943, ASA B30.1-1943 was published just addressing jacks. Both documents were reaffirmed in 1952 and widely accepted as safety standards.

Due to changes in design, advancement in techniques, and general interest of labor and industry in safety, the Sectional Committee, under the joint sponsorship of ASME and the Bureau of Yards and Docks (now the Naval Facilities Engineering Command), was reorganized on January 31, 1962, with 39 members representing 27 national organizations. The new committee changed the format of ASA B30.2-1943 so that the multitude of equipment types it addressed could be published in separate volumes that could completely cover the construction, installation, inspection, testing, maintenance, and operation of each type of equipment that was included in the scope of ASA B30.2. This format change resulted in the initial publication of B30.3, B30.5, B30.6, B30.11, and B30.16 being designated as revisions of B30.2 with the remainder of the B30 volumes being published as totally new volumes. ASA changed its name to USASI in 1966 and ANSI in 1969, which resulted in B30 volumes from 1943 to 1968 being designated as ASA B30, USAS B30, or ANSI B30, depending on their date of publication.

In 1982, the Committee was reorganized as an Accredited Organization Committee, operating under procedures developed by ASME and accredited by ANSI. This Standard presents a coordinated set of rules that may serve as a guide to government and other regulatory bodies and municipal authorities responsible for the guarding and inspection of the equipment falling within its scope. The suggestions leading to accident prevention are given both as mandatory and advisory provisions; compliance with both types may be required by employers of their employees.

In case of practical difficulties, new developments, or unnecessary hardship, the administrative or regulatory authority may grant variances from the literal requirements or permit the use of other devices or methods but only when it is clearly evident that an equivalent degree of protection is thereby secured. To secure uniform application and interpretation of this Standard, administrative or regulatory authorities are urged to consult the B30 Committee, in accordance with the format described in Section IX of the Introduction, before rendering decisions on disputed points.

Safety codes and standards are intended to enhance public safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

The 2009 edition of B30.10 was rewritten entirely to improve the clarity of the Standard. ~~This~~ The 2014 edition incorporates many global B30 changes, including the addition of personnel competence and translation requirements, as well as other revisions made throughout the document. This edition contains updates to definitions.

This edition of the B30.10 Volume was approved by the B30 Committee and ASME and was approved by ANSI and designated as an American National Standard on TBD.

Record#: TR-18-41
Standard: B30.10 Hooks
Subject: 10-0.2 Definitions

SECTION 10-0.2: DEFINITIONS

abnormal operating conditions: environmental conditions that are unfavorable, harmful, or detrimental to or for the use of a hook, such as excessively high or low ambient temperatures, exposure to weather, corrosive fumes, dust-laden or moisture-laden atmospheres, and hazardous locations.

~~*crack:* a crevice-type discontinuity in the material.~~

~~*hook,*~~ *self-closing hook:* a hook with a throat opening that is closed by a spring-loaded latch, gate, or bail that is manually opened for loading and closes upon release. It may be locked in the closed position (see Figs. 10-1.1-8 through 10-1.1-14).

~~*hook,*~~ *self-locking hook:* a hook with a throat opening that will close and lock when a load is applied and will not open until unloaded and the lock released (see Figs. 10-1.1-6 and 10-1.1-7).

hook latch: ~~a mechanical device used to close the throat opening of a hook~~ a device used to bridge or close the throat opening of a hook for the purpose of retaining loose attachments during slack rigging conditions. (see Figs. 10-1.1-1 through 10-1.1-5 and 10-1.1-17). A rigging aid, not intended to support the load.

~~*load,*~~ *proof load:* the specific load applied in performance of the proof test.

~~*load,*~~ *rated load:* the maximum allowable working load established by the manufacturer. The terms *rated capacity* and *working load limit* are commonly used to describe rated load.

~~*service,*~~ *heavy service:* service that involves operating at 85% to 100% of rated load as a regular specified procedure.

~~*service,*~~ *normal service:* service that involves operating at less than 85% of rated load except for isolated instances.

~~*service,*~~ *severe service:* ~~heavy~~ service that involves normal service coupled with abnormal rigging or operating conditions.

shall: a word indicating a requirement.

should: a word indicating a recommendation.

~~*test,*~~ *nondestructive test:* a test that does not destroy the functional use of the hook, such as, but not limited to, dye-penetrant, magnetic particle, radiography, and ultra- sonic tests.

~~*test,*~~ *proof test:* a nondestructive load test made to verify the manufacturing integrity of the hook.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated by underlining (for additions) and strikethrough (for deletions). Only these changes to the current standard are open for review and comment at this time. Changes include the corrected spelling of Ronald Vallort's name and the removal of the NEBB approved instrument list.]

NEBB Standard Project Committee S110

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Steve Wiggins – Vice Chairman* Provider
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NOTE
This Standard was developed under the auspices of NEBB. NEBB Standards are developed under a review process, identifying a standard for the inspection, testing, balancing and commissioning of building systems. NEBB Standards are prepared by project committees appointed specifically for the purpose of writing Standards. The project committee chair and vice-chair must be members of NEBB; other committee members may or may not be NEBB members, all members must be technically qualified in the subject area of the Standard.
The NEBB Standards Council Chairman should be contacted for:

a. interpretation of the contents of this Standard,
b. participation in the next review of the Standard,
c. offering constructive criticism for improving the Standard, or
d. permission to reprint portions of the Standard.

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NEBB Standards, Guidelines and Handbooks are created to assist the industry and the public by offering a uniform method of testing and validating systems functionality, by suggesting safe practices for inspecting and testing systems. NEBB Standards, Guidelines and Handbooks are created by the need for them, and conformance to them is completely voluntary.

In referring to this Standard, Guideline or Handbook and in marketing of products or services or in advertising, no claim shall be made, either stated or implied that the product or services has been approved or indorsed by NEBB.

1. Quality Assurance Program (QAP)

NEBB credibility is built by maintaining integrity through high standards, quality programs, and demonstrated capabilities of its certified firms. The QAP provides NEBB customers with a single contact for prompt professional support in understanding issues impeding successful project completion and help in mediating differences between the NEBB customer and the NEBB professional. The NEBB Quality Assurance Program is described in detail in a separate publication, available at www. nebb.org.

a. Program Advantages
The NEBB Quality Assurance Program affords building owners, architects, engineers and other agents a reliable basis for specifying work within the various disciplines of NEBB. The program promotes proper execution of projects by ensuring compliance with NEBB standards and procedures.

b. NEBB Quality Assurance Program Certificate
The NEBB Quality Assurance Program Conformance Certificate is not required, but is available for any project.

2. Test Instruments and Tools:

It is the Commissioning Professionals responsibility to own, supply and utilize the correct test instruments, properly calibrated for testing system operability and performance. NEBB firm certification programs require minimum tool ownership and calibration requirements for commissioning. These standard tool lists are intended to be a minimum requirement for most HVAC type commissioning projects. See NEBB.org for required tool and instrument lists.

It is the responsibility of the certified commissioning professional to know what instruments and tools are required for the project beyond the minimum tool list and to provide the correct instrument for the test being performed. The commissioning professional is responsible to verify that all instrumentation and tools utilized are properly calibrated.

Discipline / Function			BSC Required Instrumentation																NOTES	Calibration requirements
			RANGE					ACCURACY						RESOLUTION						
Air	Air Pressure		0	in wg	to	10	in wg	2%	±	0.001	in wg			0.001	in wg	<	1	in wg		12 Months
														0.01	in wg	>	1	in wg		
			0	Pa	to	2500	Pa	2%	±	0.25	Pa			0.10	Pa	<	250	Pa		
														10	Pa	>	250	Pa		
	Air Velocity Instrument		50	fpm	to	3900	fpm	± 5%	±	7	fpm			1	fpm				*1	12 Months
			0.25	m/s	to	20	m/s	± 5%	±	0.04	m/s			0.01	m/s					
	RVA - Air Velocity		50	fpm	to	2500	fpm	± 2%	±	4	fpm			1	fpm				*1	12 Months
			0.25	m/s	to	12.7	m/s	± 2%	±	0.02	m/s			0.01	m/s					
	Direct Reading Hood		100	cfm	to	2000	cfm	± 5%	of reading	±	7	cfm		1	cfm	No Analog Hood				12 Months
			50	l/s	to	1000	l/s	± 5%	of reading	±	4	l/s		1	l/s					
Temperature	Air Meter		-20	°F	to	240	°F	± 0.5%	+	2.0	°F			0.1	°F					12 Months
			-30	°C	to	120	°C	± 0.5%	+	1.0	°C			0.1	°C					
	Air Probe		-20	°F	to	240	°F	± 0.5%	+	2.0	°F			0.1	°F					12 Months
			-30	°C	to	120	°C	± 0.5%	+	1.0	°C			0.1	°C					
	Immersion Meter		-20	°F	to	240	°F	± 0.5%	+	2.0	°F			0.1	°F					12 Months
			-30	°C	to	120	°C	0.5%	+	1.0	°C			0.1	°C					
	Immersion Probe		-30	°C	to	120	°C	± 0.5%	+	1.0	°C			0.1	°C					12 Months
	Contact Meter		-20	°F	to	240	°F	± 0.5%	+	2.0	°F			0.1	°F					12 Months
			-30	°C	to	120	°C	± 0.5%	+	1.0	°C			0.1	°C					
	Contact Probe		-20	°F	to	240	°F	± 0.5%	+	2.0	°F			0.1	°F					12 Months
			-30	°C	to	120	°C	± 0.5%	+	1.0	°C			0.1	°C					
Humidity	Humidity Probe		10	% RH	to	90	% RH	3%	of reading					1%						12 Months
Electrical	Voltage Measurement		0	VAC	to	600	VAC	2%	of reading	±	5	digits		1	Volt					12 Months
	Amperage Measurement		0	Amperes	to	100	Amperes	2%	of reading	±	5	digits		0.1	Ampere					12 Months
Rotation	Rotation Measurment		60	rpm	to	5000	rpm	2%	of reading	±	2	rpm		1	rpm					12 Months
Hydronic	Pressure Measurement		-30	in Hg	to	200	psi	2%	of reading	±	1	psi		0.01	psi					12 Months
			-760	mm Hg	to	1400	kPa	2%	of reading	±	7	kPa		0.1	kPa					
	Δ Pressure measurement		0	psi	to	80	psi	2%	of reading	±	1	psi		0.01	psi					12 Months
			0	kPa	to	550	kPa	2%	of reading	±	7	kPa		0.1	kPa					
Camera	Digital Photography													4.0	megapixels					Per Manufacturer's Requirments

Discipline / Function		BSC Required Instrumentation												NOTES	Calibration requirements
			RANGE				ACCURACY				RESOLUTION				
Camera	Digital Photography										4.0	megapixels			Per Manufacturer's Requirments
Additional BSC Electrical	Receptacle Circuit Tester		125	VAC			Not Applicable				Not Applicable			*2	Not Required
	Voltage Detector		50	VAC	to	1000 VAC	Not Applicable				Not Applicable				Not Required
	Light Level Measurement		0	FC	to	4000 FC	± 3%	+	5%	full scale	0.1	FC			Per Manufacturer's Requirments
			0	lx	to	40000 lx	± 3%	+	5%	full scale	1.0	lx			
Additional Cx Envelope	Thermal Camera		-20	°C	to	232 °C	± 2%	or	-15.7	°C	0.1 @ 30 °C	&	160 x 120	*3	Per Manufacturer's Requirements
Additional Cx Special Electrical	Sound Level Meter		Sound pressure Measurements. Shall meet the Type 1 or Type 2 requirements specified in the most current version of ANSI S1.4 American National Standard Specification for Sound Level Meters											*4 & 7	12 Months

NOTES

*1 ~~BET: Only RVA or AV Instrument Required~~
*2 Required RCx, Option for Cx-Electrical
*3 Required RCx, Option for Cx-Envelope
*4 Required sound, Option for Cx-Special Electrical
*5 ~~CPT Option - choose only Option 1 OR Option 2 - along with required instrument for CPT certification (All instruments in any of the chosen is required)~~
*6 ~~FMT Orifice Calibrator - Choose only one~~
*7 Firms MUST OWN instrumentation for sound certification and Special Electrical Cx only
*8 ~~Firms may own or rent vibration equipment instrumentation for vibration certification.~~
*9 Calibration Requirement: Data logger calibration may be verified from a calibrated instrument with an associated calibration form showing calibration readings from both the calibrated instrument and the data logger. If a data logger is out of calibration and cannot be adjusted, the logger must be sent back to the factory for re-calibration or be replaced

General Note: Some local jurisdictions require qualified electrician for any readings

Calibration Requirement: All instrumentation, for firms in the US, which have a NEBB calibration requirement must have a minimum three (3) point NIST Traceable Calibration. Note: National Metrology Institutes (NMI) exists in many countries maintaining primary measurements of standards; such as NPL in the UK, NIST in the United States, PTB in Germany and many others which are approved for those regions.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated by underlining (for additions) and strikethrough (for deletions). Only these changes to the current standard are open for review and comment at this time. Changes include the removal of the NEBB approved instrument list.]

A. NORMATIVE APPENDIX - RCX QUALIFICATIONS

This normative appendix is a part of this standard and is indispensable for the application of this standard.

The success of a Retro-Commissioning project is based upon the qualification, experience and talents of the RCx provider and the commissioning team. It is also dependent upon utilizing the correct technical processes and the appropriate testing tools and instruments. To ensure a successful project all RCx projects should include the following qualifications:

1. RCx Provider Qualification:

An RCx provider must have education, experience and qualifications required to achieve certification as a RCx provider.

In general, the RCx Team must have the following skills and experience:

a. Project Management
b. Project team supervision
c. System Testing techniques and use of instrumentation
d. System troubleshooting
e. System analysis
f. Energy and water conservation techniques
g. Energy and water calculation procedures
h. Working knowledge of Control systems and sequence strategies
i. Capability to train operators
j. Good communication skills

2. RCx Provider Certification:

The retro-commissioning provider must be a qualified individual who has demonstrated his capability by achieving a personal certification in Technical Retro- Commissioning of Existing Buildings such as NEBB RCx certification or similar certifications that are specific to Technical Retro-Commissioning. Providers with other general commissioning certifications that are not specific to Retro-Commissioning, that combine new building and existing building commissioning processes into one process, should not be considered as qualified individuals, because the commissioning process for new buildings and existing buildings are completely different processes.

3. RCx Team Member Qualification:

An effective RCx team must have individuals who are experienced and knowledgeable in the systems they are commissioning. It is the RCx provider's responsibility to lead, manage and supervise the RCx team. Expertise is normally required for the following fields:

a. HVAC Systems

b. HVAC Controls
c. IEQ parameters
d. Building Envelope
e. Electrical Power Systems
f. Lighting and Lighting Controls
g. Plumbing Systems
h. Landscape watering systems
i. Any other specific systems included in the scope of work

4. RCx Test Instruments and Tools:

It is the ~~RCx provider's~~ Commissioning Professionals responsibility to own, supply and utilize the correct test instruments, ~~of the correct accuracy and range and~~ properly calibrated for testing system operability and performance. NEBB firm certification programs require minimum tool ownership and calibration requirements for commissioning. ~~The following~~ These standard tool lists are intended to be a minimum requirement for most Retro-Commissioning projects. See NEBB.org for required tool and instrument lists.

It is the responsibility of the certified commissioning professional to know what instruments and tools are required for the project beyond the minimum tool list and to provide the correct instrument for the test being performed. The commissioning professional is responsible to verify that all instrumentation and tools utilized are properly calibrated.

Discipline / Function		RCx Required Instrumentation				NOTES	Calibration requirements
		RANGE	ACCURACY	RESOLUTION			
Air	Air Pressure	0 in wg to 10 in wg	2% ± 0.001 in wg	0.001 in wg < 1 in wg 0.01 in wg > 1 in wg			12 Months
		0 Pa to 2500 Pa	2% ± 0.25 Pa	0.10 Pa < 250 Pa 10 Pa > 250 Pa			
	Air Velocity Instrument	50 fpm to 3900 fpm	± 5% ± 7 fpm	1 fpm		*1	12 Months
		0.25 m/s to 20 m/s	± 5% ± 0.04 m/s	0.01 m/s			
	RVA - Air Velocity	50 fpm to 2500 fpm	± 2% ± 4 fpm	1 fpm		*1	12 Months
		0.25 m/s to 12.7 m/s	± 2% ± 0.02 m/s	0.01 m/s			
	Direct Reading Hood	100 cfm to 2000 cfm	± 5% of reading ± 7 cfm	1 cfm	No Analog Hood		12 Months
		50 l/s to 1000 l/s	± 5% of reading ± 4 l/s	1 l/s			
	Air Meter	-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			12 Months
		-30 °C to 120 °C	± 0.5% ± 1.0 °C	0.1 °C			
	Air Probe	-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			12 Months
		-30 °C to 120 °C	± 0.5% ± 1.0 °C	0.1 °C			
		-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			
	Immersion Probe	-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			12 Months
		-30 °C to 120 °C	± 0.5% ± 1.0 °C	0.1 °C			
	Contact Meter	-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			12 Months
		-30 °C to 120 °C	± 0.5% ± 1.0 °C	0.1 °C			
	Contact Probe	-20 °F to 240 °F	± 0.5% ± 2.0 °F	0.1 °F			12 Months
		-30 °C to 120 °C	± 0.5% ± 1.0 °C	0.1 °C			
Humidity	Humidity Probe	10 % RH to 90 % RH	3% of reading	1%			12 Months
Electrical	Voltage Measurement	0 VAC to 600 VAC	2% of reading ± 5 digits	1 Volt			12 Months
	Amperage Measurement	0 Amperes to 100 Amperes	2% of reading ± 5 digits	0.1 Ampere			12 Months
Rotation	Rotation Measurment	60 rpm to 5000 rpm	2% of reading ± 2 rpm	1 rpm			12 Months
Electrical	Voltage Measurement	0 VAC to 600 VAC	2% of reading ± 5 digits	1 Volt			12 Months
	Amperage Measurement	0 Amperes to 100 Amperes	2% of reading ± 5 digits	0.1 Ampere			12 Months
Rotation	Rotation Measurment	60 rpm to 5000 rpm	2% of reading ± 2 rpm	1 rpm			12 Months
Hydronic	Pressure Measurement	-30 in Hg to 200 psi	2% of reading ± 1 psi	0.01 psi			12 Months
		-760 mm Hg to 1400 kPa	2% of reading ± 7 kPa	0.1 kPa			
	Δ Pressure measurement	0 psi to 80 psi	2% of reading ± 1 psi	0.01 psi			12 Months
		0 kPa to 550 kPa	2% of reading ± 7 kPa	0.1 kPa			
Camera	Digital Photography			4.0 megapixels			Per Manufacturer's Requirments

Discipline / Function		RCx Required Instrumentation			NOTES	Calibration requirements
		RANGE	ACCURACY	RESOLUTION		
Additional BSC Electrical	Receptacle Circuit Tester	125 VAC	Not Applicable	Not Applicable	*2	Not Required
	Voltage Detector	50 VAC to 1000 VAC	Not Applicable	Not Applicable		Not Required
	Light Level Measurement	0 FC to 4000 FC	± 3% + 5% full scale	0.1 FC		Per Manufacturer's Requirments
		0 lx to 40000 lx	± 3% + 5% full scale	1.0 lx		
Additional Cx Envelope	Δ Temp Documentation Thermal Camera	-4 °F to 450 °F	± 2% or 3.6 °F	0.1 @ 86 °F & 160 x 120	*3	Per Manufacturer's Requirments
		-20 °C to 232 °C	± 2% or -15.7 °C	0.1 @ 30 °C & 160 x 120		
Data Loggers	Carbon Dioxide CO2	0 ppm to 2500 ppm	± 5 ppm	1 ppm	Qty = 1	Per Manufacturer's Requirments
	Carbon Monoxide CO	0 ppm to 1000 ppm	± 5 ppm	1 ppm	Qty = 1	Per Manufacturer's Requirments
	Lighting Levels	0 FC to 3000 FC	± 10 FC	2 FC	Qty = 1	See Note 9
		0 lx to 30000 lx	± 100 FC	0 lx		
	Electrical	0 VAC to 600 VAC	0 2% of reading VAC	1.0 VAC	Qty = 2	See Note 9
		0 Amperes to 100 Amperes	0 4% of reading Ampere	0.1 Ampere		
	Static Pressure - Low	0 in wc to 0.25 in wc	± 1% full scale	0.01 in wc < 1 in wc 0.1 in wc > 1 in wc 2.5 Pa < 250 Pa	Qty = 1	See Note 9
	Static Pressure - High	0 in wc to 6.00 in wc	± 1% full scale	0.01 in wc < 1 in wc 0.1 in wc > 1 in wc	Qty = 1	See Note 9
		0 pa to 1500 Pa	± 1% full scale	2.5 Pa < 250 Pa 25 Pa > 250 Pa		
	Water Pressure	0 psi to 100 psi	± 1% of reading psi	1.0 psi	Qty = 1	See Note 9
		0 kPa to 700 kPa	± 1% of reading kPa	0.1 kPa		
	Temperature	-4 °F to 150 °F	± 5 °F @ 77 °F	0.1 °F	Qty = 8	See Note 9
		-20 °C to 65 °C	± 1% of reading °C	0.1 °C		
	Humidity	10 % RH to 90 % RH	0 2.5% RH	1% RH	Qty = 8	See Note 9
	Event	Not Applicable	Not Applicable	Not Applicable	Qty = 2	Not required
RCx Instruments	Thermal Infrared Thermometer	-4 °F to 500 °F	± 2%	0.1 °F		Per Manufacturer's Requirments
		-20 °C to 260 °C	± 2%	0.1 °C		
	TDS Meter	0 µ to 1000 µ	± 2% full scale	1.0%		Per Manufacturer's Requirments
		0 ppm to 5000 ppm	± 2% full scale			

NOTES

*1 BET: Only RVA or AV Instrument Required
*2 Required RCx, Option for Cx-Electrical
*3 Required RCx, Option for Cx-Envelope
*4 Required sound, Option for Cx-Special Electrical
*5 CPT Option - choose only Option 1 OR Option 2 - along with required instrument for CPT certification (All instruments in any of the chosen is required)
*6 FHT Orifice Calibrator - Choose only one
*7 Firms MUST OWN Instrumentation for sound certification and Special Electrical Cx only
*8 Firms may own or rent vibration equipment instrumentation for vibration certification.
*9 instrument and the data logger. If a data logger is out of calibration and cannot be adjusted, the logger must be sent back to the factory for re-calibration or be replaced

General Note: Some local jurisdictions require qualified electrician for any readings

Calibration Requirement: All instrumentation, for firms in the US, which have a NEBB calibration requirement must have a minimum three (3) point NIST Traceable Calibration. Note: National Metrology Institutes (NMI) exists in many countries maintaining primary measurements of standards; such as NPL in the UK, NIST in the United States, PTB in Germany and many others which are approved for those regions.

Tracking #50i150r1 **Revision to NSF/ANSI 50-2017**
 Draft 1, Issue 150 (February 2019)

[Note – the recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by grey highlighting. Rationale Statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard

Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and other Recreational Water Facilities

Evaluation criteria for materials, components, products, equipment, and systems for use at recreational water facilities

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20 Spas and hot tubs

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20.4 Design and construction

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20.4.1 General

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20.4.3 Spa shell or tub

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20.4.3.2 Step surfaces

20.4.3.2.1 Spa steps shall be marked with color contrasting edge markings.

20.4.3.2.2 Steps and stepping surfaces within the activity spa intended primarily for ingress/egress footing shall be slip-resisting and shall achieve a wet pendulum slip resistance of P5 when tested in accordance with AS4586-2013. ~~, as defined by the requirements of the following:~~

~~— ASTM F462; or~~
~~— ASTM D1894~~

~~Testing shall be performed with the traditional soapy water solution and the tap water treated with 2.0 ppm of free available chlorine.~~

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[Note – the changes are seen below using strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted and strike-through text are within the scope of this ballot.]

NSF/ANSI Standard
for Drinking Water System Components – Health Effects

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Annex B
(normative)

Product/material evaluation

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B.9 Extraction water preparation

B.9.1 Chemical characteristics

Five extraction waters shall be available for exposure:

a) pH = 5 ± 0.3, with 2 ± 0.5 mg/L free available chlorine and 100 mg/L hardness;

b) pH = 6.5 ± 0.3, with 2 ± 0.5 mg/L free available chlorine and 100 mg/L hardness;

c) pH = 8 ± 0.3 (organic analysis), with ~~0 mg/L free available~~ no chlorine added and 100 mg/L hardness;

d) pH = 10 ± 0.3, with 2 ± 0.5 mg/L free available chlorine; and

e) pH = 8 ± ~~0.5~~ 0.3, alkalinity of 500 ± 25 ~~ppm~~ mg/L, dissolved inorganic carbon of 122 ± 5 ~~ppm~~ mg/L, and 2 ± 0.5 ~~ppm~~ mg/L of free chlorine.

All exposure water that is used to determine compliance to this Standard shall be used within 24 hours of preparation ~~prepared fresh daily~~ and stored in a closed container.

NOTE - The hardness values above are expected concentrations based on buffer additions and are not intended to be a specification.

B.9.2 Reagents

B.9.2.1 Reagent water

Reagent water shall be produced through one or more of the following treatment processes: distillation, reverse osmosis, ion exchange, or other equivalent treatment processes. The reagent water shall have the following general water characteristics:

— electrical resistivity, minimum 18 MΩ-cm at 25° C (77 °F); and
total organic carbon (TOC) maximum 100 µg/L.

For each specific analyte of interest, the reagent water shall not contain the target analyte at a concentration greater than half the designated analytical report limit of that analyte. If trace organic contaminants may be present at levels greater than half the designated analytical report limit of that target analyte, it is permissible to treat the reagent water with TOC destructive UV (185nm) to reduce those contaminants to acceptable concentrations. This UV treatment often results in a decrease in electrical resistivity of the reagent water to below 18 MΩ-cm, which is allowed in this circumstance.

B.9.2.2 Phosphate buffer stock solutions (0.1M)

Phosphate buffer stock solutions shall be prepared as follows: Dissolve 13.89 g sodium dihydrogen phosphate monohydrate in reagent water, dilute to 1.0 L (0.26 gal), and mix thoroughly. Prepare fresh weekly. This buffer shall be used with only the magnesium hardness reagent.

B.9.2.3 Magnesium hardness stock solution (0.04M)

Magnesium hardness stock solution shall be prepared by dissolving 8.13 g magnesium chloride hexahydrate in reagent water, diluting to 1.0 L (0.26 gal), and mixing thoroughly. The solution shall be prepared fresh weekly.

B.9.2.4 Chlorine stock solution (0.025M)

Chlorine stock solution shall be prepared as follows: Dilute 7.3 mL reagent grade sodium hypochlorite (5% NaOCl) to 200 mL with reagent water. Store in tightly stoppered amber reagent bottle protected from light and stored at 20 °C (68 °F). Prepare fresh weekly.

B.9.2.4.1 Determining chlorine stock solution strength

The strength of the chlorine stock solution shall be determined by diluting 1.0 mL to 1.0 L (0.26 gal) with reagent water. The solution shall be analyzed immediately for ~~total residual~~ free available chlorine. This determination shall be referred to as "A."

B.9.2.4.2 Determining amount of chlorine stock solution required to obtain 2 ppm residual chlorine

To determine the volume of the chlorine stock solution necessary to add to the extraction water to obtain 2.0 mg/L free available chlorine residual, the following formula shall be used:

$$\text{mL stock solution} = \frac{2.0 \times B}{A}$$

where:

A = chlorine equivalent per mL of chlorine stock solution (determined above);
and B = liters of extraction water.

B.9.2.5 Calcium hardness stock solution (0.04M)

Calcium hardness stock solution shall be prepared by dissolving 4.44 g anhydrous calcium chloride in reagent water, diluting to 1.0 L (0.26 gal), and mixing thoroughly. The solution shall be prepared fresh weekly.

B.9.2.6 Sodium bicarbonate buffer (0.04M)

Sodium bicarbonate buffer shall be prepared by dissolving 3.36 g sodium bicarbonate in reagent water and diluting to 1.0 L (0.26 gal), mixing thoroughly. The solution shall be prepared fresh weekly.

B.9.2.7 Sodium hydroxide solution (0.1M)

Sodium hydroxide solution shall be prepared by dissolving 4.0 g of sodium hydroxide in reagent water, diluting to 1.0 L (0.26 gal), and mixing well.

B.9.2.8 Sodium borate solution (0.05M)

Sodium borate solution shall be prepared by dissolving 19.07 g of sodium borate decahydrate ($Na_2B_4O_7$ ○○ 10 H_2O) in reagent water, diluting to 1.0 L (0.26 gal), and mixing well.

B.9.3 pH 5 water

pH 5 extraction water shall be prepared to contain ~~100 mg/L hardness and~~ 2 ± 0.5 mg/L free available chlorine. Stock reagent solutions in the amounts shown in Annex B, Table B15 shall be diluted to the desired water volume with reagent water. The pH shall be adjusted to pH 5 ± 0.3 using 0.1M HCl or 0.1M NaOH as needed.

B.9.4 pH 6.5 water

pH 6.5 water shall be prepared to contain ~~100 mg/L hardness and~~ 2 ± 0.5 mg/L free available chlorine. Stock reagent solutions in the amounts shown in Annex B, Table B15 shall be diluted to the desired water volume with reagent water. The pH shall be adjusted to pH 6.5 ± ~~0.5~~ 0.3 using 0.1M HCl.

NOTE — It is recommended that the pH 6.5 water be protected from exposure to air during its formulation and use to minimize pH drift. Unused exposure water should be maintained under a nitrogen blanket, and product samples should be plugged or tightly covered to minimize exposure to air.

B.9.5 pH 8 water (conditioning)

pH 8 conditioning water shall be prepared to contain ~~100 mg/L hardness and~~ 2 ± 0.5 mg/L free available chlorine. Stock reagent solutions in the amounts shown in Annex B, Table B15 shall be diluted to the desired water volume with reagent water. The pH shall be adjusted to pH 8 ± 0.3 using 0.1M HCl or 0.1M NaOH as needed.

B.9.6 pH 8 water (organic analysis)

pH 8 organic extraction water shall be prepared to contain ~~100 mg/L hardness and 0 mg/L free available~~ no chlorine added. Stock reagent solutions in the amounts shown in Annex B, Table B15 shall be diluted to the desired water volume with reagent water. The pH shall be adjusted to pH 8 ± 0.3 using 0.1M HCl or 0.1M NaOH as needed.

B.9.7 pH 10 water

pH 10 extraction water shall be prepared to contain 2 ± 0.5 mg/L free available chlorine. Stock reagent solutions in the amounts shown in Annex B, Table B15 shall be diluted to the desired water volume with reagent water. The pH shall be adjusted to pH 10 ± 0.3 using 0.1M HCl or 0.1M NaOH as needed.

B.9.8 pH 8 water (from section 9)

The extraction water shall be prepared by combining:

— 25 ml of 0.4M sodium bicarbonate;

— chlorine stock solution per Annex B, section B.9.2.4;

— reagent water meeting the requirements of Annex B, section B.9.2.1 (make up to 1 L), and adjust pH as needed using 0.1M HCl.

Chemical concentrations, form, and amounts of ingredients can be adjusted such that the final pH 8 test water meets the extraction water characteristics as outlined in B.9.1.e.

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Table B.15[1]
1 L volume of extraction water

pH	Solution #1	Solution #2	Chlorine stock solution
5	25 mL of 0.1 M NaH_2PO_4	25 mL of 0.04 M $MgCl_2$	Section B.9.2.4
6.5	25 mL of 0.04 M $NaHCO_3$	25 mL of 0.04 M $CaCl_2$	Section B.9.2.4
8 (conditioning)	25 mL of 0.04 M $NaHCO_3$	25 mL of 0.04 M $CaCl_2$	Section B.9.2.4
8 (organic)	25 mL of 0.04 M $NaHCO_3$	25 mL of 0.04 M $CaCl_2$	—
10	50 mL of 0.1 M NaOH	50 mL of 0.05 M $Na_2B_4O_7$	Section B.9.2.4
[1] Volumes are per 1.0 L of extraction water produced.			

Rationale: Added test water tolerances, allowance of UV treatment to reagent water, and allowance for adjustments in how section 9 water is produced per 2018 DWA-SC JC meeting (November 29, 2018).

NSF/ANSI Standard
for Wastewater Technology —

Wastewater treatment systems – Field performance verification

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2 Normative references

The following documents contain provisions that, through reference in this text, constitute provisions of this Standard. At the time of publication, the indicated editions were valid. All standards are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the standards indicated below. The most recent published edition of the document shall be used for undated references.

American Public Health Association (APHA), American Water Works Association (AWWA) & Water Environment Federation (WEF): *Standard Methods for the Examination of Water and Wastewater,* ~~22nd Edition~~, (hereinafter referred to as *Standard Methods*)[1]

Rationale: Harmonized with other standards in the WWT portfolio, which reference the most recent published edition of Standard Methods.

NSF/ANSI 40, *Residential wastewater treatment systems*

NSF/ANSI 245, *Wastewater treatment systems – Nitrogen reduction*

USEPA, *Code of Federal Regulations (CFR), Title 40: Protection of Environment, July 1, 2010*[2]

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[1] Standard Methods for the Examination of Water and Wastewater <www.standardmethods.org>

[2] Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 <www.gpo.gov>

1/13/19 Comments on ANSI/TIA-PN-569-E-R1 Resolved

E: editorial, T: technical, TN: technical no vote issue
ID: Company with comment # (do not automate comment #)

Please do not re-size table

Page	Line	Clause	E/T/TN	ID	Comment (rationale)	Proposed change (specific; add, delete. From-to)	Resolution
6	687	3.2	T	CS19	Style guide. I believe “is” works in this definition	From: **dew point:** the temperature to which air must be cooled To: **dew point:** the temperature to which air is cooled	Reject No second
36	1589	7.4.2.1.3	T	CS12	Giving consideration is a weak statement that could imply thinking about it is enough.	From: If a standby power source is available in the building, consideration should be given to also connecting the HVAC system serving the telecommunications access provider space and service provider space to the standby supply. To: If a standby power source is available in the building, the HVAC system serving the telecommunications access provider space and service provider space should be connected to the standby supply.	Accept
36	1608	7.4.3.1.2	T	CS13	Giving consideration is a weak statement that could imply thinking about it is enough.	From: If a standby power source is available in the building, consideration should be given to also connecting the electrical system serving the telecommunications access provider space and service provider space to the standby supply. To: If a standby power source is available in the building, the electrical system serving the telecommunications access provider space and service provider space should be connected to the standby supply.	Accept

Page	Line	Clause	E/T/TN	ID	Comment (rationale)	Proposed change (specific; add, delete. From-to)	Resolution
40	1676	8.2.4.3.1.2	T	CS15	Giving consideration is a very weak recommendation and does not amount to much … just thinking about it is giving consideration. Let us provide a clear guideline that if the HVAC system “should be connected”, see line 1660, the electrical system supplying power to all the equipment is should be too. There is no point have a cool room with dead equipment.	From: If a standby power source is available in the building, consideration should also be given to connecting the electrical system serving the common distributor room to the standby supply. To: If a standby power source is available in the building, the electrical system serving the common distributor room should be connected to the standby supply.	Accept
69	2536	A.3.3	T	CS22	Style guide. I believe “shall” is intended in this section.	From: must be firestopped to return the barrier to its intended fire rating. To:shall be firestopped to return the barrier to its intended fire rating.	Accept
73	2690	A.5.3.6	T	CS25	Style guide. I believe “shall” is intended in this section.	From: the opening must be made structurally adequate and leak-tight to resist and control the expansive forces of the foam To: the opening shall be made structurally adequate and leak-tight to resist and control the expansive forces of the foam	Accept

BSR/UL 2044, Standard for Safety for Commercial Closed-Circuit Television Equipment

1.5 These requirements do not cover video monitors, as these products are covered by the~~:~~

~~a) Standard for Audio-Video Products and Accessories, UL 1492;~~

~~b) *Deleted*~~

~~c) *Deleted*~~

~~d)~~ Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1 or the Standard for Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

1.7 These requirements do not cover tape-head demagnetizers or bulk tape erasers intended for use with video products and do not cover general-purpose tape-head demagnetizers or bulk tape erasers, as those products are covered by the requirements for household and commercial tape recorders in the ~~Standard for Audio Video Products and Accessories, UL 1492 and the Standard for Audio/Video Products and Accessories, UL 1492 and the~~ Standard for Commercial Audio Equipment, UL 813.

1.8 Commercial video products provided with a means for receiving commercially broadcasted video signals and household video products are covered by the Standard for ~~Audio Video Products and Accessories, UL 1492 for Audio-Video Products and Accessories, UL 1492~~Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

26.1 A transformer or motor transformer that is connected across the supply circuit (primary) shall comply with the Standard for Low Voltage Transformers - Part 1: General Requirements, UL 5085-1; the Standard for Low Voltage Transformers - Part 2: General Purpose Transformers, UL 5085-2; the Standard for Transformer and Motor Transformers for Use in Audio-, Radio-, and Television-Type Appliances, UL 1411; the Standard for Class 2 Power Units, UL 1310; or the Standard for Low Voltage Transformers - Part 1: General Requirements, UL 5085-1; and the Standard for Low Voltage Transformers - Part 3: Class 2 and Class 3 Transformers, UL 5085-3.

Exception No. 1: Transformers that are part of a power supply evaluated to:

a) The Standard for Power Units Other Than Class 2, UL 1012;

~~b) Deleted~~

~~c) Deleted~~

~~d)~~b) The Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1;

c) The Standard for Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

are only required to comply with the requirements in those standards.

Exception No. 2: A transformer evaluated to the Standard for Transformers and Motor Transformers for Use in Audio-, Radio-, and Television-Type Appliances, UL 1411, shall comply with requirements for the Transformer Short-Circuit and Overload Tests, Section 67.

68.1 The power supply and circuits on the load side of the power supply shall be investigated to determine that a risk of fire or electric shock is not produced under the conditions of short- or open-circuiting, singly of any unreliable component such as a rectifier, transistor, IC, or electrolytic capacitor in a circuit that is determined not to be low-voltage, limited-energy as described in Section 14, Low-Voltage, Limited-Energy Circuits. The results of the test shall be in accordance with 46.3.

Exception: A power supply that complies with:

a) The Standard for Power Units Other Than Class 2, UL 1012,

b) The Standard for Class 2 Power Supply Units, UL 1310, or

~~*b) Deleted*~~

~~*c) Deleted*~~

~~*d*~~*c) The Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1;*

d) The Standard for Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

and the associated circuits within the power supply, need not be subjected to this test.

BSR/UL 2442, Standard for Safety for Wall- and Ceiling- Mounts and Accessories.

2.26 LIMITED POWER SOURCE (LPS) - A limited power source is as defined in the Standard for Information Technology Equipment Safety - Part 1: General Requirements, UL 60950-1, and that complies with the requirements of UL 60950-1 or the Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

8.1 A mount system that employs an electromagnetic interference filter shall also comply with the Standard for Electromagnetic Interference Filters, UL 1283. A product that employs a transient voltage surge suppressor shall also comply with the Standard for Surge Protective Devices, UL 1449. Telephone equipment and communication circuit protectors included in a mounting system shall comply with the requirements in the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1 or the Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1, and the requirements in the Standard for Secondary Protectors for Communications Circuits, UL 497A, respectively. A mounting system that incorporates an antenna discharge unit or provides antenna connections to a television, a high-voltage video product, or antenna shall comply with the applicable requirements in the Standard for Antenna Discharge Units, UL 452, and the Standard for Audio-Video Products and Accessories, UL 1492. A product that employs ground-fault protection shall comply with the requirements in the Standard for Ground-Fault Circuit Interrupters, UL 943.

32.1.2 A combination motor(s) and motor(s) controller shall comply with the requirements in the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1, ~~or~~ the Standard for Industrial Control Equipment, UL 508, or the Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

32.1.4 A motor shall incorporate one of the following forms of protection:

a) Thermal protection complying with the Standard for Thermally Protected Motors, UL 1004-3, where the motor is marked Thermally Protected or T.P.

b) Impedance protection complying with the Standard for Impedance Protected Motors, UL 1004-2, where the motor is marked Impedance Protected or Z.P.

c) A self-protected combination motor(s) and motor(s) controller shall comply with the requirements in the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1, ~~or~~ the Standard for Industrial Control Equipment, UL 508, or the Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.

d) The Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991. When the protective electronic circuit is relying upon software as a protective component, it shall comply with the requirements in the Standard for Tests for Software in Programmable Components, UL 1998. If software is relied upon to perform a safety function, it shall be considered software Class 1.

e) The Standard for Automatic Electrical Controls for Household and Similar Use, Part 1: General Requirements, UL 60730-1 and/or the applicable standard from the UL 60730 series. If software is relied upon to perform a safety function, it shall be considered software Class B.

f) The use of a device responsive to motor current.

g) The use of a sensing circuit that disconnects power from the motor in a sufficiently short time to reduce the risk of fire.

h) Motors that limit exposed motor surfaces [a case of an enclosed motor or a winding of an open motor] to 150°C (302°F) while wrapped in cheesecloth.

59.1.1 If the running overload and locked rotor tests were conducted on the motor under the Standards for Overheating Protection for Motors, UL 2111, Impedance Protected Motors, UL 1004-2, Thermally Protected Motors, UL 1004-3, Industrial Control Equipment, UL 508, Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1 or the Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1, and the testing is representative of the conditions in the end-use product, the tests do not need to be repeated.