ANSI STANDARDS ACTION

PUBLISHED WEEKLY BY THE AMERICAN NATIONAL STANDARDS INSTITUTE 25 West 43rd Street, NY, NY 10036

VOL. 50, #6 *February 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: March 10, 2019

AARST (American Association of Radon Scientists and Technologists)

Revision

BSR/AARST MAH-201x, Protocol for Conducting Measurements of Radon and Radon Decay Products in Homes (revision of ANSI/AARST MAH-2014)

This standard specifies procedures, minimum requirements, and general guidance for measuring radon concentrations in single-family residences for determining if radon mitigation is necessary to protect current and future occupants. The protocols included in this standard of practice apply to testing structures whether conducted for real estate or non-real-estate purposes.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: StandardsAssist@gmail.com

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

Addenda

BSR/ASHRAE Addendum 62.2v-201x, Ventilation and Acceptable Indoor Air Quality in Residential Buildings (addenda to ANSI/ASHRAE Standard 62.2-2016)

This proposed addendum updates the normative references in Section 9 (References) of Standard 62.2.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at https://www.ashrae.org/technical-resources/standards-and-guidelines/public-review-drafts

BSR/ASHRAE/IES Addendum 90.1as-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum incorporates public review comments into this informative commissioning appendix in reference to the first public review draft.

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/IES Addendum 90.1ba-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The proposed addendum clarifies how baseline must be established when Appendix G does not explicitly prescribe the baseline parameters but allows it to be different from the proposed design.

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/IES Addendum 90.1bb-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This ISC represents resolution of comments from the 1st and 2nd public reviews. The values in this ISC reflect updates to the lighting model. If addendum bb is adopted, it represents an average 11% reduction in lighting power allowance when comparing 2016 to the as-proposed 2019 space-by-space LPD values. This 11% reduction is NOT weighted by floor-area type.

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/IES Addendum 90.1bc-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This is a second comment review. Comments from the first public review have been incorporated into these changes. The requirement for a minimum 40 degree delta T between the leaving and entering boiler water has been removed. Boilers less than 300,000 Btu/h are no longer included in the proposal.

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/IES Addendum 90.1ca-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposed addendum adds U-factors to Table A3.2.3 for use of continuous insulation on metal building walls with double-layer cavity insulation. The calculations follow the same basis of calculation used in other parts of the table based on calculation procedures in A9.4.6.

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/IES Addendum 90.1cc-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The calculation procedures in A9.4.6 are developed from and are specifically for assemblies with a 60-inch purlin and girt spacing. This proposal clarifies the limitations of the calculation procedures in A9.4.6.

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/IES Addendum 90.1ce-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum provides energy-saving potential by removing one of three criteria for fan motor selections, it addresses concerns of prior interpretations, it increases the design options for load-matching variable-speed fan applications, it accommodates new motor and drive technologies, and it simplifies the motor selection criteria for fans.

Click here to view these changes in full

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BSR/ASHRAE/IES Addendum 90.1cf-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposed addendum adds vacuum insulating glazing to the list of options for reach-in doors in walk-in coolers and freezers.

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/IES Addendum 90.1ch-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum addresses two areas of uncertainty in the definitions of daylighted zones: (1) What areas should be considered daylighted around the perimeter of building atria? (2) At what size does an exterior building overhang render the sidelighted area noneffective for displacing electric lighting?

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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/ASHRAE/IES Addendum 90.1ci-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum updates the Building Performance Factors (BPFs) that are used for compliance with Appendix G. The BPFs represent the savings of any version of Standard 90.1 compared to Standard 90.1-2004 (the Progress Indicator). The BPFs in the previous addendum impacting BPFs (Addendum bt) were estimated based on the savings of Standard 90.1-2016 with a further reduction of 3%. The current proposal includes the savings of Standard 90.1-2016 including addenda through December 31, 2018 with a further reduction of 3%.

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/IES Addendum 90.1cj-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposed addendum makes the following changes to the lighting provisions of the Energy Cost Budget Method:

- Specifies that there is no tradeoff credit for plug-in lighting in multifamily occupancies and other space types where lighting design relies on plug-in fixtures not shown on drawings;

- Establishes the baseline lighting power density (LPD) for dwelling units based on the design that meets high efficacy lamp requirements of Section 9.4.4. The LPD matches the permanently installed lighting LPD from the analysis used to set Building Performance Factors in Appendix G; and

- Clarifies modeling methodology to capture lighting control savings and aligns it with the relevant rules of Appendix G.

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/IES Addendum 90.1ck-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal adds language for Section 11 to address the new proposed renewable energy requirements in Addendum BY. The proposed approach allows a proposed design that does not include renewable energy required by Section 10.5.1, a method of trade-off against other prescriptive requirements in 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/IES Addendum 90.1cm-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum updates Exceptions to 6.5.2.1 regarding DDC Controls.

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/IES Addendum by-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal considers a minimum prescriptive requirement for onsite renewable energy. The renewable energy resources are defined within the proposal; however, the specific resource to be used is left up to the designer or building owner. The listed capacity requirement, as well as the scalar evaluation, is based on photovoltaic generation as that is the most ubiquitous and cost-effective renewable energy resource and equipment/system currently available across the industry.

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/IES Addendum bz to Standard 90.1-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum clarifies aligns the requirements of Appendix C with more informative outputs, clarifies the schedule of shades, updates energy costs, and references updated minimum efficiency requirements in Section 6.

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)

New Standard

BSR/ASME B1.25-20XX , Measurement Uncertainty Factors in the Calibration of Screw Thread Gages (new standard)

This document notes technical factors that can explain measurement differences between two parties calibrating the same gage. It is directed to the metrology involved, not acceptance rules or other quality considerations.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Daniel Papert, (212) 591-7526, papertd@asme.org

ASME (American Society of Mechanical Engineers)

Revision

BSR/ASME BPVC Section IX-201x, Welding, Brazing and Fusing Qualifications (revision of ANSI/ASME BPVC Section IX-2017)

Section IX of the ASME Boiler and Pressure Vessel Code relates to the qualification of welders, welding operators, brazers, brazing operators, and fusing operators and the procedures that they employ in welding, brazing, and fusing according to the ASME Boiler and Pressure Vessel Code and the ASME B31 Code for Pressure Piping.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Erika Lawson, (212) 591-8094, lawsone@asme.org

IIAR (International Institute of Ammonia Refrigeration)

Addenda

BSR/IIAR 2-2014 Addendum A-201x, Standard for the Safe Design of Closed-Circuit Ammonia Refrigeration Systems (addenda to ANSI/IIAR 2-2014)

The standard provides the minimum requirements for the design of safe anhydrous ammonia refrigeration systems. This addendum will correct mistakes, provide clarity, and also add absorption refrigeration to the scope.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: eric.smith@iiar.org

NSF (NSF International)

Revision

BSR/NSF 42-201x (i98r1), Drinking Water Treatment Units - Aesthetic Effects (revision of ANSI/NSF 42-2018)

It is the purpose of this Standard to establish minimum requirements for materials, design and construction, and performance of drinking water treatment systems that are designed to reduce specific aesthetic-related (non-health effects) contaminants in public or private water supplies. This Standard also specifies the minimum product literature and labeling information that a manufacturer shall supply to authorized representatives and system owners as well as the minimum service-related obligations that the manufacturer shall extend to system owners.

Click here to view these changes in full

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

BSR/NSF 49-201x (i127r1), Biosafety Cabinetry - Design, Construction, Performance, and Field Certification (revision of ANSI/NSF 49 -2018)

This Standard applies to Class II (laminar flow) biosafety cabinetry designed to minimize hazards inherent in work with agents assigned to biosafety levels 1, 2, 3, or 4. It also defines the tests that shall be passed by such cabinetry to meet this Standard. This Standard includes basic requirements for the design, construction, and performance of biosafety cabinets (BSCs) that are intended to provide personnel, product, and environmental protection; reliable operation; durability and structural stability; cleanability; limitations on noise level; illumination; vibration; and motor/blower performance.

Click here to view these changes in full

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

BSR/NSF 50-201x (i156r1), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2017)

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 184-201x (i11r2), Residential Dishwashers (revision of ANSI/NSF 184-2014)

Equipment covered by this Standard includes all residential dishwashers.

Click here to view these changes in full

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

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 486E-201x, Standard for Safety for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors (revision of ANSI/UL 486E-2017)

(1) Conductor insulation type.

Click here to view these changes in full

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

BSR/UL 746B-201x, Standard for Safety for Polymeric Materials - Long Term Property Evaluations (revision of ANSI/UL 746B-2018)

The intent of this proposal is to revise Paragraphs 19.7 - 19.9 of UL 746B.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Derrick Martin, (510) 319-4271, Derrick.L.Martin@ul.com

BSR/UL 1310-201x, Standard for Safety for Class 2 Power Units (revision of ANSI/UL 1310-2017)

This recirculation proposal provides revisions to the UL 1310 proposal dated 11-23-18.

Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Jonette Herman, (919) 549-1479, Jonette.A.Herman@ul.com

Comment Deadline: March 25, 2019

AAMI (Association for the Advancement of Medical Instrumentation)

New National Adoption

BSR/AAMI/ISO 11607-1-201x, Packaging for terminally sterilized medical devices - Part 1: Requirements for materials, sterile barrier systems and packaging (identical national adoption of ISO 11607-1:2019 and revision of ANSI/AAMI/ISO 11607-1-2006 (R2010))

Specifies the requirements and test methods for materials, preformed sterile barrier systems, sterile barrier systems and packaging systems that are intended to maintain sterility of terminally sterilized medical devices to the point of use.

Single copy price: Free

Obtain an electronic copy from: hchoe@aami.org

Order from: hchoe@aami.org

Send comments (with copy to psa@ansi.org) to: Hae Choe, hchoe@aami.org

BSR/AAMI/ISO 11607-2-201x, Packaging for terminally sterilized medical devices - Part 2: Validation requirements for forming, sealing and assembly processes (identical national adoption of ISO 11607-2:2019 and revision of ANSI/AAMI/ISO 11607-2-2006 (R2010))

Specifies the requirements for development and validation of processes for packaging medical devices that are terminally sterilized and maintain sterility to the point of use. These processes include forming, sealing, and assembly of preformed sterile barrier systems, sterile barrier systems, and packaging systems.

Single copy price: Free

Obtain an electronic copy from: hchoe@aami.org

Order from: hchoe@aami.org

Send comments (with copy to psa@ansi.org) to: Hae Choe, hchoe@aami.org

AGMA (American Gear Manufacturers Association)

Revision

BSR/AGMA 6034-CXX-201x, Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors (revision and redesignation of ANSI/AGMA 6034-B92-2010 (R2016))

This standard applies to the rating and design of enclosed cylindrical wormgear speed reducers and gearmotors having either solid or hollow output shafts and single or multiple reductions that may include other types of gearing used in conjunction with cylindrical wormgearing. The rating and design considerations contained in this standard are valid for rotational speeds of the worm not greater than 3600 rpm and sliding velocities at the mesh of not more than 6000 ft/min.

Single copy price: $60.00

Obtain an electronic copy from: tech@agma.org

Order from: tech@agma.org

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

API (American Petroleum Institute)

Reaffirmation

BSR/API MPMS Ch. 17.10.1/ISO 10976-6, 1st Edition-2013 (R201x), Measurement of Cargoes on Board Marine Gas Carriers, Part 1: Liquified Natural Gas (reaffirm a national adoption ANSI/API/MPMS Ch. 17.10.1/ISO 10976-6, 1st Edition-2013)

Establishes all of the steps needed to properly measure and account for the quantities of cargoes on liquefied natural gas (LNG) carriers. This includes, but is not limited to, the measurement of liquid volume, vapour volume, temperature and pressure, and accounting for the total quantity of the cargo on board. This International Standard describes the use of common measurement systems used on board LNG carriers, the aim of which is to improve the general knowledge and processes in the measurement of LNG for all parties concerned. This International Standard provides general requirements for those involved in the LNG trade on ships and onshore.

Single copy price: Free

Obtain an electronic copy from: goodsons@api.org

Send comments (with copy to psa@ansi.org) to: Sally Goodson, (202) 682-8130, goodsons@api.org

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

Addenda

BSR/ASHRAE Addendum 62.1s-201x, Ventilation for Acceptable Indoor Air Quality (addenda to ANSI/ASHRAE Standard 62.1-2016)

The ventilation rate procedure in 62.1-2016 contains requirements in notes. This proposed addendum relocates requirements to the body of the standard. Another proposed change is to clarify that in the presence of unusual sources the rates in the VRP must be supplemented by additional ventilation to be determined by the IAQ procedure or an EHS professional. The default values per person in Table 6.2.2.1 (Minimum Ventilation Rates in Breathing Zone) do not contain any adjustments for Ev and in many cases are taken out of context. They are not used in the ventilation calculations. These values are deleted.

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BSR/ASHRAE/IES Addendum 90.1bd-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This is a second public review ISC to make changes to the proposed table as a result of the first public review comments. Only the changed text is available for comment and the other changes that were not impacted by comments from the first public review are not available for comment. The following is a summary of the ISC changes: (1) Change the name for heat reclaim to heat recovery; and (2) Editorial corrections.

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BSR/ASHRAE/IES Addendum 90.1bl-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal makes the following changes from the first public review draft. It clarifies the US and outside US application for the necessary tables. It was noted that AHRI 210/240-2023 is not currently published, but AHRI is very close to completing the update to reflect the DOE 10 CFR 430 Appendix M1 test procedure for SEER2 and HSPF and expects to have it completed in February 2019, likely before this ISC is released for comment.

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BSR/ASHRAE/IES Addendum 90.1bm-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This is document is an ISC to the first public review and only the changes of the ISC are available for comment. The changes made by the ISC are: (1) The language used to clarify requirements for applications in the US and outside the US will be updated to use the same standard language for all addendum impacted by this requirement; (2) To support the change to SEER2 and HSPF2, we need to have a new reference for the procedures for these metrics. DOE and the industry developed the 10 CFR 430 Appendix M1, but it does not include everything needed to rate a product and support certification so AHRI is in the process of updating AHRI 210/240 and will release AHRI 210/240-2023 This document is nearly completed and targeted to be approved in February 2019 so we have included the reference to AHRI 210/240-2023 effective 1/1/2023.

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BSR/ASHRAE/IES Addendum 90.1bn-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

Nine corrections and changes were made by the ISC to table 6.8.1-4 and table F-1.

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BSR/ASHRAE/IES Addendum 90.1bo-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum incorporates changes to table 6.8.1-5 based on the first public review draft comments.

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BSR/ASHRAE/IES Addendum 90.1bp-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum modifies table 6.8.1-6 and table F5 based on the first public review draft comments.

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BSR/ASHRAE/IES Addendum 90.1bs-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum makes changes to table 7.8 based on comments from the first public review draft.

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BSR/ASHRAE/IES Addendum 90.1bv-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The purpose of this addendum is to allow designers the option to use ASHRAE Standard 90.4 requirements instead of ASHRAE 90.1 requirements in computer rooms that have an IT equipment load larger than 10 kW. A computer room that has such a load is the same as the defined term “data center” in 90.4.

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BSR/ASHRAE/IES Addendum 90.1cd-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addenda is intended to be primarily a clarification of the original intention for bypass and control to permit economizer operation.

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BSR/ASHRAE/IES Addendum 90.1cg-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The building area method is an alternate method to the space-by-space method. Energy savings are related to the addendum bb (space-by-space method). This addendum does not have cost implications because costs of updating lighting power density allowances were addressed in Addendum bb. The values in this addendum supersede Addendum bw. During the period between the approval by the 90.1 Committee and publication of Addendum bw, addendum bb (Table 9.6.1, space-by-space method) values were revised. As mentioned earlier, the values from addendum bb (table 9.6.1, space-by-space) flow into table 9.5.1, building area method. At the end of this addendum (below the line) is a comparison of Addendum bw and this addendum.

Single copy price: $35.00

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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/ASHRAE/IES Addendum 90.1cl-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This addendum makes changes throughout Section 11 to better align with Appendix G providing greater consistency between the two sections.

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/ASHRAE/IES Addendum 90.1cn-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposed addendum cleans up outdated language regarding walk-in cooler and walk-in freezer requirements, and make the requirements consistent with current federal regulations that either already came into effect June 5, 2017 or will come into effect July 10, 2020.

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/ASHRAE/IES Addendum 90.1co-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

SSPC 90.1 periodically reviews the normative references for applicability to this standard. Some new references have been added and many references have new effective dates. References not shown is this addendum are unchanged, and remain as currently listed in the standard or as modified in other addenda.

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/ASHRAE/IES Addendum 90.1cp-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal adds language for Appendix G to address the new proposed renewable energy requirements in addendum BY. The proposed approach allows a proposed design that does not include renewable energy required by Section 10.5.1, a method of trade-off against other prescriptive requirements in the Standard.

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

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

Revision

BSR/ASHRAE Standard 24-201x, Methods of Testing for Rating Evaporators Used for Cooling Liquids (revision of ANSI/ASHRAE Standard 24-2013)

This revision of Standard 24-2013 updates references, makes minor editorial changes, and adds a requirement for both uncertainty analysis and the use of liquid enthalpy for the calculation of total refrigerant capacity.

Single copy price: $35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

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

Withdrawal

ANSI/ASHRAE Standard 18-2008 (R2013), Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration (withdrawal of ANSI/ASHRAE Standard 18-2008 (R2013))

The purposes of this standard are: (a) to establish the types of equipment to which the provisions of this standard apply, (b) to define terms describing the equipment covered and terms related to testing, (c) to specify types of instrumentation and test apparatus required in testing, (d) to specify methods of procedure to be used when testing for rating, (e) to specify a uniform method for calculation of results, and (f) to specify data and results to be recorded. The Technical Committee supports the withdrawal of this standard based on a lack of support to revise the document. This standard has no reported sales and has since lost its ANSI's designation.

Single copy price: $35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

ANSI/IESO/RIA 6001-2011, Evaluation of HVAC/Mechanical System Surfaces to Determine the Impact from Fire Related Particulate (withdrawal of ANSI/IESO/RIA 6001-2011)

ASHRAE is announcing it is withdrawing this standard.

Single copy price: $35.00

Obtain an electronic copy from: iaqa.org/standards

Order from: iaqa.org/standards

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

ASTM (ASTM International)

New Standard

BSR/ASTM WK44075-201x, Practice for Preparing an Occupant Exposure Screening Report (OESR) for Substances in Installed Building Products (new standard)

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM WK56289-201x, Specification for Rapid Pull Down Refrigerators (Blast Chillers), Freezers (Blast Freezers), Combination Refrigerator/Freezer (Blast Chiller/Freezers), and Quick Chillers for Commercial Use (new standard)

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

ASTM (ASTM International)

Reaffirmation

BSR/ASTM F2044-2005 (R201x), Specification for Liquid Level Indicating Equipment, Electrical (reaffirmation of ANSI/ASTM F2044 -2005 (R2013))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

ASTM (ASTM International)

Revision

BSR/ASTM D1655-201x, Specification for Aviation Turbine Fuels (revision of ANSI/ASTM D1655-2018)

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM D7566-201x, Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons (revision of ANSI/ASTM D7566-2018)

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F782-201x, Specification for Doors, Furniture, Marine (revision of ANSI/ASTM F782-2001 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1003-201x, Specification for Searchlights on Motor Lifeboats (revision of ANSI/ASTM F1003-2002 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1069-201x, Specification for Doors, Watertight, Gastight/Airtight and Weathertight, Individually Dogged, for Marine Use (revision of ANSI/ASTM F1069-87 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1070-201x, Specification for Doors, Non-Tight, for Marine Use (revision of ANSI/ASTM F1070-87 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1073-201x, Specification for Door Fittings, for Watertight /Gastight /Airtight, Weathertight, and Non-Tight Doors, for Marine Use (revision of ANSI/ASTM F1073-1987 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1142-201x, Specification for Manhole Cover Assembly, Bolted, Semi-Flush, Oiltight and Watertight (revision of ANSI/ASTM F1142-1990 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1143-201x, Specification for Manhole Cover Assembly, Bolted, Raised, Oiltight and Watertight (revision of ANSI/ASTM F1143-1990 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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BSR/ASTM F1144-201x, Specification for Manhole Cover Assembly, Bolted, Semi-Flush, Oiltight and Watertight, Hinged (revision of ANSI/ASTM F1144-1990 (R2012))

https://www.astm.org/ANSI_SA

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Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1196-201x, Specification for Sliding Watertight Door Assemblies (revision of ANSI/ASTM F1196-2001 (R2013))

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1197-201x, Specification for Sliding Watertight Door Control Systems (revision of ANSI/ASTM F1197-2001 (R2012))

https://www.astm.org/ANSI_SA

Single copy price: Free

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Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F1495-201x, Specification for Combination Oven, Electric or Gas Fired (revision of ANSI/ASTM F1495-2014A)

https://www.astm.org/ANSI_SA

Single copy price: Free

Obtain an electronic copy from: cleonard@astm.org

Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org

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

BSR/ASTM F2092-201x, Specification for Convection Oven, Gas or Electric (revision of ANSI/ASTM F2092-2014)
https://www.astm.org/ANSI_SA
Single copy price: Free
Obtain an electronic copy from: cleonard@astm.org
Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org
Send comments (with copy to psa@ansi.org) to: Same

BSR/ASTM F2521-201x, Specification for Heavy-Duty Ranges, Gas and Electric (revision of ANSI/ASTM F2521-2009 (R2014))
https://www.astm.org/ANSI_SA
Single copy price: Free
Obtain an electronic copy from: cleonard@astm.org
Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org
Send comments (with copy to psa@ansi.org) to: Same

BSR/ASTM F2796-201x, Specification for Hot Food Holding Tables (revision of ANSI/ASTM F2796-2009 (R2014))
https://www.astm.org/ANSI_SA
Single copy price: Free
Obtain an electronic copy from: cleonard@astm.org
Order from: Corice Leonard, (610) 832-9744, accreditation@astm.org
Send comments (with copy to psa@ansi.org) to: Same

AWS (American Welding Society)

New Standard

BSR/AWS J1.3M/J1.3-201x, Specification for Materials Used in Resistance Welding Electrodes and Tooling (new standard)

This standard specifies essential properties of materials used for resistance welding electrodes and related components, the common applications of these materials, and methods of conformance verification.

Single copy price: $35.00
Obtain an electronic copy from: mdiaz@aws.org
Order from: Mario Diaz, (305) 443-9353, mdiaz@aws.org
Send comments (with copy to psa@ansi.org) to: Same

AWS (American Welding Society)

Revision

BSR/AWS C1.5-201X, Specification for the Qualification of Resistance Welding (revision of ANSI/AWS C1.5-2015)

This specification for the qualification of resistance welding technicians was developed to provide a qualification basis, which defines minimum requirements for a resistance welding technician to demonstrate competence through a combination of education, experience, and examination.

Single copy price: $25.00
Obtain an electronic copy from: mdiaz@aws.org
Order from: Mario Diaz, (305) 443-9353, mdiaz@aws.org
Send comments (with copy to psa@ansi.org) to: Same

CSA (CSA Group)

Reaffirmation

BSR Z21.41-2014 (R201x), Quick disconnect devices for use with gas fuel appliances (same as CSA 6.9-2014) (reaffirmation of ANSI Z21.41-2014)

Details test and examination criteria for hand-operated devices which provide means for connecting and disconnecting gas-fired appliances or gas appliance connectors to gas supplies and which are for use under indoor or outdoor applications. These devices are equipped with automatic means to shut off gas flow when disconnected.

Single copy price: Free

Obtain an electronic copy from: ansi.contact@csagroup.org

Order from: David Zimmerman, (216) 524-4990, david.zimmerman@csagroup.org

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

ICC (International Code Council)

New Standard

BSR/ICC 1100-201x, Standard for Spray-Applied Polyurethane Foam Plastic Insulation (new standard)

Construction codes have requirements for thermal resistance of insulating materials but currently include limited material standards for certain types of insulating materials. The purpose is to develop a performance standard based upon existing ICC-ES Acceptance Criteria and related documents for spray-applied foam plastic insulation for use by industry and possible inclusion in construction codes.

Single copy price: Free

Obtain an electronic copy from: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/standards-development/is-fpi/

Order from: Karl Aittaniemi, (888) 422-7233 Ext.-4205, kaittaniemi@iccsafe.org

Send comments (with copy to psa@ansi.org) to: Same (Note: Commenters may only comment on underline/strikethrough revisions.)

MHI (Material Handling Industry)

New Standard

BSR MH31.1-201X, Steel Mesh Containment Panels Used in Pallet Rack and Vertical Storage System Applications: Performance and Testing Requirements (new standard)

The purpose of this standard is to serve as the guide for designers, manufacturers, sellers, installers, owners, users, and governing bodies of steel mesh containment panels used in pallet rack and vertical storage system applications. The standard will provide guidelines for the design and testing of steel mesh containment panels used in pallet rack and vertical storage system applications; promote the understanding of the respective responsibilities of manufacturers, sellers, installers, owners, users, and governing bodies associated with steel mesh containment panels used in pallet rack and vertical storage system applications; and provide a uniform means of testing steel mesh containment panels used in pallet rack and vertical storage system applications.

Single copy price: $25.00

Obtain an electronic copy from: pdavison@mhi.org

Order from: Patrick Davison, (704) 714-8755, pdavison@mhi.org

Send comments (with copy to psa@ansi.org) to: Patrick Davison; pdavison@mhi.org

NEMA (ASC C12) (National Electrical Manufacturers Association)

New National Adoption

BSR/IEC 62056-9-7 ed 1.0-201x, Electricity Metering Data Exchange - Communication profile for TCP-UDP/IP networks (identical national adoption of IEC 62056-9-7 ED 1.0)

This part of IEC 62056 specifies the DLMS/COSEM communication profile for TCP-UDP/IP networks.

Single copy price: Free

Obtain an electronic copy from: pau_orr@nema.org

Send comments (with copy to psa@ansi.org) to: Paul Orr, pau_orr@nema.org

BSR/IEC 62056-5-3 ED3-201x, Electricity Metering Data Exchange - The DLMS/COSEM Suite - Part 5-3: DLMS/COSEM application layer (identical national adoption of IEC 62056-5-3 ED3)

This part of IEC 62056 specifies the DLMS/COSEM application layer in terms of structure, services, and protocols for DLMS/COSEM clients and servers, and defines rules to specify the DLMS/COSEM communication profiles. It defines services for establishing and releasing application associations, and data communication services for accessing the methods and attributes of COSEM interface objects, defined in IEC 62056-6-2 using either logical name (LN) or short name (SN) referencing.

Single copy price: Free

Obtain an electronic copy from: pau_orr@nema.org

Send comments (with copy to psa@ansi.org) to: Paul Orr, pau_orr@nema.org

BSR/IEC 62056-6-1 ED3-201x, Electricity Metering Data Exchange - The DLMS/COSEM Suite - Part 6-1: Object Identification System (OBIS) (identical national adoption of IEC 62056-6-1 ED3)

This part of IEC 62056 specifies the overall structure of the OBject Identification System (OBIS) and the mapping of all commonly used data items in metering equipment to their identification codes. OBIS provides a unique identifier for all data within the metering equipment, including not only measurement values, but also abstract values used for configuration or obtaining information about the behavior of the metering equipment.

Single copy price: Free

Obtain an electronic copy from: pau_orr@nema.org

Order from: Paul Orr, pau_orr@nema.org

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

BSR/IEC 62056-6-2 ED3-201x, Electricity Metering Data Exchange - The DLMS/COSEM Suite - Part 6-2: COSEM Interface Classes (identical national adoption of IEC 62056-6-2 ED3)

This part of IEC 62056 specifies a model of a meter as it is seen through its communication interface(s). Generic building blocks are defined using object-oriented methods, in the form of interface classes to model meters from simple up to very complex functionality.

Single copy price: Free

Obtain an electronic copy from: pau_orr@nema.org

Order from: Paul Orr, pau_orr@nema.org

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

BSR/IEC TS 62056-8-20 ED 1.0-201x, Electricity Metering Data Exchange - The DLMS/COSEM Suite - Part 8-20: Mesh communication profile for neighborhood networks (identical national adoption of IEC TS 62056-8-20 ED 1)

This part of IEC 62056 specifies a DLMS/COSEM communication profile that can be used in a smart metering system in which the Neighbourhood Networks (NN) are mesh networks. This profile may be considered as an adaptation and extension of the UDP/IP communication profile specified in IEC 62056-9-7:2013. As in that standard, the PHY and MAC layers are out of the Scope.

Single copy price: Free

Obtain an electronic copy from: pau_orr@nema.org

Order from: Paul Orr, pau_orr@nema.org

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

NEMA (ASC C136) (National Electrical Manufacturers Association)

Reaffirmation

BSR C136.21-2014 (R201x), Standard for Roadaway Lighting Equipment - Vertical Tennons for Post-Top Luminaires (reaffirmation of ANSI C136.21-2014)

This standard covers the attachment features of vertical tenons on pole tops or brackets used in roadway and area lighting that permit the interchangeability of post-top-mounted luminaires.

Single copy price: $45.00

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

NEMA (ASC C37) (National Electrical Manufacturers Association)

Revision

BSR C37.58-201x, Indoor AC Medium-Voltage Switches for Use in Metal-Enclosed Switchgear - Conformance Test Procedures (revision of ANSI C37.58-2003 (R2010))

This standard applies to the conformance test procedure for ac medium-voltage switches rated above 1000 volts as designed, manufactured, and tested in accordance with ANSI/IEEE C37.20.4. It is intended for use in metal-clad switchgear, as described in ANSI/IEEE C37.20.2, and metal-enclosed interrupter switchgear, as described in ANSI/IEEE C37.20.3. Conformance testing need not be performed but may be utilized to demonstrate that the switches conform with the ratings assigned, as agreeable to those concerned, usually some time after original design testing, to satisfy a specific need. This standard does not apply to installations under the exclusive control of electric utilities for the generation, control, transformation, transmission, and distribution of electric energy located in buildings used exclusively by utilities for such purposes or located outdoors on property owned or leased by the utility or on public highways, streets, roads, and the like, or outdoors by established rights on private property.

NOTE 1 - An electric utility is an entity that is overseen by a public utility commission, a public service commission, or other regulatory agency having jurisdiction for such installations.

NOTE 2 - Within this standard, the words “switch” or "switches" shall be considered to mean "indoor ac medium-voltage switches for use in enclosures" subject to the requirements of ANSI/IEEE C37.20.4.

Single copy price: Free

Obtain an electronic copy from: Gerard.Winstanley@nema.org

Order from: Gerard Winstanley, (703) 841-3231, Gerard.Winstanley@nema.org

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

BSR C37.85-201x, Alternating-Current High-Voltage Power Vacuum Interrupters Safety Requirements for X-Radiation Limits (revision of ANSI C37.85-2002 (R2010))

This standard specifies the maximum permissible X-radiation emission from alternating-current high-voltage power vacuum interrupters that are intended to be operated at voltages above 1000 volts and up to 38,000 volts when tested in accordance with procedures described in this standard. NOTES - The test procedures prescribed in this standard are not necessarily applicable for higher-voltage vacuum interrupters. In this standard, the term “interrupter” signifies “high-voltage power vacuum interrupter” unless qualified by other descriptive terms.

Single copy price: Free

Obtain an electronic copy from: Gerard.Winstanley@nema.org

Order from: Gerard Winstanley, (703) 841-3231, Gerard.Winstanley@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 2019 Annual Revision Second Draft Report for concurrent review and comment by NFPA and ANSI. The disposition of all comments received are published in the Second Draft Report, located on the document’s information page under the next edition tab. The document’s specific URL, www.nfpa.org/doc#next (for example ww.nfpa.org/101next), can easily access the document’s information page. All Notices of Intent to Make A Motion on the 2019 Annual Revision Cycle Second Draft Report must be received by February 20, 2019.

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 130-201x, Standard for Fixed Guideway Transit and Passenger Rail Systems (revision of ANSI/NFPA 130-2013)

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/130next

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

NFPA (National Fire Protection Association)

Revision

BSR/NFPA 556-201x, Guide on Methods for Evaluating Fire Hazard to Occupants of Passenger Road Vehicles (revision of ANSI/NFPA 556-2016)

This guide addresses issues associated with the development of hazardous conditions from fire involving passenger road vehicles and the time available for safe egress or rescue.

Obtain an electronic copy from: www.nfpa.org/556next

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

BSR/NFPA 557-201x, Standard for Determination of Fire Loads for Use in Structural Fire Protection Design (revision of ANSI/NFPA 557-2016)

The scope of this standard is the determination of the fire load and fire load density to be used as the basis for the evaluation and design of the structural fire performance of a building.

Obtain an electronic copy from: www.nfpa.org/557next

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

BSR/NFPA 654-201x, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (revision of ANSI/NFPA 654-2017)

This standard provides requirements for all phases of the manufacturing, processing, blending, conveying, repackaging, and handling of combustible particulate solids or hybrid mixtures, regardless of concentration or particle size, where the materials present a fire, a flash fire, or an explosion hazard.

Obtain an electronic copy from: www.nfpa.org/654next

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

BSR/NFPA 1710-201x, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (revision of ANSI/NFPA 1710-2016)

This standard contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially all career fire departments. The requirements address functions and objectives of fire department emergency service delivery, response capabilities, and resources.

Obtain an electronic copy from: www.nfpa.org/1710next

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

BSR/NFPA 2113-201x, Standard on Selection, Care, Use, and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel against Short-Duration Thermal Exposures from Fire (revision of ANSI/NFPA 2113-2016)

This standard shall specify the minimum selection, care, use, and maintenance requirements for flame-resistant garments for use by industrial personnel in areas at risk from flash fires or short-duration flame exposure that are compliant with NFPA 2112, Standard on Flame-Resistant Garments for Protection of Industrial Personnel against Flash Fire.

Obtain an electronic copy from: www.nfpa.org/2113next

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

NSF (NSF International)

Reaffirmation

BSR/NSF 418-2014 (i1r1) (R201x), Residential Wastewater - Effluent Filters Longevity Testing (reaffirmation of ANSI/NSF 418-2014 (i1r1))

This Standard provides site selection, auditing, and methods for evaluating the field performance as it relates to longevity of septic-tank effluent filters. Only septic-tank effluent filters that are certified in accordance with the current version of NSF/ANSI 46 may be certified under this Standard. An effluent filter that has completed third-party testing in compliance with an evaluation, certification, and listing protocol equivalent to NSF/ANSI 46 shall be acceptable, provided all data pursuant to the testing is published and the results verify that the device is capable of performance as defined in NSF/ANSI 46.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/46694/418i3r1%20-%20JC%20memo%20&%20standard.pdf

Order from: Jason Snider, (734) 418-6660, jsnider@nsf.org

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

NSF (NSF International)

Revision

BSR/NSF 140-201x (i28r1), Sustainability Assessment for Carpet (revision of ANSI/NSF 140-2015)

This standard establishes minimum materials, design and construction, and performance requirements for point-of-use and point-of-entry drinking water distillation systems and the components used in these systems. Distillation systems covered by this standard are designed to reduce specific chemical contaminants from potable drinking water supplies. Systems covered under this standard may also be designed to reduce microbiological contaminants, including bacteria, viruses, and cysts, from potable drinking water supplies. It is recognized that a system may be effective in controlling one or more of these contaminants, but systems are not required to control all.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/46763/140i28r1%20JC%20memo%20and%20ballot.pdf

Order from: Kianda Franklin, (734) 827-3813, kfranklin@nsf.org

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

OPEI (Outdoor Power Equipment Institute)

New National Adoption

BSR/OPEI 60335-2-107-201x, ANS for Outdoor Power Equipment - Household and similar electrical appliances - Safety - Part 2-107: Particular requirements for robotic battery powered electrical lawnmowers (national adoption with modifications of IEC 60335-2-107)

This is the first edition of the OPEI standard particular requirements for robotic battery-powered electrical lawnmowers; OPEI 60335-2-107. This document specifies safety requirements and their verification for the design and construction of robotic battery-powered electrical rotary lawnmowers and their peripherals with the rated voltage of the battery being not more than 75V d.c. This document deals with all the significant hazards presented by battery-powered robotic lawnmowers and their peripherals when they are used as intended and under conditions of misuse which are reasonably foreseeable. This document also provides requirements for the safety of mains powered charging stations and signal sources for perimeter delimiters.

Single copy price: $180.00

Obtain an electronic copy from: bmartin@opei.org

Send comments (with copy to psa@ansi.org) to: Brandon Martin, bmartin@opei.org

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

New National Adoption

BSR/RESNA WC-1-201x, RESNA Standard for Wheelchairs - Volume 1: Requirements and Test Methods for Wheelchairs (including Scooters) (national adoption of ISO 7176 with modifications and revision of ANSI/RESNA WC-1-2009)

The existing RESNA WC-1 standard needs to be revised to remain as harmonized as possible with existing ISO 7176 test methods and to remain current with existing wheelchair technologies and to provide more comparable results between test laboratories. This standard applies to manual and powered wheelchairs, including scooters, and accessories for wheelchairs and scooters. It specifies test methods or methods of measurement for: static stability; wheelchair and seat dimensions; static, impact and fatigue strength testing; flammability requirements; vocabulary; test dummy specifications; set-up procedures; and disclosure requirements for testing.

Single copy price: $900.00

Obtain an electronic copy from: ymeding@resna.org

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

BSR/RESNA WC-2-201x, RESNA Standard for Wheelchairs - Volume 2: Additional Requirements for Wheelchairs (including Scooters) with Electrical Systems (national adoption of ISO 7176 with modifications and revision of ANSI/RESNA WC-2-2009)

This standard applies to manual and powered wheelchairs, including scooters, and accessories for wheelchairs and scooters. It specifies test methods for measurement of: dynamic stability; brake effectiveness; energy consumption; maximum speed, acceleration and deceleration; obstacle climbing ability; climatic testing; power and control system testing; batteries and chargers; and electromagnetic compatibility requirements. The existing RESNA WC-2 standard needs to be revised to remain as harmonized as possible with existing ISO 7176 test methods and to remain current with existing wheelchair technologies and to provide more comparable results between test laboratories.

Single copy price: $500.00

Obtain an electronic copy from: ymeding@resna.org

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

SCTE (Society of Cable Telecommunications Engineers)

Revision

BSR/SCTE 156-201x, Specification for Mainline Plug (Male) to Cable Interface (revision of ANSI/SCTE 156-2016)

The primary purpose of this specification is to assure acceptable electrical, mechanical and environmental performance of the cable and connector interface. The scope of this standard will be directed to acceptable performance of impedance, galvanic action, loop resistance, cable retention, intermodulation distortion, signal response, RF shielding, and watertight seals. This specification in no way should limit or restrict any manufacturers from innovative designs and product improvements.

Single copy price: $50.00

Obtain an electronic copy from: admin@standards.scte.org

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

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

SIA (Security Industry Association)

Revision

BSR/SIA CP-01-201x, Security System Standard - Features for False Alarm Reduction (revision of ANSI/SIA CP-01-2014)

This standard details recommended design features for security systems and their associated devices to reduce the incidence of false alarms. These features are applicable to both residential and commercial properties protected by an electronic security system. This standard is intended for use by manufacturers in the design of security systems and alarm signal receivers. It is also intended for reference by all affected parties, including security system installers, specifiers, and users; central station owners and operators; manufacturers of central station products, such as receivers and automation software; and local authorities.

Single copy price: Free

Obtain an electronic copy from: https://www.securityindustry.org/industry-standards/ansisia-cp-01-standard/

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

TIA (Telecommunications Industry Association)

Reaffirmation

BSR/TIA J-STD-025-A-2003 (R201x), Lawfully Authorized Electronic Surveillance (reaffirmation of ANSI/TIA J-STD-025-A-2003 (R2012))

This document defines the interfaces between a telecommunications service provider (TSP) and a law enforcement agency (LEA) to assist the LEA in conducting lawfully authorized electronic surveillance.

Single copy price: $304.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

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

BSR/TIA J-STD-025-B-2006 (R201x), Lawfully Authorized Electronic Surveillance (reaffirmation of ANSI/TIA J-STD-025-B-2006 (R2012))

This document defines the interfaces between a telecommunications service provider (TSP) and a Law Enforcement Agency to assist the LEA in conducting lawfully authorized electronic surveillance.

Single copy price: $377.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

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

BSR/TIA J-STD-025-B-1-2006 (R201x), Lawfully Authorized Electronic Surveillance (LAES) - Addendum 1: Addition of Mobile Equipment IDentifier (MEID) (reaffirmation of ANSI/TIA J-STD-025-B-1-2006 (R2012))

This addendum only consists of additions to ANSI/TIA J-STD-025-B adding MEID, as follows:

(a) Page 12 Line 46: Section 3 -- Definitions and Acronyms - Add Mobile Equipment IDentifier (MEID);

(b) Page 92 Line 10: Section 6.4.9 -- Party Identity - Add meid;

(c) Page 220 Line 14: Annex I -- Party Identity - Add meid;

(d) Page 235 Lines 2 and 14: Index - Add meid and Mobile Equipment IDentifier; and

(e) Page 243 Line 43: Index - Add MEID.

Single copy price: $65.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

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

BSR/TIA J-STD-025-B-2-2007 (R201x), Lawfully Authorized Electronic Surveillance (LAES) - Addendum 2: Support for Carrier Identity (reaffirmation of ANSI/TIA J-STD-025-B-2-2007 (R2012))

This addendum only consists of additions to ANSI/J-STD-025-B adding Carrier Identity information in the cdma2000 Packet Data Serving System message, as follows:

(a) Page 72, Line 40: Section 5.5.4 cdma2000 Packet Data Serving System message, Table 21 - Add Carrier Identity;

(b) Page 93, Lines 40 and 52: Section 6.5 - Module ID and Object Identifier - Update Module ID and Object Identifier;

(c) Page 95 Line 27: Section 6.5 -- message definitions, cdma2000 Packet Data Serving System message - Add Carrier Identity; and

(d) Page 96 Line 3: Section 6.5 -- parameter definitions - Add Carrier Identity.

Single copy price: $67.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

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

TIA (Telecommunications Industry Association)

Revision

BSR/TIA 470.130-D-201x, Telecommunications - Telephone Terminal Equipment - Headset Acoustic Performance Requirements for Analog Telephones (revision and redesignation of ANSI/TIA 470.130-C-2008 (R2016))

This revision will update to new ANSI/TIA□470.1xx document format, performance concepts, and acoustic reference point

Single copy price: $133.00

Obtain an electronic copy from: standards@tiaonline.org

Order from: TIA; standards@tiaonline.org

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

TIA (Telecommunications Industry Association)

Withdrawal

ANSI J-STD-036-C-2011, Enhanced Wireless 9-1-1 Phase II (withdrawal of ANSI J-STD-036-C-2011)

This addendum is being created to assign two POSOUR codes to be used in association with two new CoS indicators for to support text to 911 and small fixed cells.

Single copy price: $79.00

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.)

Revision

BSR/UL 486F-201x, Standard for Safety for Bare and Covered Ferrules (revision of ANSI/UL 486F-2018)

(1) Addition of marking requirement; (2) Correction to Figure 1; (3) Updates to Tables 1 - 6; (4) Clarification to Dielectric Voltage Withstand Test; (5) Make ″plastic sleeve″ colors optional; (6) Add wire gauge to marking requirements; (7) Expand scope to include wire ranges covered by standard; (8) Addition of clarification regarding AWG and the metric conversion; and (9) Expansion of tables 1 and 4 to include smaller conductor sizes.

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

BSR/UL 2703-201x, Standard for Safety for Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels (revision of ANSI/UL 2703-2015)

This proposal for UL 2703 covers: (1) Bonding and grounding revisions and (2) Marking and manual revisions.

Single copy price: Free

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

Send comments (with copy to psa@ansi.org) to: Susan Malohn, (847) 664-1725, Susan.P.Malohn@ul.com

Comment Deadline: April 9, 2019

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

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

New Standard

BSR/ASHRAE Standard 205-201x, Standard Representation of Performance Simulation Data for HVAC&R and Other Facility Equipment (new standard)

The purpose of ASHRAE Standard 205-201x is to facilitate sharing of equipment characteristics for performance simulation by defining standard representations such as data models, data formats, and automation interfaces.

Single copy price: $35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 2580-201x, Standard for Safety for Batteries for Use In Electric Vehicles (revision of ANSI/UL 2580-2016)

(1) Inclusion of cell criteria in Annex D and revision to Overcharge Test; (2) Revision of production quality control criteria in 17.4; (3) Additional marking and instruction requirements for electric energy storage systems that are not removed when charging; (4) Vibration Endurance Test options for EESAs intended for off-road vehicle applications; (5) Alternative Shock Test method for EESAs for off-road vehicle applications; (6) Clarification to waive the Salt Spray Test for EESAs intended for use in off-road applications not exposed to salt conditions; (7) Revisions to functional safety criteria; (8) Revision to Internal Fire Test for clarity and addition of Annex E for examples of cell failure methods; and (9) Revision to External Fire Test to allow for other recognized test methods.

Single copy price: Free

Obtain an electronic copy from: https://csds.ul.com/Home/ProposalsDefault.aspx

Send comments (with copy to psa@ansi.org) to: Megan Van Heirseele, (847) 664-2881, Megan.M.VanHeirseele@ul.com

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: 4301 N. Fairfax Drive, Suite 301
Suite 301
Arlington, VA 22203-1633

Contact: *Hae Choe*

Phone: (703) 253-8268

E-mail: standards@aami.org

BSR/AAMI/ISO 11607-1-201x, Packaging for terminally sterilized medical devices - Part 1: Requirements for materials, sterile barrier systems and packaging (identical national adoption of ISO 11607 -1:2019 and revision of ANSI/AAMI/ISO 11607-1-2006 (R2010))

BSR/AAMI/ISO 11607-2-201x, Packaging for terminally sterilized medical devices - Part 2: Validation requirements for forming, sealing and assembly processes (identical national adoption of ISO 11607 -2:2019 and revision of ANSI/AAMI/ISO 11607-2-2006 (R2010))

API (American Petroleum Institute)

Office: 1220 L Street, NW
Washington, DC 20005

Contact: *Sally Goodson*

Phone: (202) 682-8130

E-mail: goodsons@api.org

BSR/API MPMS Ch. 17.10.1/ISO 10976-6, 1st Edition-2013 (R201x), Measurement of Cargoes on Board Marine Gas Carriers - Part 1: Liquified Natural Gas (reaffirm a national adoption ANSI/API/MPMS Ch. 17.10.1/ISO 10976-6, 1st Edition-2013)

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 A10.44-201X, Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations (revision of ANSI/ASSE A10.44-2014)

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 481-F-201x, 8 MM through 200 MM Embossed Carrier Taping and 8 MM and 12 MM Punched Carrier Taping of Surface Mount Components for Automatic Handling (revision and redesignation of ANSI/EIA 481-E-2015)

BSR/EIA 747-C-201x, Adhesive backed punched plastic carrier taping of singulated bare die and other surface mount components for automatic handling of devices generally less than 1.0 mm thick (revision and redesignation of ANSI/EIA/ECA 747B-2014)

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 C136.21-2014 (R201x), Standard for Roadaway Lighting Equipment - Vertical Tennons for Post-Top Luminaires (reaffirmation of ANSI C136.21-2014)

NEMA (ASC C37) (National Electrical Manufacturers Association)

Office: 1300 North 17th Street
Suite 900
Rosslyn, VA 22209

Contact: *Gerard Winstanley*

Phone: (703) 841-3231

E-mail: Gerard.Winstanley@nema.org

BSR C37.58-201x, Indoor AC Medium-Voltage Switches for Use in Metal-Enclosed Switchgear - Conformance Test Procedures (revision of ANSI C37.58-2003 (R2010))

NSF (NSF International)

Office: 789 N. Dixboro Road
Ann Arbor, MI 48105-9723

Contact: *Monica Leslie*

Phone: (734) 827-5643

E-mail: mleslie@nsf.org

BSR/NSF 42-201x (i98r1), Drinking Water Treatment Units - Aesthetic Effects (revision of ANSI/NSF 42-2018)

BSR/NSF 49-201x (i127r1), Biosafety Cabinetry - Design, Construction, Performance, and Field Certification (revision of ANSI/NSF 49-2018)

BSR/NSF 50-201x (i156r1), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2017)

BSR/NSF 140-201x (i28r1), Sustainability Assessment for Carpet (revision of ANSI/NSF 140-2015)

BSR/NSF 184-201x (i11r2), Residential Dishwashers (revision of ANSI/NSF 184-2014)

BSR/NSF 418-2014 (i1r1) (R201x), Residential Wastewater - Effluent Filters Longevity Testing (reaffirmation of ANSI/NSF 418-2014 (i1r1))

NW&RA (ASC Z245) (National Waste & Recycling Association)

Office: 1550 Crystal Drive, Suite #804
Arlington, VA 22202

Contact: *Kirk Sander*

Phone: (202) 364-3750

E-mail: ksander@wasterecycling.org

BSR Z245.2-201x, Equipment Technology and Operations for Wastes and Recyclable Materials - Stationary Compactors - Safety Requirements (revision of ANSI Z245.2-2013)

BSR Z245.5-201x, Equipment Technology and Operations for Wastes and Recyclable Materials-Baling Equipment - Safety Requirements for Installation, Maintenance, Modification, Repair Operations (revision of ANSI Z245.5-2013)

RESNA (Rehabilitation Engineering and Assistive Technology Societv 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 WC-1-201x, RESNA Standard for Wheelchairs - Volume 1: Requirements and Test Methods for Wheelchairs (including Scooters) (national adoption of ISO 7176 with modifications and revision of ANSI/RESNA WC-1-2009)

BSR/RESNA WC-2-201x, RESNA Standard for Wheelchairs - Volume 2: Additional Requirements for Wheelchairs (including Scooters) with Electrical Systems (national adoption of ISO 7176 with modifications and revision of ANSI/RESNA WC-2-2009)

BSR/RESNA WC-3-201x, RESNA Standard for Wheelchairs - Volume 3: Wheelchair Seating (national adoption of ISO/NP TS 16840-7; ISO 16840-10; ISO/TS 1 with modifications and revision of ANSI/RESNA WC-3-2018)

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 529 om-2014 (R201x), Surface pH measurement of paper (reaffirmation of ANSI/TAPPI T 529 om-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

ANSI J-STD-036-C-2011, Enhanced Wireless 9-1-1 Phase II (withdrawal of ANSI J-STD-036-C-2011)

BSR/TIA 470.130-D-201x, Telecommunications - Telephone Terminal Equipment - Headset Acoustic Performance Requirements for Analog Telephones (revision and redesignation of ANSI/TIA 470.130-C-2008 (R2016))

BSR/TIA J-STD-025-A-2003 (R201x), Lawfully Authorized Electronic Surveillance (reaffirmation of ANSI/TIA J-STD-025-A-2003 (R2012))

BSR/TIA J-STD-025-B-2006 (R201x), Lawfully Authorized Electronic Surveillance (reaffirmation of ANSI/TIA J-STD-025-B-2006 (R2012))

BSR/TIA J-STD-025-B-1-2006 (R201x), Lawfully Authorized Electronic Surveillance (LAES) Addendum 1 - Addition of Mobile Equipment IDentifier (MEID) (reaffirmation of ANSI/TIA J-STD-025-B-1-2006 (R2012))

BSR/TIA J-STD-025-B-2-2007 (R201x), Lawfully Authorized Electronic Surveillance (LAES) Addendum 2 - Support for Carrier Identity (reaffirmation of ANSI/TIA J-STD-025-B-2-2007 (R2012))

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.

ACCA (Air Conditioning Contractors of America)

Revision

ANSI/ACCA 4 QM-2019, Maintenance of Residential HVAC Systems (revision of ANSI/ACCA 4 QM-2013): 2/5/2019

AGA (ASC Z380) (American Gas Association)

Addenda

ANSI/GPTC Z380.1-2018, Addendum No. 2-2018, Guide for Transmission, Distribution and Gathering Piping Systems (addenda to ANSI/GPTC Z380.1-2018): 2/1/2019

AGMA (American Gear Manufacturers Association)

Revision

ANSI/AGMA 6101-F-2019, Design and Selection of Components for Enclosed Gear Drive (Metric Edition) (revision and redesignation of ANSI/AGMA 6101-E-2008 (R2014)): 2/1/2019

ASME (American Society of Mechanical Engineers)

New Standard

ANSI/ASME B30.30-2019, Ropes (new standard): 1/29/2019

AWWA (American Water Works Association)

Revision

ANSI/AWWA B112-2019, Microfiltration and Ultrafiltration Membrane Systems (revision of ANSI/AWWA B112-2015): 2/1/2019

ANSI/AWWA C223-2019, Fabricated Steel and Stainless-Steel Tapping Sleeves (revision of ANSI/AWWA C223-2013): 2/1/2019

ANSI/AWWA C520-2019, Knife Gate Valves, Sizes 2 in. (50 mm) through 96 in. (2,400 mm) (revision of ANSI/AWWA C520-2014): 2/1/2019

ANSI/AWWA F102-2019, Match-Die-Molded, Fiberglass-Reinforced Plastic Weir Plates, Scum Baffles, and Mounting Brackets (revision of ANSI/AWWA F102-2013): 2/1/2019

BIFMA (Business and Institutional Furniture Manufacturers Association)

Revision

ANSI/BIFMA X5.9-2019, Storage Units (revision of ANSI/BIFMA X5.9 -2012): 2/1/2019

CTA (Consumer Technology Association)

Reaffirmation

* ANSI/CTA/CEDIA 2030-A-2011 (R2019), Multi-Room Audio Cabling Standard (reaffirmation of ANSI/CTA/CEDIA 2030-A-2011): 2/1/2019

ECIA (Electronic Components Industry Association)

New Standard

ANSI/EIA 364-119-2019, Removal Tool Rotation Test Procedure for Electrical Connectors (new standard): 1/29/2019

Revision

ANSI/EIA 364-31F-2019, Humidity Test Procedure for Electrical Connectors and Sockets (revision and redesignation of ANSI/EIA 364-31E-2017): 1/29/2019

ESTA (Entertainment Services and Technology Association)

Reaffirmation

ANSI E1.48-2014 (R2019), A Recommended Luminous Efficiency Function for Stage and Studio Luminaire Photometry (reaffirmation of ANSI E1.48-2014): 2/1/2019

HI (Hydraulic Institute)

New Standard

ANSI/HI 14.3-2019, Rotodynamic Pumps for Design and Application (new standard): 2/1/2019

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

New Standard

ANSI/ASSE 1084-2018, Performance Requirements for Water Heaters with Temperature Limiting Capacity (new standard): 2/1/2019

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

Reaffirmation

ANSI/CSA B45.12/IAPMO Z402-2013 (R2019), Aluminum and copper plumbing fixtures (reaffirmation of ANSI/CSA B45.12/IAPMO Z402 -2013): 2/1/2019

IES (Illuminating Engineering Society)

Addenda

ANSI/IES RP-16-2017, Addendum 2-2019, Nomenclature and Definitions for Illuminating Engineering - Addendum 2: New and Modified Terms (addenda to ANSI/IES RP-16-2017 and ANSI/IES RP-16-2017, Addendum 1-2018): 1/29/2019

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

Reaffirmation

INCITS/ISO/IEC 7812-2:2007 [R2018], Identification Cards - Identification of Issuers - Part 2: Application and Registration Procedures (reaffirm a national adoption INCITS/ISO/IEC 7812 -2:2007 [R2013]): 12/31/2018

INCITS/ISO/IEC 7816-12:2005 [R2018], Identification cards - Integrated circuit cards - Part 12: Cards with contacts - USB electrical interface and operating procedures (reaffirm a national adoption INCITS/ISO/IEC 7816-12:2005 [R2013]): 12/31/2018

NAAMM (National Association of Architectural Metal Manufacturers)

Reaffirmation

ANSI/NAAMM HMMA 841-2013 (R2019), Tolerances and Clearances for Commercial Hollow Metal Doors and Frames (reaffirmation of ANSI/NAAMM HMMA 841-2013): 2/1/2019

NCPDP (National Council for Prescription Drug Programs)

New Standard

ANSI/NCPDP PDMP Reporting Standard v10-2019, NCPDP Prescription Drug Monitoring Programs (PDMP) Reporting Standard v10 (new standard): 1/29/2019

Revision

ANSI/NCPDP Post Adj v49-2019, NCPDP Post Adjudication Standard v49 (revision and redesignation of ANSI/NCPDP Post Adj v48 -2018): 1/29/2019

ANSI/NCPDP Prescription Transfer Standard v37-2019, NCPDP Prescription Transfer Standard v37 (revision and redesignation of ANSI/NCPDP Prescription Transfer Standard v36-2017): 1/29/2019

ANSI/NCPDP RDS Standard v22-2019, NCPDP Retiree Drug Subsidy Standard Implementation Guide v22 (revision and redesignation of ANSI/NCPDP RDS Standard v21-2018): 1/29/2019

ANSI/NCPDP SC Standard 2019011-2019, NCPDP SCRIPT Standard 2019011 (revision and redesignation of ANSI/NCPDP SC Standard 2018071-2018): 1/29/2019

ANSI/NCPDP Specialized Standard 2019011-2019, NCPDP Specialized Standard 2019011 (revision and redesignation of ANSI/NCPDP Specialized Standard 2018071-2018): 1/29/2019

ANSI/NCPDP Specialty Pharmacy Reporting v11-2019, NCPDP Specialty Pharmacy Data Reporting Standard v11 (revision and redesignation of ANSI/NCPDP Specialty Pharmacy Reporting v10 -2018): 1/29/2019

ANSI/NCPDP TC vF4-2019, NCPDP Telecommunication Standard vF4 (revision and redesignation of ANSI/NCPDP TC vF3-2018): 1/29/2019

NEMA (ASC C136) (National Electrical Manufacturers Association)

Stabilized Maintenance

ANSI C136.5-1989 (S2019), Film Cutouts (stabilized maintenance of ANSI C136.5-1989 (R2013)): 1/29/2019

SCTE (Society of Cable Telecommunications Engineers)

Revision

ANSI/SCTE 12-2018, Test Method for Center Conductor Bond to Dielectric for Trunk Feeder and Distribution Coaxial Cables (revision of ANSI/SCTE 12-2011): 2/1/2019

ANSI/SCTE 13-2018, Dielectric Air Leak Test Method for Trunk, Feeder and Distribution Coaxial Cable (revision of ANSI/SCTE 13 -2011): 2/1/2019

ANSI/SCTE 51-2018, Method for Determining Drop Cable Braid Coverage (revision of ANSI/SCTE 51-2012): 2/1/2019

ANSI/SCTE 59-2018, Test Method for Drop Cable Center Conductor Bond to Dielectric (revision of ANSI/SCTE 59-2012): 2/1/2019

ANSI/SCTE 61-2018, Test Method for Jacket Web Separation (revision of ANSI/SCTE 61-2012): 2/1/2019

UL (Underwriters Laboratories, Inc.)

New National Adoption

ANSI/UL 61724-1-2019, Standard for Photovoltaic System Performance - Part 1: Monitoring (national adoption with modifications of IEC 61724-1): 1/29/2019

ANSI/UL 61724-2-2019, Standard for Specification for Photovoltaic system performance - Part 2: Capacity evaluation method (identical national adoption of IEC 61724-2): 1/29/2019

ANSI/UL 61724-3-2019, Standard for Photovoltaic system performance - Part 3: Energy evaluation method (national adoption with modifications of IEC 61724-3): 1/29/2019

VITA (VMEbus International Trade Association (VITA))

New Standard

ANSI/VITA 86-2019, High Voltage Input Sealed Connector Power Supply (new standard): 2/1/2019

Revision

ANSI/VITA 46.0-2019, VPX Baseline Standard (revision of ANSI/VITA 46.0-2013): 2/1/2019

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.

AAFS (American Academy of Forensic Sciences)

Contact: Teresa Ambrosius, (719) 453-1036, tambrosius@aafs.org
410 North 21st Street, Colorado Springs, CO 80904

New Standard

BSR/ASB Std 111-201x, Standard for Training in Mitochondrial DNA (mtDNA) Analysis for Taxonomic Identification (new standard)

Stakeholders: Any laboratory with analysts that perform mtDNA sequencing for taxonomic identification.

Project Need: In wildlife forensics, sequencing of mitochondrial DNA (mtDNA) is used for the purpose of taxonomic (species) identification of unknown samples. This document provides minimal standards to appropriately train an analyst to perform mtDNA sequencing, data analysis, and reporting in order to determine a species of origin of unknown evidence samples. At this time there is no existing consensus standard on this topic.

This standard provides requirements to ensure proper training in animal taxonomic identification based on mitochondrial DNA (mtDNA) sequencing, data analysis, and reporting within the trainee's forensic DNA laboratory.

ABYC (American Boat and Yacht Council)

Contact: Sara Moulton, (410) 990-4460, smoulton@abycinc.org
613 Third Street, Suite 10, Annapolis, MD 21403

Revision

BSR/ABYC EDU-1-201x, On-Water Recreational Boating Skills - Power (revision of ANSI/ABYC EDU-1-2015)

Stakeholders: Surveyors, consumers, insurance personnel, boat manufacturers, engine manufacturers, accessory manufacturers, government, service specialists, and trade associations.

Project Need: To establish the national consensus-based standard for use by course providers for course design and student assessment to raise the overall level of quality, availability and consistency of entry-level on-water, skill-based instruction in recreational powerboat operation.

This is the core voluntary standard designed to apply to entry-level powerboat on-water skill-based courses in the US states, territories, and District of Columbia and function within a national system of standards for recreational boat operation.

ALI (ASC A14) (American Ladder Institute)

Contact: Pam O'Brien, (312) 321-6806, info@americanladderinstitute.org
330 N. Wabash Avenue, Suite 2000, Chicago, IL 60611-6610

Revision

BSR A14.2-201x, Ladders - Portable Metal - Safety Requirements (revision of ANSI A14.2-2017)

Stakeholders: Ladder manufacturers, users, contractors, tradespeople, work-site safety managers.

Project Need: Based on the 5-year renewal cycle which incorporates updates and necessary changes.

This standard prescribes rules governing the safe construction, design, testing, care, and use of portable metal ladders of various types and styles. Ladder styles include ladder-type step stools, portable extension, step, trestle, sectional, combination, single, platform, articulating, articulating extendable, and telescoping ladders, but excluding ladders in and on mines, the fire services, mobile equipment, hoisting equipment, work platforms, antenna communications towers, transmission towers, utility poles, and chimneys. It does not cover special-purpose ladders that do not meet the general requirements of this standard, nor does it cover ladder accessories, including, but not limited to, ladder levelers, ladder stabilizers or stand-off devices, ladder jacks, or ladder straps or hooks, that may be installed on or used in conjunction with ladders. These requirements are also intended to prescribe rules and criteria for the labeling/marking of the kinds of portable ladders cited in this standard, but exclusive of furniture-type step stools and special-purpose ladders. These labeling/marking requirements do not apply to those situations where training, supervision, or documented safety procedures would be in conflict, or serve in lieu of, these labeling/marking requirements.

BSR A14.5-201x, Ladders - Portable Reinforced Plastic - Safety Requirements (revision of ANSI A14.5-2017)

Stakeholders: Ladder manufacturers, users, contractors, tradespeople, work-site safety managers.

Project Need: Based on the 5-year renewal cycle which incorporates updates and necessary changes.

This standard prescribes rules governing the safe construction, design, testing, care and use of portable reinforced plastic ladders of various types and styles. Ladder styles include ladder-type step stools, portable extension, step, trestle, sectional, combination, single, platform, articulating, and articulating extendable ladders, but excluding ladders in and on mines, the fire services, mobile equipment, hoisting equipment, work platforms, antenna communications towers, transmission towers, utility poles, and chimneys. It does not cover special-purpose ladders that do not meet the general requirements of this standard, nor does it cover ladder accessories, including, but not limited to, ladder levelers, ladder stabilizers or stand-off devices, ladder jacks, or ladder straps or hooks, that may be installed on or used in conjunction with ladders. These requirements are also intended to prescribe rules and criteria for labeling/marking of the kinds of portable ladders cited in this standard, but exclusive of furniture-type step stools and special-purpose ladders. These labeling/marking requirements do not apply to those situations where training, supervision, or documented safety procedures would be in conflict, or serve in lieu of, these labeling/marking requirements.

APTech (ASC CGATS) (Association for Print Technologies)

Contact: Jeff Linder, (703) 264-7200, jlinder@aptech.org
1899 Preston White Drive, Reston, VA 20191

Revision

BSR CGATS.7-201x, Graphic technology - Pallet loading for printed materials (revision of ANSI CGATS.7-2003 (R2013))

Stakeholders: Manufacturers and users of pallets used to transport printed materials.

Project Need: Methods for stacking, packaging, and transporting printed materials on pallets need to be established and consistently applied to protect the materials from damage during transit and to provide for mechanized handling.

This standard specifies the stacking, unitizing, protection, and labeling of palletized printed materials. It also specifies the functional design of pallets used to transport printed materials and gives specifications for their loading onto delivery vehicles.

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

Contact: Steven Ferguson, (404) 636-8400, sferguson@ashrae.org
1791 Tullie Circle NE, Atlanta, GA 30329

New Standard

BSR/ASHRAE Standard 227-201x, Passive Building Design Standard (new standard)

Stakeholders: Code-adopting jurisdictions, Architects, Engineers, Builders/Contractors, Building owners, Utilities.

Project Need: The Passive House Institute US has published – working with the Building America Program, Building Science Corporation and the National Renewable Energy Lab – a guideline for the design of buildings that meet what is generally called the “passive house standard” (see: DOE/GO-102015-4679). The climate-specific passive house approach delivers an exceptionally energy-efficient and cost-effective building. The purpose of this proposed standard is to develop a code-mandatory language version of the passive house guideline. Such a standard would allow greater diffusion of passive house energy efficiency into the marketplace (via code adoptions), permit the approach to be ANSI certified, and support ASHRAE’s involvement in the residential building sector.

This standard provides requirements for the design of buildings that have exceptionally low energy usage and that are durable, resilient, comfortable, and healthy.

BSR/ASHRAE Standard 228-201x, Standard Method of Evaluating Zero Energy Building (new standard)

Stakeholders: Code-adopting jurisdictions, Architects, Engineers, Builders/Contractors, Building owners, Utilities.

Project Need: There is a need in the industry for a commonality for determining and expressing if a building can be considered a zero energy because of its operation. There is a need for a standard methodology to measure and determine if a building is a zero energy building to support cities, states, federal, and other initiatives, including certifications for zero energy buildings, city districts, and communities. The standard may provide a citable reference for Standards 105, 189.1, 90.1, and others.

This standard sets requirements for evaluating whether a building or group of buildings meets a definition of “zero energy”. It provides a consistent method of expressing qualifications for zero energy buildings associated with the design of new buildings and the operation of existing buildings.

ASME (American Society of Mechanical Engineers)

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

Revision

BSR/ASME RAM-2-201x, Reliability, Availability, and Maintainability Program Development Process for Existing Power Plants (revision of ANSI/ASME RAM-2-2016)

Stakeholders: Operating power plants managers, reliability engineers, maintenance, work planners, IT, suppliers of products and services to operating plants, software suppliers.

Project Need: Plants in operation need a streamlined approach to implementing a RAM program. "Greenfield RAM" (like RAM -2) idealizes the approach, as if you were starting from a ground-zero greenfield. By reversing the process, starting with the plant's existing RAM program elements, users can more quickly identify the "Deltas" that provide RAM benefits, and their estimated value. They can then focus on developing RAM's high value areas more quickly. In addition, this will help users identify supporting requirements to support a RAM program, like standardized PM work orders, conversions of PM to work order (in software), and supporting software tool requirements. The project will make effective RAM attributes more accessible to operating plants, supporting gradual evolution to more-complete RAM programs over time.

This Standard amplifies and clarifies the requirements of ASME RAM-1 for implementing a RAM program for a power-generation facility. This Standard assists in developing program goals, identifying a master equipment list (MEL) to load into the enterprise asset management system (EAMS), and populating scheduling systems with finished content as complete work orders that are ready to perform work. The fast track approach to a RAM program will take an operating (pre-existing) plant into RAM-1/RAM-2 compliance starting from the RAM-supporting materials that they already have.

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

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

Revision

BSR/ASSP A10.44-201X, Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations (revision of ANSI/ASSE A10.44-2014)

Stakeholders: Occupational safety and health professionals working with construction and demolition hazards and exposures.

Project Need: Based upon the consensus of the A10 Committee and occupational safety and health professionals working with construction and demolition hazards and exposures.

This standard establishes the minimum requirements for the control of energy sources to prevent release of harmful energy that could cause death, injury, or illness to personnel performing construction and demolition work.

ECIA (Electronic Components Industry Association)

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

Revision

BSR/EIA 481-F-201x, 8 MM through 200 MM Embossed Carrier Taping and 8 MM and 12 MM Punched Carrier Taping of Surface Mount Components for Automatic Handling (revision and redesignation of ANSI/EIA 481-E-2015)

Stakeholders: Electronics, Electrical, and Telecommunications industries.

Project Need: Revise and redesignate the current American National Standard.

This Standard covers requirements for taping surface mount components. Complementary standards for specialized taping requirements are included in the addendum.

BSR/EIA 747-C-201x, Adhesive backed punched plastic carrier taping of singulated bare die and other surface mount components for automatic handling of devices generally less than 1.0 mm thick (revision and redesignation of ANSI/EIA/ECA 747B-2014)

Stakeholders: Electronics, Electrical, and Telecommunications industries.

Project Need: Revise and redesignate the current American National Standard.

Covers requirements of 8mm, 12mm, 16mm, and 24mm taping of surface mount components generally less than 1.0mm thick and requiring high precision taping for automatic handling of devices such as singulated bare die.

NW&RA (ASC Z245) (National Waste & Recycling Association)

Contact: Kirk Sander, (202) 364-3750, ksander@wasterecycling.org
1550 Crystal Drive, Suite #804, Arlington, VA 22202

Revision

BSR Z245.2-201x, Equipment Technology and Operations for Wastes and Recyclable Materials - Stationary Compactors - Safety Requirements (revision of ANSI Z245.2-2013)

Stakeholders: Manufacturers of equipment, consultants, machine operators, engineers, regulators, customers, safety professionals, trade and professional associations and institutes, standards writers with an interest in the scope, all other stakeholders not specified.

Project Need: This update is to bring consistency in terms and descriptions to the Z245.2 standard were applicable with the Z245.5 standard. An updated Z245.2 standard will allow for clarifications that may have arisen since publication in 2013.

This standard is for the safety requirements for the design, construction, reconstruction, installation, modification, maintenance, repair, operation, and use of commercial compacting equipment used in apartment, institutional, commercial, and industrial locations, including transfer stations and recycling facilities. This standard combines ANSI Z245.2 and .21-2013 along with bringing commonality with ANSI Z245.5 and .51-2013 combined for simplicity and effectiveness. This American National Standard does not apply to compactors commonly referred to as domestic or household compactor appliances. Stationary compactors also have been address previously in ANSI Z245.2 and .21-2008, ANSI Z245.2-1997, ANSI Z245.2-1992, ANSI Z245.1(1978 and 1984 editions), Mobile Refuse Collection and Compaction Equipment, Safety Requirements. For mobile collecting and compacting equipment, refer to ANSI Z245.1.

BSR Z245.5-201x, Equipment Technology and Operations for Wastes and Recyclable Materials - Baling Equipment - Safety Requirements for Installation, Maintenance, Modification, Repair Operations (revision of ANSI Z245.5-2013)

Stakeholders: Manufacturers of equipment, consultants, machine operators, engineers, regulators, customers, safety professionals, trade and professional associations and institutes, standards writers with an interest in the scope, all other stakeholders not specified.

Project Need: This update is to bring consistency in terms and descriptions to the Z245.5 standard were applicable with the Z245.2 standard. An updated Z245.5 standard will allow for clarifications that may have arisen since publication in 2013.

This Standard is applicable to the safety requirements for the design and construction of commercial baling equipment commonly used in recycling, solid waste disposal, and raw materials handling. This standard combines, revises, and replaces ANSI Z245.5 -2013, which established safety requirements for the installation, maintenance, and operation of commercial baling equipment. This standard brings commonality with ANSI Z245.2 for combined simplicity and effectiveness.

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

New National Adoption

BSR/RESNA WC-3-201x, RESNA Standard for Wheelchairs - Volume 3: Wheelchair Seating (national adoption of ISO/NP TS 16840 -7; ISO 16840-10; ISO/TS 1 with modifications and revision of ANSI/RESNA WC-3-2018)

Stakeholders: Wheelchair users; caregivers, and organizations representing the technical needs of persons with mobility impairments; AT practitioners and AT suppliers of WC and seating devices; the FDA that manages WCs as medical devices; the Centers for Medicare & Medicaid Services and Medicare Pricing, Data Analysis, and Coding who establish coding guidelines and establish policy for the provision of mobility technologies; manufacturers of WCs; scooters and SD; and researchers, designers, and test labs of WC and SD.

Project Need: Part 7 and Part 11: Enhance RESNA WC-3:2018 to address the unmet need to quantify the heat, water vapor, and perspiration dissipation properties of seat and back support surfaces, which are referred to as “microclimate”. Unfavorable microclimate conditions have been identified as a contributor to the risk of pressure injury development. Part 10: Enhance RESNA WC-3:2018 to address the need for appropriate flammability testing, which is not based upon non-clinical, furniture standards, but rather assesses the clinical pressure injury benefits of appropriate wheelchair seating in a risk/benefit consideration of the user’s needs.

Wheelchair seating as a sub-specialty of rehabilitation services involves the selection and provision of wheelchair seating products to provide improved body support to the wheelchair user. This standard applies to all wheelchair seating and postural devices. It specifies test methods or methods of measurement for: vocabulary; the physical and mechanical characteristics; performance life; envelopment test; heat and water vapor test; static, impact and load strength testing, and flammability.

SCTE (Society of Cable Telecommunications Engineers)

Contact: Kim Cooney, (800) 542-5040, kcooney@scte.org
140 Philips Rd, Exton, PA 19341

Revision

BSR/SCTE 06-201x, Composite Distortion Measurements (CSO & CTB) (revision of ANSI/SCTE 06-2015)

Stakeholders: Cable Telecommunications industry.

Project Need: Update current technology.

This document describes a test procedure for the laboratory and production measurement of composite distortion products. There are two types of composite distortions considered: Composite Second Order and Composite Triple Beat. In order to obtain a stable, repeatable measurement, this test procedure describes testing performed with continuous wave (CW) carriers.

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 529 om-2014 (R201x), Surface pH measurement of paper (reaffirmation of ANSI/TAPPI T 529 om-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 non-destructive test may be used to measure the hydrogen ion concentration (pH) on the surface of the paper in books and documents that constitute the collections of libraries and government archives. This method serves as an alternative to TAPPI T 509 “Hydrogen Ion Concentration (pH) of Paper Extracts - Cold Extraction Method,” and TAPPI T 435 “Hydrogen Ion Concentration (pH) of Paper Extracts - Hot Extraction Method,” because it avoids the destruction of printed material in the determination of the permanence expected for paper. pH values obtained through the application of this method to sized materials such as writing, printing, and industrial papers reflect only the pH of the surface of these materials and should not be construed as pH values which may be determined by the cold water extraction method of the same material.

UL (Underwriters Laboratories, Inc.)

Contact: Jonette Herman, (919) 549-1479, Jonette.A.Herman@ul.com
12 Laboratory Dr., Research Triangle Park, NC 27709

New Standard

BSR/UL 2200A-201x, Fire Containment Testing of Stationary Engine Generator Enclosures (new standard)

Stakeholders: Producers of generators, fire experts, government, supply chain for industrial applications of stationary engine generators, AHJs, retailers.

Project Need: NFPA 37 will reference UL 2200A. The purpose of 2200A is to show limitation of spread of fire within the enclosure.

These requirements provide fire test and performance compliance criteria to evaluate stationary engine generator assemblies for installation less than the offset spacing to combustible building structures required by NFPA 37. The fire condition represented by this test simulates engine failure conditions and ignition of combustible components and assemblies within the generator enclosure including engine lubricating oil.

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.

AAFS
American Academy of Forensic Sciences
410 North 21st Street
Colorado Springs, CO 80904
Phone: (719) 453-1036
Web: www.aafs.org

AAMI
Association for the Advancement of Medical Instrumentation
4301 N. Fairfax Drive, Suite 301
Suite 301
Arlington, VA 22203-1633
Phone: (703) 253-8268
Web: www.aami.org

AARST
American Association of Radon Scientists and Technologists
475 South Church Street, Suite 600
Hendersonville, NC 28792
Phone: (202) 830-1110
Web: www.aarst.org

ABYC
American Boat and Yacht Council
613 Third Street
Suite 10
Annapolis, MD 21403
Phone: (410) 990-4460
Web: www.abycinc.org

ACCA
Air Conditioning Contractors of America
2800 Shirlington Road
Suite 300
Arlington, VA 22206
Phone: (618) 402-4440
Web: www.acca.org

AGA (ASC Z380)
American Gas Association
400 North Capitol Street, NW
Washington, DC 20001
Phone: (202) 824-7183
Web: www.aga.org

AGMA
American Gear Manufacturers Association
1001 N Fairfax Street, 5th Floor
Alexandria, VA 22314-1587
Phone: (703) 684-0211
Web: www.agma.org

ALI (ASC A14)
American Ladder Institute
330 N. Wabash Avenue, Suite 2000
Chicago, IL 60611-6610
Phone: (312) 321-6806
Web: www.americanladderinstitute.org

API
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
Phone: (202) 682-8130
Web: www.api.org

APTech (ASC CGATS)
Association for Print Technologies
1899 Preston White Drive
Reston, VA 20191
Phone: (703) 264-7200
Web: www.printtechnologies.org

ASHRAE
American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle NE
Atlanta, GA 30329
Phone: (404) 636-8400
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

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

ASTM
ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Phone: (610) 832-9744
Web: www.astm.org

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

AWWA
American Water Works Association
6666 W. Quincy Ave.
Denver, CO 80235
Phone: (303) 347-6178
Web: www.awwa.org

BIFMA
Business and Institutional Furniture Manufacturers Association
678 Front Ave. NW
Grand Rapids, MI 49504
Phone: (616) 591-9798
Web: www.bifma.org

CSA
CSA Group
8501 E. Pleasant Valley Road
Cleveland, OH 44131
Phone: (216) 524-4990
Web: www.csagroup.org

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

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

IES
Illuminating Engineering Society

120 Wall Street, Floor 17
New York, NY 10005
Phone: (917) 913-0027

Web: www.ies.org

IIAR
International Institute of Ammonia Refrigeration

1001 N. Fairfax Street
Suite 503
Alexandria, VA 22314-1797
Phone: (703) 312-4200

Web: www.iiar.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

MHI
Material Handling Industry

8720 Red Oak Boulevard
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Charlotte, NC 28217
Phone: (704) 714-8755

Web: www.mhi.org

NAAMM
National Association of Architectural Metal Manufacturers

123 College Place
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Norfolk, VA 23510
Phone: (757) 489-0787

Web: www.naamm.org

NCPDP
National Council for Prescription Drug Programs

9240 East Raintree Drive
Scottsdale, AZ 85260
Phone: (480) 296-4584

Web: www.ncpdp.org

NEMA (ASC C12)
National Electrical Manufacturers Association

1300 North 17th Street
Suite 900
Rosslyn, VA 22209
Phone: (703) 841-3227

Web: www.nema.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 (ASC C37)
National Electrical Manufacturers Association

1300 North 17th Street
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Rosslyn, VA 22209
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Web: www.nema.org

NFPA
National Fire Protection Association

One Batterymarch Park
Quincy, MA 02269-9101
Phone: (617) 984-7248

Web: www.nfpa.org

NSF
NSF International

789 N. Dixboro Road
Ann Arbor, MI 48105-9723
Phone: (734) 418-6660

Web: www.nsf.org

NW&RA (ASC Z245)
National Waste & Recycling Association

1550 Crystal Drive, Suite #804
Arlington, VA 22202
Phone: (202) 364-3750

Web: www.wasterecycling.org

OPEI
Outdoor Power Equipment Institute

Phone: (703) 549-7600

Web: www.opei.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 Rd
Exton, PA 19341
Phone: (800) 542-5040

Web: www.scte.org

SIA
Security Industry Association

8405 Colesville Road
Suite 500
Silver Spring, MD 20910
Phone: (301) 804-4709

Web: www.siaonline.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) 549-1479

Web: www.ul.com

VITA
VMEbus International Trade Association (VITA)

929 W. Portobello Avenue
Mesa, AZ 85210
Phone: (602) 281-4497

Web: www.vita.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

APPLICATIONS OF STATISTICAL METHODS (TC 69)

ISO/DIS 2859-4, Sampling procedures for inspection by attributes - Part 4: Procedures for assessment of declared quality levels - 4/25/2019, $77.00

BIOTECHNOLOGY (TC 276)

ISO/DIS 20688-1, Biotechnology - Nucleic acid synthesis - Part 1: General definitions and requirements for the production and quality control of synthesized oligonucleotides - 2/24/2019, $93.00

BUILDING CONSTRUCTION (TC 59)

ISO/DIS 20887, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance - 2/24/2019, $112.00

COMPRESSORS, PNEUMATIC TOOLS AND PNEUMATIC MACHINES (TC 118)

ISO/DIS 28927-13, Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 13: Fastener driving tools - 11/15/2020, $71.00

CORROSION OF METALS AND ALLOYS (TC 156)

ISO/DIS 8044, Corrosion of metals and alloys - Basic terms and definitions - 2/23/2019, $93.00

DENTISTRY (TC 106)

ISO/DIS 15098, Dentistry - Dental tweezers - 4/22/2019, $46.00

ISO/DIS 20127, Dentistry - Physical properties of powered toothbrushes - 4/22/2019, $67.00

ISO/DIS 22598, Dentistry - Colour tabs for intraoral tooth colour determination - 4/18/2019, $40.00

ISO/DIS 23325, Dentistry - Corrosion resistance of dental amalgam - 4/18/2019, $58.00

ISO/DIS 3630-3, Dentistry - Endodontic instruments - Part 3: Compactors: pluggers and spreaders - 4/26/2019, $53.00

ISO/DIS 3630-5, Dentistry - Endodontic instruments - Part 5: Shaping and cleaning instruments - 4/26/2019, $46.00

FIRE SAFETY (TC 92)

ISO/DIS 29903-1, Guidance for the comparison of toxic gas data from different tests - Part 1: General - 2/25/2019, $77.00

GEARS (TC 60)

ISO/DIS 1328-2, Cylindrical gears - ISO system of flank tolerance classification - Part 2: Definitions and allowable values of double flank radial composite deviations - 2/21/2019, $71.00

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO/DIS 19161-1, Geographic information - Geodetic references - Part 1: The international terrestrial reference system (ITRS) - 4/19/2019, $67.00

INDUSTRIAL FANS (TC 117)

ISO/DIS 12759-5, Fans - Efficiency classification for fans - Part 5: Jet fans - 4/26/2019, $58.00

INDUSTRIAL TRUCKS (TC 110)

ISO/DIS 23308-1, Energy efficiency of industrial trucks - Test methods - Part 1: General - 4/25/2019, $77.00

ISO/DIS 23308-2, Energy efficiency of industrial trucks - Test methods - Part 2: Operator controlled self propelled trucks, towing and burden carrier trucks - 4/25/2019, $46.00

ISO/DIS 23308-3, Energy efficiency of industrial trucks - Test methods - Part 3: Container handling lift trucks - 4/25/2019, $33.00

MACHINE TOOLS (TC 39)

ISO/DIS 19085-14, Woodworking machines - Safety - Part 14: Four-sided moulding machines - 2/25/2019, $112.00

MINING (TC 82)

ISO/DIS 22932-2, Mining - Terminology - Part 2: Geology - 4/19/2019, $112.00

NUCLEAR ENERGY (TC 85)

ISO/DIS 22127, Dosimetry with radiophotoluminescent glass dosimeters for dosimetry audit in MV X-ray radiotherapy - 2/21/2019, $82.00

ISO/DIS 20785-1, Dosimetry for exposures to cosmic radiation in civilian aircraft - Part 1: Conceptual basis for measurements - 2/23/2019, $98.00

OPTICS AND OPTICAL INSTRUMENTS (TC 172)

ISO/DIS 9336-3, Optics and photonics - Optical transfer function - Application - Part 3: Telescopes - 2/25/2019, $71.00

OTHER

ISO/DIS 18219-1, Leather - Determination of chlorinated hydrocarbons in leather - Part 1: Chromatographic method for short-chain chlorinated paraffins (SCCP) - 4/20/2019, $40.00

PAPER, BOARD AND PULPS (TC 6)

ISO/DIS 21896, Paper, pulp, and recycling - Decolouration test of dye coloured paper products and paper products printed using dye inks - 2/22/2019, $67.00

PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO/DIS 16073-4, Wildland firefighting personal protective equipment - Requirements and test methods - Part 4: Gloves - 2/25/2019, $67.00

ISO/DIS 16900-7, Respiratory protective devices - Methods of test and test equipment - Part 7: Practical performance test methods - 4/26/2019, $53.00

PETROLEUM PRODUCTS AND LUBRICANTS (TC 28)

ISO 6246/DAmd1, Petroleum products - Gum content of fuels - Jet evaporation method - Amendment 1: Change the purity requirement for n-heptane - 4/20/2019, $29.00

ISO/DIS 23581, Petroleum products and related products - Determination of kinematic viscosity - Method by Stabinger type viscosimeter - 2/23/2019, $40.00

PLASTICS (TC 61)

ISO/DIS 21304-2, Plastics - Ultra-high-molecular-weight polyethylene (PE-UHMW) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties - 2/21/2019, $77.00

POWDER METALLURGY (TC 119)

ISO/DIS 10070, Metallic powders - Determination of envelope-specific surface area from measurements of the permeability to air of a powder bed under steady-state flow conditions - 4/22/2019, $77.00

ROAD VEHICLES (TC 22)

ISO/DIS 6727, Road vehicles - Motorcycles - Symbols for controls, indicators and telltales - 11/5/2025, $88.00

SECURITY (TC 292)

ISO/DIS 22396, Security and resilience - Community resilience - Guidelines for information exchange between organizations - 4/22/2019, $62.00

SHIPS AND MARINE TECHNOLOGY (TC 8)

ISO/DIS 5480, Ships and marine technology - Guardrails for cargo ships - 4/27/2019, FREE

SMALL CRAFT (TC 188)

ISO/DIS 15083, Small craft - Bilge-pumping systems - 2/24/2019, $46.00

TERMINOLOGY (PRINCIPLES AND COORDINATION) (TC 37)

ISO/DIS 20771, Legal translation - Requirements - 4/26/2019, $82.00

TEXTILES (TC 38)

ISO/DIS 22195-1, Textiles - Determination of index ingredient from coloured textiles - Part 1: Madder - 4/27/2019, $40.00

ISO/DIS 22195-2, Textiles - Determination of index ingredient from coloured textiles - Part 2: Tumeric - 4/27/2019, $40.00

TIMBER (TC 218)

ISO/DIS 17300-1, Wood residue and post-consumer wood - Classification - Part 1: Vocabulary - 4/19/2019, $58.00

WELDING AND ALLIED PROCESSES (TC 44)

ISO/DIS 3821, Gas welding equipment - Rubber hoses for welding, cutting and allied processes - 2/24/2019, $71.00

ISO/DIS 21904-1, Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 1: General requirements - 2/22/2019, $93.00

ISO/DIS 21904-2, Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 2: Requirements for testing and marking of separation efficiency - 2/22/2019, $67.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 13818-1/DAmd1, Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems - Amendment 1: Carriage of associated CMAF boxes for audio-visual elementary streams and JPEG XS in MPEG-2 TS - 4/21/2019, $67.00

ISO/IEC DIS 38506, Information technology - Governance of IT - Application of ISO/IEC 38500 to the governance of IT enabled investments - 2/25/2019, $71.00

ISO/IEC DIS 39794-5, Information technology - Extensible biometric data interchange formats - Part 5: Face image data - 4/19/2019, $194.00

ISO/IEC DIS 23001-15, Information technology - MPEG systems technologies - Part 15: Carriage of web resource in ISOBMFF - 4/19/2019, $71.00

ISO/IEC/IEEE DIS 21840, Systems and software engineering - Guidelines for the utilization of ISO/IEC/IEEE 15288 in the context of System of Systems (SoS) - 2/25/2019, $125.00

IEC Standards

2/1941A/CD, IEC 60034-33 ED1: Rotating electrical machines - Part 33: Specific technical requirements for synchronous hydrogenerators including motor-generators, 2019/4/26

2/1943/DC, Proposed revision of IEC TS 60034-25:2014 Ed 3 - "Rotating electrical machines - Part 25: AC electrical machines when used in power drive systems - Application Guide, 2019/3/15

9/2485/CD, IEC 61375-2-8 ED1: Electronic railway equipment - Train communication network (TCN) - Part 2-8: TCN conformance test, 2019/4/26

11/259/CDV, IEC 61854 ED2: Overhead lines - Requirements and tests for spacers, 2019/4/26

11/260/CDV, IEC 61897 ED2: Overhead lines - Requirements and tests for Aeolian vibration dampers, 2019/4/26

20/1859/CDV, IEC 60754-1/AMD1 ED3: Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content, 2019/4/26

20/1860/CDV, IEC 60754-2/AMD1 ED2: Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity, 2019/4/26

20/1863/CDV, IEC 63026 ED1: Submarine power cables with extruded insulation and their accessories for rated voltages from 6 kV (Um = 7,2 kV) up to 60 kV (Um = 72,5 kV) - Test methods and requirements, 2019/4/26

20/1861/CDV, IEC 61034-1/AMD2 ED3: Measurement of smoke density of cables burning under defined conditions - Part 1: Test apparatus, 2019/4/26

20/1862/CDV, IEC 61034-2/AMD2 ED3: Measurement of smoke density of cables burning under defined conditions - Part 2: Test procedure and requirements, 2019/4/26

21/993/CDV, IEC 62984-3 ED1: High temperature secondary Batteries - Part 3: Sodium-based Batteries - Performance requirements and tests, 2019/4/26

21/991/CDV, IEC 62984-1 ED1: High temperature secondary batteries - Part 1: General aspects, definitions and tests, 2019/4/26

21/992/CDV, IEC 62984-2 ED1: High temperature secondary Batteries - Part 2: Safety requirements and tests of cells and batteries, 2019/4/26

23E/1123/CD, IEC 62873-1/AMD1 ED1: Residual current operated circuit-breakers for household and similar use - Part 1: Outline of blocks and modules for residual current device standards, 2019/4/26

34C/1413/CD, IEC 61347-2-7/AMD2/FRAG1 ED3: Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained), 2019/4/26

34C/1414/CD, IEC 61347-2-7/AMD2/FRAG2 ED3: Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained), 2019/4/26

35/1419/CD, IEC 60086-2 ED14: Primary batteries - Part 2: Physical and electrical specifications, 2019/3/29

45/867/CD, IEC 63175 ED1: Nuclear instrumentation - Fixed high intensity proton cyclotron within the energy range of 10 ~ 20 MeV, 2019/3/29

51/1272A/FDIS, IEC 63093-14 ED1: Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 14: EFD-cores, 2019/3/15

56/1832/CDV, IEC 62960 ED1: Dependability reviews during the life cycle, 2019/4/26

59K/304/CDV, IEC 61591 ED2: Cooking fume extractors - Methods for measuring performance, 2019/4/26

61/5753/CDV, IEC 60335-2-105/AMD1 ED2: Household and similar electrical appliances - Safety - Part 2-105: Particular requirements for multifunctional shower cabinets, 2019/4/26

61/5747/CDV, IEC 60335-2-32 ED5: Household and similar electrical appliances - Safety - Part 2-32: Particular requirements for massage appliances, 2019/4/26

61/5751/CDV, IEC 60335-2-97/AMD1 ED3: Household and similar electrical appliances - Safety - Part 2-97: Particular requirements for drives for shutters, awnings, blinds and similar equipment, 2019/4/26

61/5752/CDV, IEC 60335-2-103/AMD2 ED3: Household and similar electrical appliances - Safety - Part 2-103: Particular requirements for drives for gates, doors and windows, 2019/4/26

61/5748/CDV, IEC 60335-2-62 ED4: Household and similar electrical appliances - Safety - Part 2-62: Particular requirements for commercial electric rinsing sinks, 2019/4/26

61/5750/CDV, IEC 60335-2-95 ED4: Household and similar electrical appliances - Safety - Part 2-95: Particular requirements for drives for vertically moving garage doors for residential use, 2019/4/26

61/5749/CDV, IEC 60335-2-84 ED3: Household and similar electrical appliances - Safety - Part 2-84: Particular requirements for toilets, 2019/4/26

62C/738/DTR, IEC TR 63183 ED1: Guidance on error and warning messages for software used in radiotherapy, 2019/3/29

62D/1672/CD, IEC 60601-2-41 ED3: Medical electrical equipment - Part 2-41: Particular requirements for the basic safety and essential performance of surgical luminaires and luminaires for diagnosis, 2019/3/29

62D/1671/FDIS, IEC 80601-2-60 ED2: Medical electrical equipment - Part 2-60: Particular requirements for the basic safety and essential performance of dental equipment, 2019/3/15

65B/1147/FDIS, IEC 61131-10 ED1: Programmable controllers - Part 10: PLC open XML exchange format, 2019/3/15

80/913/NP, PNW 80-913: Maritime navigation and radiocommunication equipment and systems - Data interface - Part 2: Secure online transfer of S-100 based products applied on S-421 Route Plan, 2019/4/26

86A/1924/FDIS, IEC 60794-2-11 ED3: Optical fibre cables - Part 2-11: Indoor cables - Detailed specification for simplex and duplex cables for use in premises cabling, 2019/3/15

86A/1923/FDIS, IEC 60794-2-31 ED3: Optical fibre cables - Part 2-31: Indoor cables - Detailed specification for optical fibre ribbon cables for use in premises cabling, 2019/3/15

86A/1914/CDV, IEC 60794-1-215 ED1: Optical Fibre Cables - Part 1 -215: Generic specification-Basic optical cable test procedures-Environmental test methods - Cable external freezing test, Method F15, 2019/4/26

86A/1925/FDIS, IEC 60794-2-21 ED3: Optical fibre cables - Part 2-21: Indoor cables - Detailed specification for multi-fibre optical distribution cables for use in premises cabling, 2019/3/15

86A/1912/CDV, IEC 60794-1-23 ED2: Optical fibre cables - Part 1-23: Generic specification - Basic optical cable test procedures - Cable element test methods, 2019/4/26

86A/1917/CDV, IEC 60794-1-21/AMD1 ED1: Optical fibre cables - Part 1-21: Generic specification - Basic optical cable test procedures - Mechanical test methods, 2019/4/26

89/1465/DTS, IEC TS 60695-2-20 ED3: Fire hazard testing - Part 2 -20: Glowing/hot-wire based test methods - Hot wire ignition test - Apparatus, confirmatory test arrangement and guidance, 2019/4/26

89/1466/CD, IEC 60695-7-2 ED2: Fire hazard testing - Part 7-2: Toxicity of fire effluent - Summary and relevance of test methods, 2019/4/26

90/425/CDV, IEC 61788-7 ED3: Superconductivity - Part 7: Electronic characteristic measurements - Surface resistance of superconductors at microwave frequencies, 2019/4/26

106/480/FDIS, IEC 62311 ED2: Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz), 2019/3/15

110/1078/CD, IEC TR 62595-1-5 ED1: Display lighting unit - Part 1-5: Electrical signal interface of LED BLU, 2019/3/29

110/1068/CDV, IEC 62341-5-3 ED2: Organic light emitting diode (OLED) displays - Part 5-3: Measuring methods of image sticking and lifetime, 2019/4/26

119/248/CDV, IEC 62899-202-6 ED1: Printed electronics - Part 202-6: Materials - Conductive film - Measurement method for resistance changes under high temperature and humidity of a printed metal based conductive layer on a flexible substrate, 2019/4/26

121A/270/CDV, IEC 60947-6-2 ED3: Low-voltage switchgear and controlgear - Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment) (CPS), 2019/4/26

Newly Published ISO & IEC Standards

Listed here are new and revised standards recently approved and promulgated by ISO - the International Organization for Standardization – and IEC – the International Electrotechnical Commission. 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)..

ISO Standards

ACOUSTICS (TC 43)

ISO 4869-6:2019, Acoustics - Hearing protectors - Part 6: Determination of sound attenuation of active noise reduction earmuffs, $68.00

ISO 17201-3:2019, Acoustics - Noise from shooting ranges - Part 3: Sound propagation calculations, $209.00

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 7971-2:2019, Cereals - Determination of bulk density, called mass per hectolitre - Part 2: Method of traceability for measuring instruments through reference to the international standard instrument, $138.00

ISO 7971-3:2019, Cereals - Determination of bulk density, called mass per hectolitre - Part 3: Routine method, $103.00

AIR QUALITY (TC 146)

ISO 16000-37:2019, Indoor air - Part 37: Measurement of PM2,5 mass concentration, $68.00

ISO 16000-38:2019, Indoor air - Part 38: Determination of amines in indoor and test chamber air - Active sampling on samplers containing phosphoric acid impregnated filters, $68.00

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 27875:2019, Space systems - Re-entry risk management for unmanned spacecraft and launch vehicle orbital stages, $138.00

APPLICATIONS OF STATISTICAL METHODS (TC 69)

ISO 16355-3:2019, Applications of statistical and related methods to new technology and product development process - Part 3: Quantitative approaches for the acquisition of voice of customer and voice of stakeholder, $185.00

CARBON DIOXIDE CAPTURE, TRANSPORTATION, AND GEOLOGICAL STORAGE (TC 265)

ISO 27916:2019, Carbon dioxide capture, transportation and geological storage - Carbon dioxide storage using enhanced oil recovery (CO2-EOR), $209.00

FINE CERAMICS (TC 206)

ISO 21814:2019, Fine ceramics (advanced ceramics, advanced technical ceramics) - Methods for chemical analysis of aluminium nitride powders, $185.00

FIRE SAFETY (TC 92)

ISO 3008-1:2019, Fire resistance tests - Door and shutter assemblies - Part 1: General requirements, $209.00

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO 19150-2/Amd1:2019, Geographic information - Ontology - Part 2: Rules for developing ontologies in the Web Ontology Language (OWL) - Amendment 1, $19.00

ISO 19111:2019, Geographic information - Referencing by coordinates, $232.00

GEOTECHNICS (TC 182)

ISO 17892-11:2019, Geotechnical investigation and testing - Laboratory testing of soil - Part 11: Permeability tests, $138.00

INFORMATION AND DOCUMENTATION (TC 46)

ISO 30301:2019, Information and documentation - Management systems for records - Requirements, $103.00

INTERNAL COMBUSTION ENGINES (TC 70)

ISO 8178-3:2019, Reciprocating internal combustion engines - Exhaust emission measurement - Part 3: Test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using a filter type smoke meter, $68.00

LIFTS, ESCALATORS, PASSENGER CONVEYORS (TC 178)

ISO 8102-6:2019, Electrical requirements for lifts, escalators and moving walks - Part 6: Programmable electronic systems in safety-related applications for escalators and moving walks (PESSRAE), $138.00

MATERIALS, EQUIPMENT AND OFFSHORE STRUCTURES FOR PETROLEUM AND NATURAL GAS INDUSTRIES (TC 67)

ISO 16812:2019, Petroleum, petrochemical and natural gas industries - Shell-and-tube heat exchangers, $45.00

NUCLEAR ENERGY (TC 85)

ISO 8299:2019, Nuclear fuel technology - Determination of the isotopic and elemental uranium and plutonium concentrations of nuclear materials in nitric acid solutions by thermal-ionization mass spectrometry, $138.00

ISO 9463:2019, Nuclear energy - Nuclear fuel technology - Determination of plutonium in nitric acid solutions by spectrophotometry, $68.00

ISO 4037-3:2019, Radiological protection - X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy - Part 3: Calibration of area and personal dosemeters and the measurement of their response as a function of energy and angle of incidence, $209.00

PHOTOGRAPHY (TC 42)

ISO 12232:2019, Photography - Digital still cameras - Determination of exposure index, ISO speed ratings, standard output sensitivity, and recommended exposure index, $138.00

PLASTICS (TC 61)

ISO 21301-1:2019, Plastics - Ethylene-vinyl acetate (EVAC) moulding and extrusion materials - Part 1: Designation system and basis for specifications, $68.00

ISO 21301-2:2019, Plastics - Ethylene-vinyl acetate (EVAC) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties, $68.00

ISO 21305-1:2019, Plastics - Polycarbonate (PC) moulding and extrusion materials - Part 1: Designation system and basis for specification, $45.00

ISO 21305-2:2019, Plastics - Polycarbonate (PC) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties, $68.00

PUMPS (TC 115)

ISO/ASME 14414:2019, Pump system energy assessment, $209.00

ROAD VEHICLES (TC 22)

ISO 19642-2:2019, Road vehicles - Automotive cables - Part 2: Test methods, $209.00

ISO 19642-3:2019, Road vehicles - Automotive cables - Part 3: Dimensions and requirements for 30 V a.c. or 60 V d.c. single core copper conductor cables, $103.00

ISO 19642-4:2019, Road vehicles - Automotive cables - Part 4: Dimensions and requirements for 30 V a.c. and 60 V d.c. single core aluminium conductor cables, $103.00

ISO 19642-5:2019, Road vehicles - Automotive cables - Part 5: Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. single core copper conductor cables, $103.00

ISO 19642-6:2019, Road vehicles - Automotive cables - Part 6: Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. single core aluminium conductor cables, $103.00

ISO 19642-7:2019, Road vehicles - Automotive cables - Part 7: Dimensions and requirements for 30 V a.c. or 60 V d.c. round, sheathed, screened or unscreened multi or single core copper conductor cables, $103.00

ISO 19642-8:2019, Road vehicles - Automotive cables - Part 8: Dimensions and requirements for 30 V a.c. or 60 V d.c. round, sheathed, screened or unscreened multi or single core aluminium conductor cables, $103.00

ISO 19642-9:2019, Road vehicles - Automotive cables - Part 9: Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. round, sheathed, screened or unscreened multi or single core copper conductor cables, $103.00

ISO 19642-10:2019, Road vehicles - Automotive cables - Part 10: Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. round, sheathed, screened or unscreened multi or single core aluminium conductor cables, $103.00

SAFETY OF MACHINERY (TC 199)

ISO 19353:2019, Safety of machinery - Fire prevention and fire protection, $185.00

SHIPS AND MARINE TECHNOLOGY (TC 8)

ISO 19636:2019, Ships and marine technology - General requirements for inclinometers used for the determination of trim and list of LNG carriers, $103.00

STERILIZATION OF HEALTH CARE PRODUCTS (TC 198)

ISO 11607-1:2019, Packaging for terminally sterilized medical devices - Part 1: Requirements for materials, sterile barrier systems and packaging systems, $185.00

ISO 11607-2:2019, Packaging for terminally sterilized medical devices - Part 2: Validation requirements for forming, sealing and assembly processes, $103.00

TEXTILES (TC 38)

ISO 20921:2019, Textiles - Determination of stable nitrogen isotope ratio in cotton fibres, $68.00

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 11783-12:2019, Tractors and machinery for agriculture and forestry - Serial control and communications data network - Part 12: Diagnostics services, $162.00

TRANSPORT INFORMATION AND CONTROL SYSTEMS (TC 204)

ISO 29281-2:2019, Intelligent transport systems - Localized communications - Part 2: Legacy system support, $162.00

VACUUM TECHNOLOGY (TC 112)

ISO 20146:2019, Vacuum technology - Vacuum gauges - Specifications, calibration and measurement uncertainties for capacitance diaphragm gauges, $103.00

ISO 21360-3:2019, Vacuum technology - Standard methods for measuring vacuum pump performance - Part 3: Specific parameters for mechanical booster vacuum pumps, $103.00

WELDING AND ALLIED PROCESSES (TC 44)

ISO 5178:2019, Destructive tests on welds in metallic materials - Longitudinal tensile test on weld metal in fusion welded joints, $45.00

ISO Technical Reports

DENTISTRY (TC 106)

ISO/TR 22710:2019, Dentistry - Vocabulary of process chain from dental CT to CAD/CAM for implant prosthetic restorations - Backward planning in the digital process chain, $45.00

TRANSPORT INFORMATION AND CONTROL SYSTEMS (TC 204)

ISO/TR 21718:2019, Intelligent transport systems - Spatio-temporal data dictionary for cooperative ITS and automated driving systems 2.0, $232.00

ISO Technical Specifications

BIOLOGICAL EVALUATION OF MEDICAL AND DENTAL MATERIALS AND DEVICES (TC 194)

ISO/TS 21726:2019, Biological evaluation of medical devices - Application of the threshold of toxicological concern (TTC) for assessing biocompatibility of medical device constituents, $68.00

FIRE SAFETY (TC 92)

ISO/TS 19677:2019, Guidelines for assessing the adverse impact of wildland fires on the environment and to people through environmental exposure, $138.00

GEARS (TC 60)

ISO/TS 6336-4:2019, Calculation of load capacity of spur and helical gears - Part 4: Calculation of tooth flank fracture load capacity, $162.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 10646/Amd1:2019, Information technology - Universal Coded Character Set (UCS) - Amendment 1: Dogra, Gunjala Gondi, Makasar, Medefaidrin, Indic Siyaq Numbers and other characters, $232.00

ISO/IEC 14496-15/Amd2:2019, Information technology - Coding of audio-visual objects - Part 15: Carriage of network abstraction layer (NAL) unit structured video in the ISO base media file format - Amendment 2: Support for additional brands, $19.00

ISO/IEC 14651:2019, Information technology - International string ordering and comparison - Method for comparing character strings and description of the common template tailorable ordering, $209.00

ISO/IEC 18520:2019, Information technology - Computer graphics, image processing and environmental data representation - Benchmarking of vision-based spatial registration and tracking methods for mixed and augmented reality (MAR), $209.00

ISO/IEC 20933:2019, Information technology - Distributed application platforms and services (DAPS) - Framework for distributed real-time access systems, $162.00

ISO/IEC 9798-3:2019, IT Security techniques - Entity authentication - Part 3: Mechanisms using digital signature techniques, $138.00

ISO/IEC 19086-4:2019, Cloud computing - Service level agreement (SLA) framework - Part 4: Components of security and of protection of PII, $138.00

IEC Standards

ELECTRIC CABLES (TC 20)

IEC 63075 Ed. 1.0 en:2019, Superconducting AC power cables and their accessories for rated voltages from 6 kV to 500 kV - Test methods and requirements, $281.00

ELECTRICAL INSTALLATIONS OF BUILDINGS (TC 64)

IEC 60364-8-1 Ed. 2.0 en:2019, Low-voltage electrical installations - Part 8-1: Functional aspects - Energy efficiency, $352.00

FIBRE OPTICS (TC 86)

IEC 62343-1 Ed. 2.0 b:2019, Dynamic modules - Part 1: Performance standards - General conditions, $47.00

IEC 62496-4-1 Ed. 1.0 b:2019, Optical circuit boards - Part 4-1: Interface standards - Terminated waveguide OCB assembly using single-row twelve-channel PMT connectors, $82.00

IEC 60793-1-31 Ed. 3.0 b:2019, Optical fibres - Part 1-31: Measurement methods and test procedures - Tensile strength, $199.00

INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL (TC 65)

IEC 60534-3-1 Ed. 2.0 en:2019, Industrial-process control valves - Part 3-1: Dimensions - Face-to-face dimensions for flanged, two-way, globe-type, straight pattern and centre-to-face dimensions for flanged, two-way, globe-type, angle pattern control valves, $82.00

MAGNETIC COMPONENTS AND FERRITE MATERIALS (TC 51)

IEC 63093-13 Ed. 1.0 b:2019, Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 13: PQ-cores, $164.00

SECONDARY CELLS AND BATTERIES (TC 21)

IEC 62902 Ed. 1.0 b:2019, Secondary cells and batteries - Marking symbols for identification of their chemistry, $117.00

SEMICONDUCTOR DEVICES (TC 47)

IEC 62228-1 Ed. 1.0 b:2018, Integrated circuits - EMC evaluation of transceivers - Part 1: General conditions and definitions, $23.00

IEC Technical Reports

FLAT PANEL DISPLAY DEVICES (TC 110)

IEC/TR 62629-41-1 Ed. 1.0 en:2019, 3D Display devices - Part 41-1: Generic introduction of holographic display, $164.00

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

Approval of Reaccreditation

Parenteral Drug Association (PDA)

The reaccreditation of the Parenteral Drug Association (PDA), 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 PDA-sponsored American National Standards, effective February 5, 2019. For additional information, please contact: Ms. Christine Alston-Roberts, Sr. Manager, Standards, Parenteral Drug Association, 4350 East West Highway, Suite 600, Bethesda, MD 20814; phone: 301.656.5900, ext. 106; e-mail: roberts@pda.org.

Scope of ASD Accreditation

B11 Standards, Inc.

Comment Deadline: March 11, 2019

B11 Standards, Inc., an ANSI Accredited Standards Developer (ASD) and organizational member, has updated its informational scope of standards activity on file with ANSI. The new scope statement is as follows:

> Standardization of concepts, general principles and requirements for safety of machinery incorporating terminology, methodology, and risk reduction measures for new, existing, modified or rebuilt power driven industrial and commercial machinery, not portable by hand while working. This includes associated equipment that may be used in the production system.

Any comments or questions related to the revised scope should be submitted by March 11, 2019 to: Mr. David Felinski, President, B11 Standards, Inc., P.O. Box 690905; Houston, TX 77269; phone: 832.446.6999; e-mail: dfelinski@b11standards.org (please copy psa@ansi.org).

Withdrawal of ASD Accreditation

MedBiquitous Consortium (MedBiq)

The MedBiquitous Consortium (MedBiq) has requested the formal withdrawal of its accreditation as a developer of American National Standards. Consequently, as every American National Standard (ANS) must have an accredited sponsor, the accreditation of MedBiq, all MedBiq-sponsored ANS and registered projects are formally withdrawn, effective February 6, 2019. For additional information, please contact: Ms. Valerie Smothers, Director of Communications, MedBiquitous Consortium, 5801 Smith Avenue, Davis 3110C, Baltimore, MD 21209; phone: 410.735.6142; e-mail: vsmothers@jhmi.edu.

ANSI Accreditation Program for Greenhouse Gas Validation/Verification Bodies

Withdrawal

ERM CVS

Comment Deadline: March 11, 2019

In accordance with the following standard: ISO 14065:2013, Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition:

ERM CVS
Amanda Russell
2nd Floor, Exchequer Court, 33 St. Mary Axe.
London EC3A 8AA, United Kingdom

Phone: 843-884-6924

E-mail: amanda.russell@ermcvs.com

On January 23, 2019, ANSI's Accreditation Program for GHG V/VBs accepted a request from ERM CVS to withdraw accreditation for the following:

Activity and Scopes:

Verification of assertions related to GHG emissions and removals at the organizational level

1. General
2. Manufacturing
3. Power Generation
7. Chemical Production
8. Oil and gas extraction, production and refining including petrochemicals

Please send your comments by March 11, 2019 to Ann Howard, Director, Environmental Accreditation Programs, American National Standards Institute, 1899 L Street, NW, 11th Floor, Washington, DC 20036, Fax: 202-293-9287 or e-mail: ahoward@ansi.org.

International Organization for Standardization (ISO)

Call for U.S. TAG Administrator

TC 34/SC 15 – Coffee

There is currently no ANSI-accredited U.S. TAG Administrator for TC 34/SC 15, and therefore ANSI has relinquished membership in this committee. The Secretariats for this subcommittee is currently held by Colombia (ICONTEC).

TC 34/SC 15 operates under the following scope:

Standardization in the field of coffee and coffee products, covering the coffee chain from green coffee to consumption, in particular. Standardization includes terminology, sampling, test methods and analysis, product specifications and requirements for packaging, storage and transportation

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

ISO/TC 292 – Security and Resilience

ANSI has been informed that ASIS International, the ANSI-accredited U.S. TAG Administrator for ISO/TC 292, wishes to relinquish their role as U.S. TAG Administrator.

ISO/TC 292 operates under the following scope:

Standardization in the field of security to enhance the safety and resilience of society.

Excluded: Sector specific security projects developed in other relevant ISO committees and projects developed in ISO/TC 262 and ISO/PC 278.

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).

Establishment of ISO Technical Committee

ISO/TC 324 – Sharing Economy

A new ISO Technical Committee, ISO/TC 324 – Sharing economy, has been formed. The Secretariat has been assigned to Japan (JISC).

ISO/TC 324 operates under the following scope:

Standardization in the field of sharing economy.
Excluded: Technical aspects of information security or risk management guidelines already covered by ISO/IEC JTC 1/SC27 and ISO/TC 262, respectively.

The Organization for the Advancement of Structured Information Standards (OASIS) has indicated its intent to partner with ANSI to administer the U.S. TAG. Organizations interested in participating on the U.S. TAG should contact ANSI's ISO Team (isot@ansi.org).

U.S. Technical Advisory Groups

Notice of TAG Reaccreditation

U.S. TAG to ISO TC 4 – Rolling Bearings

The reaccreditation of the US TAG to ISO TC 4, Rolling bearings, has been approved at the direction of the ANSI Executive Standards Council, under its recently revised operating procedures and with the American Bearing Manufacturers Association (ABMA) continuing as TAG Administrator, effective February 6, 2019. For additional information, please contact: Mr. James Converse, American Bearing Manufacturers Association, 2025 M Street NW, Suite 800, Washington, DC 20036; phone: 202.367.1155; e-mail: jconverse1@nc.rr.com.

Transfer of U.S. TAG Administrator

U.S.TAG to ISO TC 94/SC 15 – Respiratory Protective Devices

Comment Deadline: March 11, 2019

The U.S. Technical Advisory Group (TAG) to ISO TC 94/SC 15, Respiratory protective devices, has voted to approve the transfer of TAG Administrator responsibilities from the National Institute of Occupational Health and Safety (NIOSH) to ASTM. The TAG will continue to operate under its currently accredited Model Operating Procedures for U.S. TAGs to ANSI for ISO Activities, as contained in Annex A of the ANSI International Procedures. Please submit any comments on this action by March 11, 2019 to: Ms. Mary Mikolajewski, Manager, Technical Committee Operations, ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; phone: 610.832.9678; e-mail: mmikolajewski@astm.org (please copy jthompso@ansi.org). If no public comments are received, this action will be formally approved, effective March 11, 2019.

Meeting Notices

AGA (ASC B109) American Gas Association

An ANSI B109 breakout session will be held in conjunction with AGA's Spring Customer Field Service & Measurement committee meeting on April 30th, 2019 from 1:00 to 3:00 pm EST at the Gaylord Opryland Convention Center, Nashville. TN. Please contact Jeff Meyers at jmeyers@aga.org for details and how to register.

BSR/AARST MAH-201x

Background on proposed changes to Table 8.5.7.1 *For Elevated Radon Concentrations:*

The following underlined text reflects other substantive improvements made recently to AARST MAH "*Protocol for Conducting Measurements of Radon and Radon Decay Products in Homes"* that is maintained under continuous maintenance. Recent public review revealed that those changes were not reflected in requirements for reporting. The proposed additions in underlined text seek to resolve the public comment concern.

"If tested with only a single short-term passive detector, equivalent statements for these recommendations are to be included in the report:

- If this test is the first test and it was conducted using a single short-term passive detector, test this location again.
  - If the first short-term test is more than twice the action level (e.g. 8 pCi/L or more): conduct a second short-term test immediately. While decisions to mitigate at any time are not prohibited, the second test aids confidence that decisions are not being made based on a faulty test result.
  - If the first short-term test is less than twice the action level (e.g. 4 to 8 pCi/L) conduct either a short-term or a long-term test.
- If the average of two short-term tests or the average of a long-term test meets or exceeds the action level of 4 pCi/L, fix the building.

  Note—If one test result is above the action level with the other test result below the action level and the higher test result is twice or more than the lower test result, obtaining confirmation on whether mitigation is warranted requires additional testing."

BSR/ASHRAE Addendum v
to ANSI/ASHRAE Standard 62.2-2016

Public Review Draft

Proposed Addendum v to Standard 62.2-2016, Ventilation and Acceptable Indoor Air Quality in Residential Buildings

First Public Review (December 2018)
(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.

The appearance of any technical data or editorial material in this public review document does not constitute endorsement, warranty, or guaranty by ASHARE of any product, service, process, procedure, or design, and ASHRAE expressly disclaims such.

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

(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

This proposed addendum updates the normative references in Section 9 (References) of Standard 62.2.

[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 v to 62.2-2016

Make the following changes to the references in Section 9. The remainder of the references in Section 9 are unchanged.

9. REFERENCES

2. *ANSI/ASTM E779-2010 (Reapproved 2018), Standard Test Method for Determining Air Leakage Rate by Fan Pressurization.* ASTM International, West Conshohocken, PA.

4. *RESNET. 2016. ANSI/RESNET/ICC Standard 380-2016, Standard for Testing Airtightness of Building Enclosures, Airtightness of Heating and Cooling Air Distribution Systems, and Airflow of Mechanical Ventilation Systems. Oceanside, CA: Residential Energy Services Network, Inc. ~~RESNET. 2013. Mortgage Industry National Home Energy Rating Systems Standard.~~* Residential Energy Services Network.

7. *NFPA 54/ANSI Z223.1-2018~~2015~~, National Fuel Gas Code.* National Fire Protection Association and American Gas Association, Quincy, MA, and Washington, DC.

8. *NFPA 31-2016~~2011~~, Standard for the Installation of Oil-Burning Equipment*. National Fire Protection Association, Quincy, MA.

9. *NFPA 211-2016~~2013~~, Standard for Chimneys, Fireplaces, Vents, and Solid-Fuel Burning Appliances.* National Fire Protection Association, Quincy, MA.

10. *California Energy Commission.2016 Building Energy Efficiency Standards ~~2013. California Title 24 Standards~~, Reference Appendix RA3*. CEC-400-2015-038-CMF, Sacramento, CA.

12. *ANSI/ASHRAE Standard 52.2-2017~~2012 (with 2015 Supplement)~~, Method of Testing General Ventilation Air- Cleaning Devices for Removal Efficiency by Particle Size.* ASHRAE, Atlanta, GA.

13. *AHRI Standard 680-2017~~2009~~, Performance Rating of Residential Air Filter Equipment.* Air-Conditioning, Heating, and Refrigerating Institute, Arlington, VA.

15. *ANSI/ASHRAE Standard 51/AMCA Standard 210-2016~~1999~~, Laboratory Methods of Testing Fans for Aerodynamic Performance Rating.* American Air Movement and Control Association International, Inc., and ASHRAE, Arlington Heights, IL, and Atlanta, GA.

18. *HVI 916-2015~~2013~~, Air Flow Test Procedure.* Arlington Home Ventilating Institute, Arlington Heights, IL.

20. *ANSI/ASHRAE Standard 62.1-2016~~2013~~, Ventilation for Acceptable Indoor Air Quality.* ASHRAE, Atlanta, GA.

BSR/ASHRAE/IES Addendum as to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum as to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

Second Public Review (February 2019)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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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FOREWORD

This second public review includes minor changes to address comment responses.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. 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 previous draft 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 as to 90.1-2016

Modify the standard as follows (IP and SI Units)

INFORMATIVE APPENDIX I:
ADDITIONAL GUIDANCE FOR VERIFICATION, TESTING, AND COMMISSIONING

This appendix provides guidance on best practices for stand-alone *functional performance testing (FPT)* and *commissioning* processes (including *FPT)* that relate to Sections 4.2.5, 5.9, 6.9, 7.9, 8.9, 9.9, 10.9, 11.2(d), and G1.21(c) of Standard 90.1. This appendix also contains informative information on the typical overall *commissioning* process—that goes beyond the requirements of Standard 90.1. It also addresses how to integrate suggested *commissioning* and testing activities that are specific to ANSI/ASHRAE/IES Standard 90.1 required controls, *systems* and assemblies into the typical *commissioning* process. The requirements for verification, testing, and *commissioning* in Standard 90.1 are focused specifically on direct support of Standard 90.1 requirements; however, there are additional items often included in a more comprehensive *commissioning* process that support Standard 90.1 requirements, with these examples:

- *Commissioning* building envelope moisture integrity is not required by Standard 90.1; however, preventing moisture damage to the envelope assembly ~~and especially insulation~~ supports the goals of Standard 90.1.

- *Commissioning* HVAC controls to ensure comfort is not required by Standard 90.1; however, controls that maintain comfort properly result in longer term operation of automatic energy efficiency control elements that support the goals of Standard 90.1.
- *Commissioning* daylight responsive controls beyond functional testing of stepped lighting reduction for energy efficiency is not required by Standard 90.1; however, designing and *commissioning* a continuous dimming daylight system with non-distracting operation and proper illumination levels would reduce occupant disruption or complaints and helps ensure the longevity of the savings provided by the Standard 90.1 daylight responsive control requirements.

. . .

I.2. Standard 90.1 items to include in Verification, Testing, or Commissioning

Table I3 lists *systems* and requirements included in Standard 90.1 that can benefit from a verification or *commissioning* process. The Standard 90.1 section number and title is included, along with a list of suggested "items to verify" in that section. There are specific verification, *commissioning* or testing activities required by Standard 90.1 in Sections 4.2.5, 5.9, 6.9, 7.9, 8.9, 9.9, 10.9, 11.2(d), and G1.21I. Table I3 lists only the items in Standard 90.1 that would be beneficial to include in a *commissioning* scope. While these requirements cover many of the *building* components, they are not comprehensive, and there are benefits available from additional *commissioning* or testing. There are other items outside the scope of Standard 90.1 that would typically be included in a *commissioning* scope that are not covered here, but that may improve the quality and reliability of the *building systems* and assemblies.

The suggested *commissioning* activities are intended to be included in a *commissioning* scope based on the building Owner's perception of desired outcomes relative to the particular building program and location and based on the experience of the commissioning provider. The activities are summarized in a checklist format and are related to the requirements that are described in the noted Subsections of Standard 90.1. The scope of the items to verify should include verification of compliance with Standard 90.1 requirements by documenting each item's applicability, inclusion or exception. Included items should be verified for installation, proper configuration and operation. Depending on the comprehensiveness of the *commissioning* effort, verification for certain items may be included at the design or construction phase or both. Verification that the design and construction meet the requirements of the chosen compliance path in Standard 90.1 could be completed using the verification and compliance forms from the *Standard 90.1 User's Manual*.

BSR/ASHRAE/IES Addendum ba
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum ba to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

Second Public Review (February 2019)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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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FOREWORD

The proposed addendum clarifies how baseline must be established when Appendix G does not explicitly prescribe the baseline parameters but allows it to be different from the proposed design. Example of this include Table G3.1 #11 g Exception 1, which allows performance credit for low flow fixtures. A common misperception is that the baseline flow rates may be based on the standard practice or applicable code requirements in 2004. However, systems and components that are not regulated in 90.1 are not captured in the BPFs thus, unless the flow rates are prescribed in 90.1, modeling savings for the plumbing fixtures that minimally meet applicable codes will result in an undeserved credit.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. 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 previous draft 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 BA to 90.1-2016

Revise the Standard as follows (IP Units)

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

Proposed *Building* Performance	***Baseline Building* Performance**
1. Design Model	
	The *baseline building design* shall be modeled with the same number of *floors* and identical *conditioned floor area* as the *proposed design*. The *baseline building design* shall be developed by modifying the *proposed design* as described in Section G3. Except as specifically instructed, all *building systems* and *equipment* shall be modeled identically in the *proposed design* and *baseline building design*. Where the *baseline building systems* and *equipment* are permitted to be different from the proposed design but are not prescribed in this appendix, the baseline must be determined based on the following, in the order of priority: a. Requirements in Sections 5-10

	b. Requirements of other efficiency or equipment codes or standards applicable to the design of the building systems and equipment
11. *Service Water-Heating Systems*	
	The *service water-heating system* in the *baseline building design* shall be as specified in Table G3.1.1-2 and conform with the following conditions: ……. g. Service water loads and use shall be the same for both the *proposed design* and *baseline building design* and shall be documented by the calculation procedures described in Section 7.4.1. **Exceptions:** *1.* *Service water-heating* use can be demonstrated to be reduced by documented water conservation measures that reduce the physical volume of service water required. Examples include but are not limited to low-flow shower heads and dishwashers. Such reduction shall be demonstrated by calculations. The baseline flow rates shall be ~~equal to the maximum allowed by the applicable code~~ determined as described in Table G3.1 #1, and the calculation methodology shall be approved by the *authority having jurisdiction*.
12. Receptacle and Other Loads	
	Motors shall be modeled as having the *efficiency* ratings found in Table G3.9.1. Other *systems* covered by Section 10 and miscellaneous loads shall be modeled as identical to those in the *proposed design*, including schedules of operation and *control* of the *equipment*. *Energy* used for cooking *equipment*, receptacle loads, computers, medical or laboratory *equipment*, and manufacturing and industrial process *equipment* not specifically identified in the standard power and *energy* rating or capacity of the *equipment* shall be identical between the *proposed building performance* and the *baseline building performance*. Receptacle schedules shall be the same as the *proposed design* before the receptacle power credit is applied. **Exceptions**: When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the *Performance Rating Method* as an alternative path for minimum standard compliance per Section 4.2.1.1) variations of the power requirements, schedules, or *control* sequences of the *equipment* modeled in the *baseline building design* from those in the *proposed design* shall be approved by the *rating authority* based on documentation described in G3.1 #1 Design Model or~~.~~ that the *equipment* installed in the *proposed design* represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in baseline *building equipment* different from that installed in the *proposed design*. Occupancy and occupancy schedules shall not be changed.

BSR/ASHRAE/IES Addendum bb
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum bb to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

Third Public Review Draft (February 2019)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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).

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FOREWORD

This ISC represents resolution of comments from the 1st and 2nd public reviews. Values in this ISC reflect updates to the lighting model. If addendum bb is adopted, it represents an average 11% reduction in lighting power allowance when comparing 2016 to the as proposed 2019 space-by-space LPD values. This 11% reduction is NOT weighted by floor area type.

As stated in the original addendum, data for the model is based on a large sample of readily available luminaires. These are products that are in the market and already being specified widely. As such, we believe these proposed values are cost-effective.

Addendum bb to 90.1-2016

Modify the standard as follows (IP and SI Units)

Note: Footnotes and other portions of table not shown are unchanged.

Table 9.6.1 Lighting Power Density Allowances Using the Space-by-Space Method and Minimum Control Requirements Using Either Method

Informative Note: **This table is divided into two sections; this first section covers *space* types that can be commonly found in multiple *building* types. The second part of this table covers *space* types that are typically found in a single *building* type.**	
Common *Space* Types[1]	***LPD* Allowances, W/ft²**
Atrium	
<20 ft in height	~~0.48~~ 0.39
≥20 ft and ≤40 ft in height	~~0.57~~ 0.48
>40 ft in height	~~0.70~~ 0.60
Classroom/Lecture Hall/Training Room	
Penitentiary	~~1.38~~ 0.89
All other classrooms/lecture halls/training rooms	~~0.78~~ 0.71
Courtroom	~~1.25~~ 1.20
Computer Room	~~1.00~~ 0.94
Dining Area	
Facility for the visually impaired (and not used primarily by staff)[3]	~~1.38~~ 1.27
Food Preparation Area	~~1.29~~ 1.09
Laboratory	
In or as a classroom	~~1.17~~ 1.11
All other laboratories	~~1.70~~ 1.33
Laundry/Washing Area	~~0.59~~ 0.53
Lobby	
Facility for the visually impaired (and not used primarily by the staff)[3]	~~2.49~~ 1.69
Elevator	~~0.71~~ 0.65
All other lobbies	~~1.11~~ 0.84
Pharmacy Area	~~1.90~~ 1.66
Sales Area[4]	~~1.12~~ 1.05
Storage Room	
<50 ft²	~~0.40~~ 0.51
≥50 ft² ~~and ≤1000 ft²~~	0.38
~~All other storage rooms~~	~~0.38~~
Dormitory—Living Quarters	~~0.84~~ 0.50
Healthcare Facility	
Imaging room	~~0.85~~ 0.94
Nursery	~~1.38~~ 0.92
Nurse's station	~~1.11~~ 1.17
Retail Facilities	
Mall concourse	~~1.03~~ 0.82

Note: other portions of table not shown are unchanged.

SI Units

Common Space Types1	LPD Allowances, W/m^2
Atrium	
<6.1 m in height	~~5.1~~ 4.6
≥6.1 m and ≤12.2 m in height	~~6.1~~ 5.2
>12.2 m in height	~~7.5~~ 6.5
Classroom/Lecture Hall/Training Room	
Penitentiary	~~14.8~~ 9.5
All other classrooms/lecture halls/training rooms	~~9.6~~ 7.6
Courtroom	~~13.5~~ 12.9
Computer Room	~~10.7~~ 10.1
Dining Area	
Facility for the visually impaired (and not used primarily by staff)[3]	~~14.8~~ 13.7
Food Preparation Area	~~13.9~~ 11.7
Laboratory	
In or as a classroom	~~12.6~~ 11.9
All other laboratories	~~18.3~~ 14.3
Laundry/Washing Area	~~6.3~~ 5.7
Lobby	
Facility for the visually impaired (and not used primarily by the staff)[3]	~~26.8~~ 18.2
Elevator	~~7.7~~ 7.0
All other lobbies	~~11.9~~ 9.0
Pharmacy Area	~~20.4~~ 17.9
Sales Area[4]	~~12.0~~ 11.3
Storage	
<4.6 m^2	~~4.3~~ 5.5
≥4.60 m^2 ~~and ≤305 m^2~~	4.1
~~All other storage rooms~~	~~4.1~~
Dormitory—Living Quarters	~~9.0~~ 5.4
Healthcare Facility	
Imaging room	~~9.2~~ 10.1
Nursery	~~14.8~~ 9.9
Nurse's station	~~11.9~~ 12.6
Retail Facilities	
Mall concourse	~~11.1~~ 8.8

BSR/ASHRAE/IES Addendum BC
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum BC to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

Second Public Review (February 2019)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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FOREWORD

This is a second comment review. Comments from the first public review have been incorporated into these changes. The requirement for a minimum 40 degree delta T between the leaving and entering boiler water has been removed. Boilers less than 300,000 Btu/h are no longer included in the proposal. Additionally the flow requirements have been simplified.

Boilers represent 40% of the heating in commercial buildings and are especially prevalent in cold climates. In table 6.8.1-6 efficiency improvement were implemented in 2010 and some further improvements are scheduled for 2020 for gas fired natural draft but all these levels are defined to not achieve condensing boiler level efficiency. A challenge for condensing boilers for hot water heating is that they require system design changes and the use of higher delta entering and leaving temperature to maintain condensing operation to ensure they operate efficiently.

The addendum proposes implementation of condensing boilers for new construction to achieve condensing-level efficiency (i.e., 90% E_t) for large boiler systems (i.e., between 1 million and 10 million Btuh), where the proper design considerations are included so that the condensing boilers will operate properly. To ensure condensing occurs, requirements are added to ensure boiler entering water temperature is designed to be low and able to be maintained low by minimizing recirculation of hot water supply into the return.

First cost was determined from the *2012 GSA Condensing Boiler Study*[1], which estimates $38.50/MBtu for non-condensing and $42.60/MBtu for condensing boilers. In addition, the study estimates an additional average annual maintenance cost of $400 for condensing boilers. Energy savings were found using energy modeling simulations run using DOE's EnergyPlus. Three prototype buildings were used, large office, hospital, and secondary school, in varied US climate zones. A blended cost of $0.10/kWh was assumed.

Using the 90.1 scalar ratio, the economic analysis shows an average scalar ratio of 4.2. The maximum scalar ratio of 17.2 for boilers with a life expectancy of 25 years. Models and estimates show that all prototypes fall within the maximum scalar ratio and are cost-effective.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. 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 previous draft 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.]

[1] https://www.gsa.gov/cdnstatic/Condensing_Boilers-findings_FINAL_4-15-13_508.pdf

Addendum BC to 90.1-2016 ISC

Modify the standard as follows (IP and SI Units) by adding a new section 6.5.4.8 to section 6.5.4 (Hydronic System Design and Control) in section 6.5 (Prescriptive Path).

6.5.4.8 Buildings with High Capacity Space Heating Gas Boiler Systems

New buildings with gas hot water *boiler systems* for space heating with a total *system* input of at least 1,000,000 Btu/h (290 kW) but not more than 10,000,000 Btu/h (2900 kW) shall comply with 6.5.4.8.1 and 6.5.4.8.2.

6.5.4.8.1 Boiler Efficiency

Gas hot water *boilers* shall have a minimum thermal *efficiency* (E_t) of 90% when rated in accordance with the test procedures in Table 6.8.1-6. Systems with multiple boilers are allowed to meet this requirement if the space-heating input provided by equipment with thermal *efficiency* (E_t) above and below 90% provides an input capacity-weighted average thermal *efficiency* of at least 90%. For boilers rated only for combustion *efficiency* ~~or *AFUE*~~, the calculation for the input capacity-weighted average thermal *efficiency* shall use the combustion *efficiency* value ~~or the *AFUE*, respectively~~.

6.5.4.8.2 Hot Water Distribution System Design

The hot water distribution system shall be designed to meet all of the following:

a. Coils and other heat exchangers shall be selected so that at design conditions~~:~~

~~i.~~ the hot water return temperature entering the *boilers* is 120°F (49°C) or less~~., and~~

~~ii. the temperature difference between the hot water supply temperature leaving the boiler and the hot water return temperature entering the *boilers* is 40°F (22°C) or higher.~~

b. Under all operating conditions, the water temperature entering the boiler is 120°F (49°C) or less or the flow rate of supply hot water that recirculates directly into the return system, such as by 3-way valves or minimum flow bypass controls, shall be no greater than~~:~~

~~i.~~ 20% of the design flow of the operating boilers. ~~*boiler system* hot water flow rate at design conditions and;~~

~~ii. 5% above the sum of the minimum flow rates of operating *boilers*, as required by the *boiler equipment manufacturer.*~~

Exception to 6.5.4.8

1. Where 25% of the annual space heating requirement is provided by ~~*site-solar energy*~~ on-site renewable energy, *site-recovered energy*, or heat recovery chillers.
2. *Space heating boilers* installed in individual dwelling units.
3. Where 50% or more of the design heating load is served using perimeter convective heating, radiant ceiling panels or both.
4. Individual gas boilers with input capacity less than 300,000 Btu/h (87 kW) shall not be included in the calculations of the total system input or total system efficiency.

BSR/ASHRAE/IES Addendum ca
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum ca to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

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

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FOREWORD

This proposed addendum adds U-factors to Table A3.2.3 for use of continuous insulation on metal building walls with double layer cavity insulation. The calculations follow the same basis of calculation used in other parts of the table based on calculation procedures in A9.4.6.

This proposal does not affect cost-effectiveness because it is adding options to the table.

[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 ca to 90.1-2016

Modify the standard as follows (IP and SI Units)

Table A3.2.3 Assembly *U-Factors* for *Metal Building Walls*

Insulation *System*	Rated *R-Value* of Insulation	Overall *U-Factor* for Entire Base *Wall* Assembly	Overall *U-Factor* for Assembly of Base *Wall* Plus *Continuous Insulation* (Uninterrupted by Framing)								
			R-6.5	R-9.8	R-13	R-15.8	R-19	R-22.1	R-25	R-32	R-38
Continuous insulation only	R-0	1.180	0.136	0.094	0.072	0.060	0.050	0.044	0.039	0.030	0.026
Single compressed layer	R-10	0.186	0.084	0.066	0.054	0.047	0.041	0.036	0.033	0.027	0.023
	R-11	0.185	0.084	0.066	0.054	0.047	0.041	0.036	0.033	0.027	0.023
	R-13	0.162	0.079	0.063	0.052	0.046	0.040	0.035	0.032	0.026	0.023
	R-16	0.155	0.077	0.062	0.051	0.045	0.039	0.035	0.032	0.026	0.022
	R-19	0.147	0.075	0.060	0.050	0.044	0.039	0.035	0.031	0.026	0.022
Single layer in cavity	R-25[a]	0.059	0.044	0.039	0.035	0.032	0.029	0.027	0.025	0.021	0.019
	R-30[b]	0.052	0.042	0.037	0.033	0.031	0.028	0.026	0.024	0.021	0.019
Double layer	R-25 + R-10	0.047	0.038	0.034	0.031	0.028	0.026	0.024	0.023	0.020	0.018
	R-25 + R-16	0.042	0.036	0.032	0.029	0.027	0.025	0.023	0.022	0.019	0.018
	R-25 + R-10[c]	0.039	0.032	0.029	0.027	0.025	0.023	0.022	0.021	0.018	0.017
	R-30 + R-16	0.039	0.036	0.032	0.029	0.027	0.025	0.023	0.022	0.019	0.017

(Multiple *R-values* are listed in order from inside to outside.)
a. A minimum R-0.375 thermal spacer block or thermal break strip is required when installed without *continuous insulation*.
b. A minimum R-0.75 thermal spacer block or thermal break strip is required when installed without *continuous insulation*.
c. A minimum R-3 thermal spacer block is required.

SI VERSION:

Table A3.2.3 Assembly *U-Factors* for *Metal Building Walls*

Insulation *System*	Rated *R-Value* of Insulation	Overall *U-Factor* for Entire Base *Wall* Assembly	Overall *U-Factor* for Assembly of Base *Wall* Plus *Continuous Insulation* (Uninterrupted by Framing)								
			R-1.1	R-1.7	R-2.3	R-2.8	R-3.3	R-3.9	R-4.4	R-5.6	R-6.7
Continuous insulation only	R-0	6.70	0.773	0.53	0.41	0.34	0.29	0.25	0.22	0.17	0.15
Single compressed layer	R-1.8	1.06	0.48	0.37	0.31	0.27	0.23	0.21	0.19	0.15	0.13
	R-1.9	1.05	0.48	0.37	0.31	0.27	0.23	0.21	0.19	0.15	0.13
	R-2.3	0.920	0.45	0.36	0.30	0.26	0.23	0.20	0.18	0.15	0.13
	R-2.8	0.880	0.44	0.35	0.29	0.26	0.22	0.20	0.18	0.15	0.13
	R-3.3	0.835	0.43	0.34	0.28	0.25	0.22	0.20	0.18	0.15	0.13
Single layer in cavity	R-4.4[a]	0.335	0.25	0.22	0.20	0.18	0.16	0.15	0.14	0.12	0.11
	R-5.5[b]	0.295	0.24	0.21	0.19	0.18	0.16	0.15	0.14	0.12	0.11
Double layer	R-4.4 + R-1.8	0.267	0.216	0.193	0176	0.159	0.145	0.136	0.131	0.114	0.102
	R-4.4 + R-2.8	0.238	0.204	0.182	0.165	0.153	0.142	0.131	0.125	0.108	0.102
	R-4.4 + R-1.8[c]	0.221	0.182	0.165	0.153	0.142	0.131	0.125	0.119	0.102	0.097
	R-5.3 + R-2.8	0.221	0.204	0.182	0.165	0.153	0.142	0.131	0.125	0.108	0.097

(Multiple *R-values* are listed in order from inside to outside.)
a. A minimum R-0.07 thermal spacer block or thermal break strip is required when installed without *continuous insulation*.
b. A minimum R-0.13 thermal spacer block or thermal break strip is required when installed without *continuous insulation*.
c. A minimum R-0.5 thermal spacer block is required.

BSR/ASHRAE/IES Addendum cc
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum cc to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

The calculation procedures in A9.4.6 are developed from and are specifically for assemblies with a 60-inch purlin and girt spacing. This proposal clarifies the limitations of the calculation procedures in A9.4.6.

This proposal has no impact to cost-effectiveness because it is clarifying an existing and intended limitation of calculation procedures.

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Addendum cc to 90.1-2016

Modify the standard as follows (IP and SI Units)

A9.4.6 Metal Building U-Factor Equations

The calculation procedures in this section shall use a fixed purlin and girt spacing of 60 inches (1.5 m) and the results shall be permitted to be used in accordance with Section A2.3.3 and A3.2.3. For single-layer *metal building roof* and single-layer compressed *metal building wall systems*, the calculation procedure outlined in Section A9.4.6.1 shall be used to calculate the assembly *U-factor*. For double-layer *metal building roof systems*, the calculation procedure outlined in Section A9.4.6.2 shall be used to calculate the assembly *U-factor*. For single-layer in cavity, and the calculation procedure outlined in Section A9.4.6.3 shall be used to calculate the assembly *U-factor*. Each of the above insulation methods and calculation procedures also shall be used where *continuous insulation* is applied to the assembly. The calculation procedures outlined in this section shall not be used for other *metal building roof* and *wall systems*.

BSR/ASHRAE/IES Addendum ce
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum ce to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

This addendum provides energy saving potential by removing one of three criteria for fan motor selections, it addresses concerns of prior interpretations, it increases the design options for load-matching variable-speed fan applications, it accommodates new motor and drive technologies, and it simplifies the motor selection criteria for fans.

Section 6.5.3.1.2 restricts the selection of fan motors for air distribution systems. The language is difficult to understand and the exceptions are more extensive than the requirement in the charging statement. This restriction relies on the assumption that fan motors are supplied with output power ratings and that slightly oversized fan motors cause inefficiencies.
In fact, only motors that are government regulated in terms of test procedure and labelling have verifiable output power rating on the nameplates. None-covered motor types that are common for fans are air-over rated motors and electronically commutated permanent magnet motors. Advanced motor topologies also prevent straight-forward output power ratings.
Related interpretations are 90.1-2013-11 and 90.1-2016-3 of January 29, 2017, 90.1-2013-13 of June 25, 2017.
A review of available motor sizes in table 10.8-1and application of the motor part-load efficiency model of ANSI/AMCA 207 revealed that fan motors oversized within the bounds of the 1st and 2nd exception to 6.5.3.1.2 largely yield higher wire-to-air fan efficiency than motors that are selected still closer to the design bhp. Examples: At 4.5 bhp the difference is about 1.7% power savings with the motor oversized within the bounds of the 2016 standard. At 9.5 bhp it is about 1.5% power. The reason is that the government regulated motor efficiencies increase with motor size.
The nameplate output power rating of government regulated motors is irrelevant when the design duty requires variable frequency drive operation below 60Hz. Then the motors must be oversized to deliver the required torque.
AC induction motors operated with variable frequency drives maintain high efficiency at part load. Permanent magnet fan motors maintain even higher efficiency. For all so-called drive applications exists a self-regulating effect because of the higher marginal cost of oversized combinations of drives and motors as opposed to oversized induction motors for across- the-line operation. The restriction of selections provides no benefits in variable-speed drive cases that meet fan electrical power reduction as described for supply fans in section 6.5.3.2.1.

Small fans especially are often supplied strictly with input power ratings rather than motor output power ratings. A lower limit expressed in electrical input power is needed The original 1 hp motor nameplate output power limit equates to 0.9 kW electrical motor input power according to the reference motor in ANSI/AMCA 208.

For the convenience of reviewers, the relevant definitions that currently exist in the standard are shown here:

control device: a specialized device used to regulate the operation of *equipment*.

fan nameplate electrical input power: the nominal electrical input power rating stamped on a fan assembly nameplate.

nameplate horsepower (hp): the nominal motor output power rating stamped on the motor nameplate.

nameplate kilowatt (kW): the nominal motor output power rating stamped on the motor nameplate.

nameplate rating: the design load operating conditions of a device as shown by the *manufacturer* on the nameplate or otherwise marked on the device.

variable-air-volume (VAV) system: *HVAC system* that *controls* the dry-bulb temperature within a *space* by varying the volumetric flow of heated or cooled supply air to the *space*.

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Addendum ce to 90.1-2016

Make the following changes to 6.5.3.1.2 (IP)

6.5.3.1.2 Fan Motor ~~Nameplate Horsepower~~ Selection

1. For each fan less than 6 bhp, the selected fan motor shall be no larger than the first available motor with a *nameplate rating* ~~size~~ greater than 1.5 times the bhp.

2. For each fan 6 bhp and larger, the selected fan motor shall be no larger than the first available motor with a *nameplate rating* ~~size~~ greater than 1.3 times the bhp.

The fan bhp must be indicated on the design documents to allow for compliance verification by the *building official*.

Exceptions to 6.5.3.1.2

1. *Motors* equipped with electronic speed *control devices* to vary the fan airflow as a function of load.

~~1. For fans less than 6 bhp, where the first available motor larger than the bhp has a nameplate rating within 50% of the bhp, the next larger nameplate motor size may be selected.~~

~~2. For fans 6 bhp and larger, where the first available motor larger than the bhp has a nameplate rating within 30% of the bhp, the next larger nameplate motor size may be selected.~~

~~3~~2. *Systems* complying with Section 6.5.3.1.1, Option 1.

~~4~~3. Fans with motor *nameplate horsepower* of less than 1 hp.

4. Fans with a *fan nameplate electrical input power* of less than 0.89 kW.

Make the following changes to 6.5.3.1.2 (SI)

6.5.3.1.2 Fan Motor ~~Nameplate Kilowatts~~ Selection

1. For each fan less than 4.5 *kW*, the selected fan motor shall be no larger than the first available motor with a *nameplate rating* ~~size~~ greater than 1.5 times the fan input *kW*.

2. For each fan 4.5 *kW* and larger, the selected fan motor shall be no larger than the first available motor with a *nameplate rating* ~~size~~ greater than 1.3 times the fan input *kW*.

The fan shaft input *kW* must be indicated on the design documents to allow for compliance verification by the *building official*.

Exceptions to 6.5.3.1.2

1. *Motors* equipped with electronic speed *control devices* to vary the fan airflow as a function of load.

~~1. For fans less than 4.5 *kW*, where the first available motor larger than the fan input *kW* has a *nameplate rating* within 50% of the fan input *kW*, the next larger nameplate motor size may be selected.~~

~~2. For fans 4.5 *kW* and larger, where the first available motor larger than the fan input *kW* has a *nameplate rating* within 30% of the fan input *kW*, the next larger nameplate motor size may be selected.~~

~~3~~2. *Systems* complying with Section 6.5.3.1.1, Option 1.

~~4~~3. Fans with motor *nameplate kilowatts* of less than 0.75 *kW*.

4. Fans with a *fan nameplate electrical input power* of less than 0.89 kW.

BSR/ASHRAE/IES Addendum cf
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum cf to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

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

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FOREWORD

This proposed addendum adds vacuum insulating glazing to the list of options for reach-in doors in walk-in coolers and freezers. Vacuum insulating glazing products have been recently commercialized by multiple manufacturers and are already being used in display doors for walk-in coolers, walk-in freezers, and stand-alone refrigerated display cases. The thermal resistance of vacuum insulating glazing is at least twice that of other options (e.g. R10 for vacuum insulating glazing vs. R3-5 for the other options). Items g and h of Section 6.4.5 have specific limited options for reach-in doors which could be misinterpreted as not including vacuum insulating glazing, so vacuum insulated glazing is specifically added.

This addendum does not affect the energy use of the standard and has no economic impact. While vacuum insulting glazing is more expensive than tradition glazing options for display doors, this is not a requirement to use vacuum insulating glazing. This proposal simply removes a barrier so that vacuum insulating glazing may be considered as an option.

[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 cf to 90.1-2016

Modify the standard as follows (IP and SI Units)

6.4.5 Walk-In Coolers and Walk-In Freezers

Site-assembled or site-constructed *walk-in coolers* and *walk-in freezers* shall conform to the following requirements:

…

g. Transparent reach-in *doors* for *walk-in freezers*, and windows in *walk-in freezer doors*, shall be of triple-pane glass, either filled with inert gas or with heat-reflective treated glass<u>, or vacuum insulating glazing</u>.

h. Transparent reach-in *doors* for *walk-in coolers*, and windows in *walk-in cooler doors*, shall be double-pane glass with heat-reflective treated glass and gas filled, or ~~they shall be~~ triple-pane glass, either filled with inert gas or with heat-reflective treated glass<u>, or vacuum insulating glazing</u>.

(other portions of section not shown are unchanged)

BSR/ASHRAE/IES Addendum ch
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum ch to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

This addendum addresses two areas of uncertainty in the definitions of daylighted zones:
1) What areas should be considered daylighted around the perimeter of building atria?
2) At what size does an exterior building overhang render the *sidelighted area* noneffective for displacing electric lighting?

For multi-story spaces the *daylight area under skylights* is:

- On the top floor, areas that are within 70% of the top floor ceiling height from the edge of skylights that are not obstructed by opaque obstruction that are less than one half the top floor ceiling height, and
- Areas directly below the skylight

The proposed changes indicate that the *primary and secondary sidelighted areas* would not be considered for areas near windows with external overhangs and no *vertical fenestration* above the external overhang where:

- The external overhang has a *projection factor* greater than 1.0 for north orientations in the Northern Hemisphere, or has a *projection factor* greater than 1.0 for south orientations in the Southern Hemisphere, or where the external projection has a *projection factor* greater 1.5 for all other orientations.

Figures 3.2-5 and 3.2-6 have been created to aid in the understanding of the proposed daylighting definition additions and would be formatted to match existing daylighting area calculation figures found on pages 14-17 of the 90.1-2016 Standard.

This proposal is expected to increase cost-effectiveness of daylight controls requirements as it removes from the daylighted area definitions those areas where daylighting availability is significantly diminished.

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Addendum ch to 90.1-2016

3.2 Definitions

D

daylight area:

…

daylight area under skylights: the *daylight area under skylights* is the combined *daylight area* under each *skylight* within a space. The *daylight area* under each *skylight* is bounded by the opening beneath the *skylight* and horizontally in each direction (see Figure 3.2-2), the smaller of

a. 70% of the ceiling height (0.7 × CH) or

b. the distance to the nearest face of any *opaque* vertical obstruction, where any part of the obstruction is farther away than 70% of the distance between the top of the obstruction and the ceiling (0.7 × [CH – OH], where CH = the height of the ceiling at the lowest edge of the skylight and OH = the height to the top of the obstruction).

daylight area under skylights in multistory spaces: the *daylight area under skylights in multi-story spaces* shall include *floor* areas directly beneath the skylight and portions of the uppermost *floor* adjacent to the multistory space that meet the criteria for a *daylight area under skylights*, where CH is the ceiling height of the uppermost *floor* (see Figure 3.2-5).

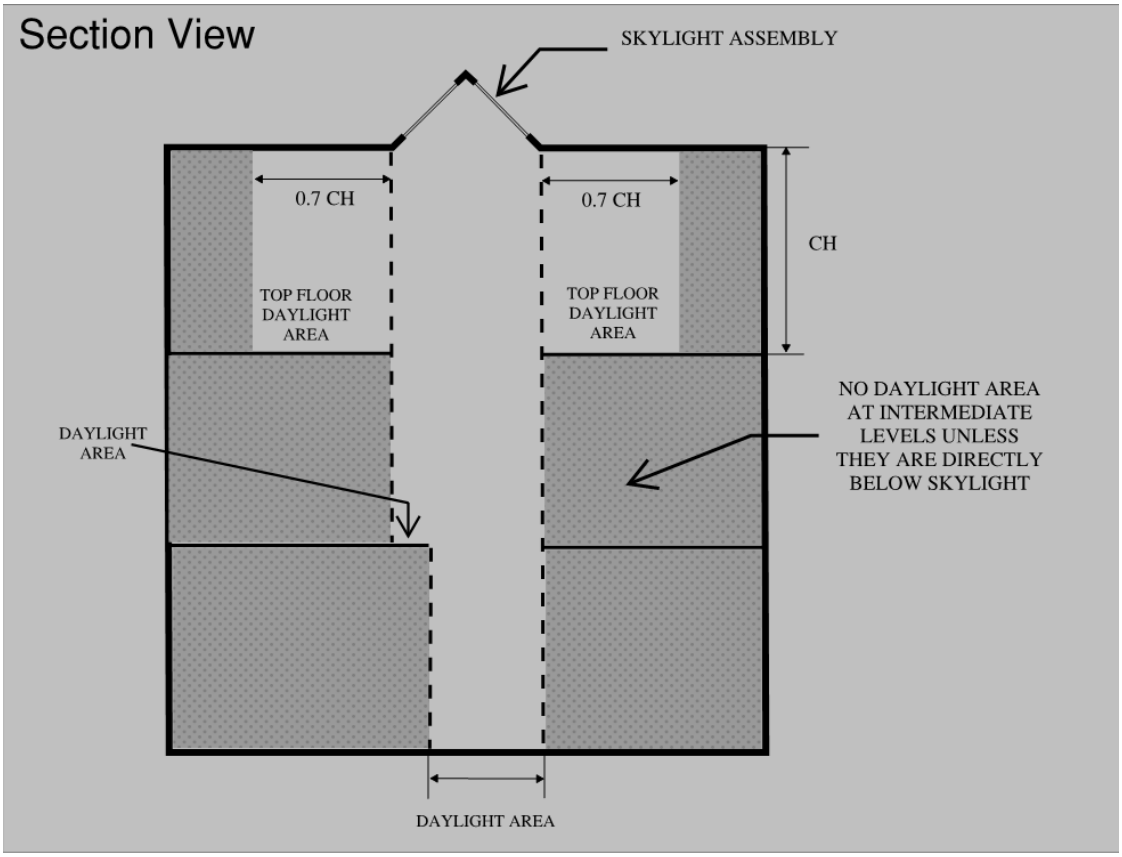

Figure 3.2-5 Computing *daylight area under skylights* in multistory spaces

***primary sidelighted area*:** the total *primary sidelighted area* is the combined *primary sidelighted area* within each *space*. Each *primary sidelighted area* is directly adjacent to *vertical fenestration* in an exterior *wall* below the ceiling (see Figure 3.2-3).

a. The *primary sidelighted area* width is the width of the *vertical fenestration* plus, on each side, the smaller of
   1. one half of the *vertical fenestration* head height (where head height is the distance from the *floor* to the top of the glazing) or
   2. the distance to any 5 ft or higher *opaque* vertical obstruction.

b. The *primary sidelighted area* depth is the horizontal distance perpendicular to the *vertical fenestration*, which is the smaller of
   1. one *vertical fenestration* head height or
   2. the distance to any 5 ft or higher *opaque* vertical obstruction.

9.4.1.1 Interior Lighting Controls

…

Exception to 9.4.1.1(e)
The following areas are exempted from Section 9.4.1.1(e):

1. Primary sidelighted areas where the top of any existing adjacent structure is twice as high above the windows as its distance away from the windows.
2. Sidelighted areas where the total glazing area is less than 20 ft^2.
3. Retail spaces.
4. *Primary sidelighted areas* adjacent to *vertical fenestration* that have external projections and no *vertical fenestration* above the external projection, where the external projection

has a *projection factor* greater than 1.0 for *north-oriented* projections or where the external projection has a *projection factor* greater 1.5 for all other orientations (see Figure 3.2-6).

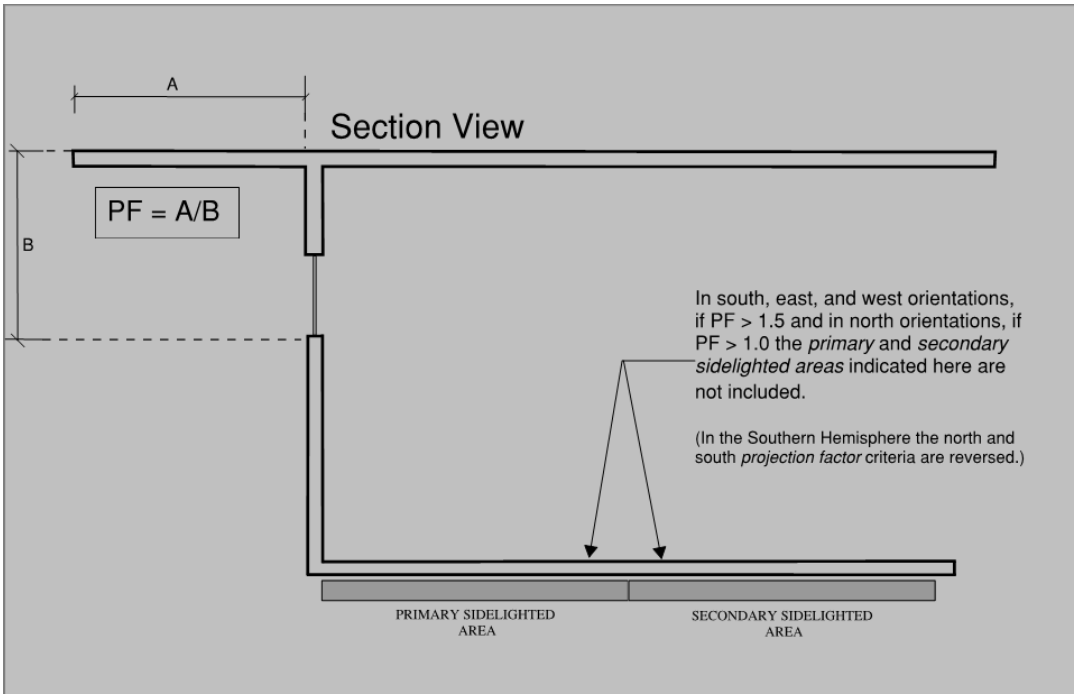

Figure 3.2-6 Computing *primary* and *secondary sidelighted areas* with external projections

BSR/ASHRAE/IES Addendum ci
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

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FOREWORD

This addendum updates the Building Performance Factors (BPFs) that are used for compliance with Appendix G. The BPFs represent the savings of any version of Standard 90.1 compared to Standard 90.1-2004 (the Progress Indicator). The BPFs in the previous addendum impacting BPFs (Addendum bt) were estimated based on the savings of Standard 90.1-2016 with a further reduction of 3%. The current proposal includes the savings of Standard 90.1-2016 including addenda through December 31, 2018 with a further reduction of 3%.

Note that if published, this addendum would also replace the table updates from addendum BT with the values in this addendum.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

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 ci to 90.1-2016

Revise the Standard as follows (IP/SI Units)
Replace Table 4.2.1.1 as shown:

Table 4.2.1.1 ~~*Building Performance Factor (BPF)*~~

~~*Building* Area Type~~[a]	~~Climate Zone~~																
	~~0A and 1A~~	~~0B and 1B~~	~~2A~~	~~2B~~	~~3A~~	~~3B~~	~~3C~~	~~4A~~	~~4B~~	~~4C~~	~~5A~~	~~5B~~	~~5C~~	~~6A~~	~~6B~~	~~7~~	~~8~~
~~Multifamily~~	~~0.73~~	~~0.73~~	~~0.71~~	~~0.69~~	~~0.74~~	~~0.73~~	~~0.68~~	~~0.78~~	~~0.81~~	~~0.81~~	~~0.76~~	~~0.80~~	~~0.81~~	~~0.76~~	~~0.79~~	~~0.74~~	~~0.80~~
~~Healthcare/ hospital~~	~~0.64~~	~~0.56~~	~~0.60~~	~~0.56~~	~~0.60~~	~~0.56~~	~~0.54~~	~~0.57~~	~~0.53~~	~~0.55~~	~~0.59~~	~~0.52~~	~~0.55~~	~~0.57~~	~~0.52~~	~~0.56~~	~~0.56~~
~~Hotel/motel~~	~~0.64~~	~~0.65~~	~~0.62~~	~~0.60~~	~~0.63~~	~~0.65~~	~~0.64~~	~~0.62~~	~~0.64~~	~~0.62~~	~~0.60~~	~~0.61~~	~~0.60~~	~~0.59~~	~~0.61~~	~~0.57~~	~~0.58~~
~~Office~~	~~0.58~~	~~0.62~~	~~0.57~~	~~0.62~~	~~0.60~~	~~0.64~~	~~0.54~~	~~0.58~~	~~0.60~~	~~0.58~~	~~0.60~~	~~0.61~~	~~0.58~~	~~0.61~~	~~0.61~~	~~0.57~~	~~0.61~~
~~Restaurant~~	~~0.62~~	~~0.62~~	~~0.58~~	~~0.61~~	~~0.60~~	~~0.60~~	~~0.61~~	~~0.58~~	~~0.55~~	~~0.60~~	~~0.62~~	~~0.58~~	~~0.60~~	~~0.63~~	~~0.60~~	~~0.65~~	~~0.68~~
~~Retail~~	~~0.52~~	~~0.58~~	~~0.53~~	~~0.58~~	~~0.54~~	~~0.62~~	~~0.60~~	~~0.55~~	~~0.60~~	~~0.60~~	~~0.55~~	~~0.59~~	~~0.61~~	~~0.55~~	~~0.58~~	~~0.53~~	~~0.53~~
~~School~~	~~0.46~~	~~0.53~~	~~0.47~~	~~0.53~~	~~0.49~~	~~0.52~~	~~0.50~~	~~0.49~~	~~0.50~~	~~0.49~~	~~0.50~~	~~0.50~~	~~0.50~~	~~0.49~~	~~0.50~~	~~0.47~~	~~0.51~~
~~Warehouse~~	~~0.51~~	~~0.52~~	~~0.56~~	~~0.58~~	~~0.57~~	~~0.59~~	~~0.63~~	~~0.58~~	~~0.60~~	~~0.63~~	~~0.60~~	~~0.61~~	~~0.65~~	~~0.66~~	~~0.66~~	~~0.67~~	~~0.67~~
~~All others~~	~~0.62~~	~~0.61~~	~~0.55~~	~~0.57~~	~~0.56~~	~~0.61~~	~~0.59~~	~~0.58~~	~~0.57~~	~~0.61~~	~~0.57~~	~~0.57~~	~~0.61~~	~~0.56~~	~~0.56~~	~~0.53~~	~~0.52~~

~~a. In cases where both a general *building* area type and a specific *building* area type are listed, the specific *building* area type shall apply~~

Table 4.2.1.1 *Building* Performance Factor (BPF)

Building Area Type[a]	Climate Zone																
	0A and 1A	0B and 1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
Multifamily	0.68	0.70	0.66	0.66	0.69	0.68	0.59	0.74	0.76	0.74	0.70	0.73	0.75	0.68	0.71	0.68	0.72
Healthcare/ hospital	0.60	0.60	0.58	0.54	0.56	0.55	0.55	0.55	0.54	0.54	0.57	0.52	0.54	0.57	0.52	0.57	0.57
Hotel/motel	0.55	0.53	0.53	0.52	0.53	0.54	0.54	0.53	0.53	0.52	0.50	0.51	0.51	0.50	0.51	0.50	0.50
Office	0.52	0.57	0.50	0.56	0.53	0.56	0.48	0.51	0.52	0.49	0.51	0.51	0.49	0.52	0.51	0.49	0.51
Restaurant	0.63	0.64	0.60	0.60	0.60	0.61	0.58	0.62	0.57	0.61	0.63	0.60	0.64	0.65	0.62	0.67	0.70
Retail	0.51	0.54	0.49	0.55	0.51	0.55	0.53	0.51	0.55	0.54	0.50	0.54	0.55	0.50	0.51	0.48	0.50
School	0.39	0.47	0.38	0.43	0.38	0.42	0.40	0.37	0.40	0.38	0.36	0.40	0.36	0.36	0.37	0.36	0.37
Warehouse	0.38	0.42	0.40	0.42	0.43	0.44	0.43	0.44	0.43	0.46	0.49	0.47	0.48	0.54	0.51	0.57	0.57
All others	0.56	0.57	0.50	0.52	0.50	0.54	0.53	0.53	0.52	0.54	0.51	0.51	0.50	0.50	0.50	0.50	0.46

NOTE TO REVIEWER: Addenda BT and BU also affect the table changed by this addendum. The following shows the combined result how the table will appear if this addendum and addenda BT and BU are published.

BSR/ASHRAE/IES Addendum ci to ANSI/ASHRAE Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
First Public Review Draft

Additional changes needed to combine this addendum with prior addenda are shown in strikeout and underline. Such changes do not change the substantive nature of prior approved addenda and are not available for comment. (None needed in this case.)

Table 4.2.1.1 *Building* Performance Factor (BPF)

	Climate Zone																
***Building* Area Type**[a]	**0A and 1A**	**0B and 1B**	**2A**	**2B**	**3A**	**3B**	**3C**	**4A**	**4B**	**4C**	**5A**	**5B**	**5C**	**6A**	**6B**	**7**	**8**
Multifamily	0.68	0.70	0.66	0.66	0.69	0.68	0.59	0.74	0.76	0.74	0.70	0.73	0.75	0.68	0.71	0.68	0.72
Healthcare/ hospital	0.60	0.60	0.58	0.54	0.56	0.55	0.55	0.55	0.54	0.54	0.57	0.52	0.54	0.57	0.52	0.57	0.57
Hotel/motel	0.55	0.53	0.53	0.52	0.53	0.54	0.54	0.53	0.53	0.52	0.50	0.51	0.51	0.50	0.51	0.50	0.50
Office	0.52	0.57	0.50	0.56	0.53	0.56	0.48	0.51	0.52	0.49	0.51	0.51	0.49	0.52	0.51	0.49	0.51
Restaurant	0.63	0.64	0.60	0.60	0.60	0.61	0.58	0.62	0.57	0.61	0.63	0.60	0.64	0.65	0.62	0.67	0.70
Retail	0.51	0.54	0.49	0.55	0.51	0.55	0.53	0.51	0.55	0.54	0.50	0.54	0.55	0.50	0.51	0.48	0.50
School	0.39	0.47	0.38	0.43	0.38	0.42	0.40	0.37	0.40	0.38	0.36	0.40	0.36	0.36	0.37	0.36	0.37
Warehouse	0.38	0.42	0.40	0.42	0.43	0.44	0.43	0.44	0.43	0.46	0.49	0.47	0.48	0.54	0.51	0.57	0.57
All others	0.56	0.57	0.50	0.52	0.50	0.54	0.53	0.53	0.52	0.54	0.51	0.51	0.50	0.50	0.50	0.50	0.46

(note to reviewer: footnote a was also removed in addendum BU)

BSR/ASHRAE/IES Addendum cj
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

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

BSR/ASHRAE/IES Addendum cj to ANSI/ASHRAE Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
First Public Review Draft

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FOREWORD

This proposed addendum makes the following changes to the lighting provisions of the Energy Cost Budget Method.

- Specifies that there is no tradeoff credit for plug-in lighting in multifamily occupancies and other space types where lighting design relies on plug-in fixtures not shown on drawings.
- Establishes the baseline lighting power density (LPD) for dwelling units based on the design that meets high efficacy lamp requirements of Section 9.4.4. The LPD matches the permanently installed lighting LPD from the analysis used to set Building Performance Factors in Appendix G.
- Clarifies modeling methodology to capture lighting control savings, and aligns it with the relevant rules of Appendix G.

In addition, it makes the following changes to the lighting provisions of the Appendix G:

- Establishes the baseline LPD for dwelling units based on the standard practice design prior to introduction of high efficacy lamp requirements in 9.4.4. The LPD matches the hard-wired LPD from the analysis used to set Building Performance Factors in Appendix G, reflecting the values used in the Standard 90.1-2004 progress indicator models.
- Clarifies that the proposed lighting must be modeled the same as in the baseline for spaces in dwelling units and hotel/motel guest rooms where some or all lighting is provided by plug-in fixtures.
- Adds an exception to allow performance credit for spaces in dwelling units and hotel/motel guest rooms where permanently installed lighting fixtures are intended for the space.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

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 cj to 90.1-2016

BSR/ASHRAE/IES Addendum cj to ANSI/ASHRAE Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
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Revise the Standard as follows (IP Units)

Table 11.5.1 Modeling Requirements for Calculating *Design Energy Cost* and *Energy Cost Budget*

Proposed Design **(Column A)** ***Design Energy Cost*** **(DEC)**	***Budget Building Design*** **(Column B)** ***Energy Cost Budget*** **(ECB)**
1. Design Model	
6. Lighting	
Lighting power in the *proposed design* shall be determined as follows: a. Where a complete *lighting system* exists. the actual lighting power for each *thermal block* shall be used in the model. b. Where a complete *lighting system* has been designed, lighting power for each thermal block shall be determined in accordance with Sections 9.1.3 and 9.1.4. c. Where no lighting exists or is specified, lighting power shall be determined in accordance with the *Building* Area Method for the appropriate *building area* space type. d. *Lighting system* power shall include all *lighting system* components shown or provided for on plans (including *lamps*, *ballasts*, task *fixtures*, and furniture-mounted *fixtures*).For ~~spaces within multifamily~~ *dwelling units*, hotel/motel guest rooms, and other *spaces* in which *lighting systems* consist of plug-in light *fixtures* that are not shown or provided for on *design documents*, assume identical lighting power for the *proposed design* and *baseline building design* in the simulations. e. The lighting schedules in the *proposed design* shall reflect the mandatory *automatic* lighting *control* requirements in Section 9.4.1 (e.g., programmable *controls* or *occupancy sensors*). ~~**Exception:** *Automatic* daylighting *controls* required by Section 9.4.1 shall be modeled directly in the *proposed design* or through schedule adjustments determined by a daylighting analysis approved by the *building official*.~~ *f. Automatic* ~~lighting~~ daylighting *controls* included in the *proposed design* ~~but not required by Section 9.4.1~~ may be modeled directly in the *building* simulation or be modeled in the *building* simulation through schedule adjustments determined by a separate analysis approved by the *authority having jurisdiction*. ~~As an alternative to modeling such lighting controls, the *proposed design* lighting power may be reduced for each *luminaire* under control by dividing the rated lighting schedule each hour power of the *luminaire* by the factor (1 +∑CF), where ∑CF indicates the sum of all applicable control factors (CF) per Section 9.6.3 and Table 9.6.3.~~Modeling and schedule adjustments shall separately account for *primary sidelighted areas*, *secondary sidelighted areas*, and toplighted areas. g. Automatic lighting controls included in the proposed design, but not required by Section 9.4.1 shall be modeled using the following methods for each luminaire under control: a) M*anual*-ON or partial-auto-ON occupancy sensors shall be modeled by reducing the lighting schedule each hour by the occupancy sensor reduction factors in Table G3.7 for the applicable *space* type multiplied by 0.25.	a. Where a complete lighting system exists, lighting power in the *budget building design* shall be the same as in the *proposed design*. ~~a~~b. ~~Lighting power in the *baseline building design*~~ Where a lighting system has been designed the *interior lighting power allowance* shall be determined using ~~the same categorization procedure (~~either the *Building* Area Method or Space-by-Space Method~~)~~ and the space use classification shall be the same ~~categories~~ as the *proposed design* with lighting power set equal to the maximum allowed for the corresponding method and category in Section 9.2. Additional interior lighting power for nonmandatory *controls* allowed under Section 9.6.3 shall not be included in the *budget building design*. Lighting power density in dwelling units shall be 0.60 W/ft^{2}SF (6.5 W/m^2). c. Where lighting neither exists nor is submitted with design documents the lighting power in the *budget building design* shall be the same as in the *proposed design*. ~~b~~d. Power for *fixtures* not included in the lighting power calculation shall be modeled identically in the *proposed design* and *budget building design*. ~~C~~e. Mandatory *automatic* lighting *controls* required by Section 9.4.1 shall be modeled the same as the *proposed design*.

b) Automatic lighting controls listed in Table 9.6.3 shall be modeled using the sum of the applicable control factors (CF). Apply control CF to only the portion of wattage of the fixtures in the space controlled by said lighting control. Divide each hour of the lighting schedule by (1+∑CF), where ∑CF indicates the sum of all applicable control factors for that space per Section 9.6.3 and Table 9.6.3.

Table G3.1 ***Modeling Requirements for Calculating Proposed and Baseline Building Performance***

No.	Proposed Building Performance	Baseline Building Performance
6. Lighting		
Lighting power in the *proposed design* shall be determined as follows: a. Where a complete *lighting system* exists, the actual lighting power for each *thermal block* shall be used in the model. b. Where a complete *lighting system* has been designed and submitted with design documents, lighting power shall be determined in accordance with Sections 9.1.3 and 9.1.4. c. Where lighting neither exists nor is submitted with design documents, lighting shall comply with but not exceed the requirements of Section 9. Lighting power shall be determined in accordance with the ~~Building~~*Building* Area Method. d. *Lighting system* power shall include all *lighting system* components shown or provided for on the plans (including *lamps* and *ballasts* and task and furniture-mounted *fixtures*). **~~Exceptions:~~** e. For ~~multifamily~~ *dwelling units*, hotel/motel guest rooms, and other *spaces* in which *lighting systems* are connected via receptacles and are not shown ~~or provided for on *building* plans~~, on *design documents*, ~~assume identical lighting power for the *proposed design* and *baseline building design* in the simulations.~~ lighting power used in the simulation shall be equal to the lighting power allowance in Table 9.6.1 for the appropriate space type or as designed, whichever is greater. For the dwelling units, lighting power used in the simulation shall be equal to 0.60 W/ft^2 (6.5 W/m^2) or as designed, whichever is greater. **Exception:** Lighting use can be reduced for the portion of the space illuminated by the specified fixtures provided that they maintain the same illuminance level as in the baseline. Such reduction shall be demonstrated by calculations.	

…….

Table G3.7 *Performance Rating Method Lighting Power Density* Allowances and Occupancy Sensor Reductions Using the Space-by-Space Method

Common *Space* Types[a]	*Lighting Power Density*, W/ft^2 (W/m^2)	Occupancy Sensor Reduction[b]
…		
….	….	….
Dwelling Unit	1.07 (11.5)	None
…	…	…

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Addendum AF modifies language in the same section of Appendix G Table G3.1 as part of this addendum, if this addendum is published the section will appear as follows.

Table G3.1 *Modeling Requirements for Calculating Proposed and Baseline Building Performance*

No.	Proposed Building Performance	Baseline Building Performance
6. Lighting		
	Lighting power in the *proposed design* shall be determined as follows: a. Where a complete *lighting system* exists, the actual lighting power for each *thermal block* shall be used in the model. b. Where a complete *lighting system* has been designed and submitted with design documents, lighting power shall be determined in accordance with Sections 9.1.3 and 9.1.4. c. Where lighting neither exists nor is submitted with design documents, lighting shall comply with but not exceed the requirements of Section 9. Where space types are known, lighting power shall be determined in accordance with the Space-by-Space Method. Where space types are not known, lighting power shall be determined in accordance with the *Building* Area Method. d. *Lighting system* power shall include all *lighting system* components shown or provided for on the plans (including *lamps* and *ballasts* and task and furniture-mounted *fixtures*). e. For *dwelling units*, hotel/motel guest rooms, and other *spaces* in which *lighting systems* are connected via receptacles and are not shown on *design documents,* lighting power used in the simulation shall be equal to the lighting power allowance in Table 9.6.1 for the appropriate space type or as designed, whichever is greater. For the dwelling units, lighting power used in the simulation shall be equal to 0.60 W/ft^2 (6.5 W/m^2) or as designed, whichever is greater. **Exception:** Lighting use can be reduced for the portion of the space illuminated by the specified fixtures provided that they maintain the same illuminance level as in the baseline. Such reduction shall be demonstrated by calculations. …….	

BSR/ASHRAE/IES Addendum ck
to ANSI/ASHRAE/IES Standard 90.1-2016

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FOREWORD

This proposal adds language for Section 11 to address the new proposed renewable energy requirements in addendum BY. The proposed approach allows a proposed design that does not include renewable energy required by Section 10.5.1 a method of trade off against other prescriptive requirements in the Standard. In that case the renewable energy allowance included in the budget building design will be based on a horizontal photovoltaic array with a rated capacity equal but not to exceed the requirement in Section 10.5.1.1. For proposed designs that include an on-site renewable energy system the budget building design allowance will be based on the proposed renewable energy system design with a rated capacity equal but not to exceed the requirement in 10.5.1.1.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

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 ck to 90.1-2016

Revise the Standard as follows (IP Units)

11.4 Simulation General Requirements

11.4.1 Simulation Program

The *simulation program* shall be a computer-based program for the analysis of *energy* consumption in *buildings* (a program such as, but not limited to, DOE-2 or BLAST). The *simulation program* shall include calculation methodologies for the *building* components being modeled.

Exception

When approved by the *adopting authority*, a separate computer-based program shall be permitted to be used to calculate *on-site renewable energy*.

11.4.3 Renewable, Recovered, and Purchased Energy

11.4.3.1 On-Site Renewable Energy and Site-Recovered Energy

Site-recovered energy shall not be considered *purchased energy* and shall be subtracted from the *proposed design energy* consumption prior to calculating the *design energy cost*. *On-site renewable energy* shall be subtracted from the *proposed design energy* consumption prior to calculating the *design energy cost* provided that the building owner either:

1. owns the *on-site renewable energy system* or
2. has signed a lease agreement for the *on-site renewable energy system* for at least 15 years or
3. has signed a contractual agreement to purchase *energy* generated by the *on-site renewable energy system* for at least 15 years.

The reduction in *design energy cost* associated with *on-site renewable energy* that exceeds the *on-site renewable energy* required by Section 10.5.1.1 shall be no more than 5% of the calculated *energy cost budget*.

On-site renewable energy included in the *budget building design* shall be subtracted from the *budget building design* energy consumption prior to calculating the *energy cost budget.*

11.4.3.2 Annual Energy Costs

The *design energy cost* and *energy cost budget* shall be determined using rates for *purchased energy* (such as electricity, gas, oil, propane, steam, and chilled water) that are approved by the *adopting authority*. Where *on-site renewable energy* or *site-recovered energy* is ~~used~~ in excess of what is required in the *budget building design* by Table 11.5.1, the *budget building design* shall be based on the *energy* source used as the backup *energy* source, or electricity if no backup *energy* source has been specified. Where the proposed design includes *on-site electricity generation systems* other than *on-site renewable energy systems*, the baseline design shall include the same generation systems excluding its *site-recovered energy*.

Table 11.5.1 Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget

15. On-site renewable energy	
On-site renewable energy in the *proposed design* shall be determined as follows: a. Where a complete *system* providing on-site *renewable energy* exists, the model shall reflect the actual *system* type using actual component capacities and efficiencies. b. Where a *system* providing on-site *renewable energy* has been designed, the *system* model shall be consistent with design documents. c. Where no *system* exists or is specified to provide *on-site renewable energy*, no *system* shall be modeled.	*On-site renewable energy* shall be included in the *budget building design* when required by Section 10.5.1.and shall be determined as follows: a. Where a *system* providing *on-site renewable energy* has been modeled in the *proposed design* the same *system* shall be modeled in the *budget building design* with a rated capacity meeting the requirements of Section 10.5.1.1. Where more than one type of *on-site renewable* energy system is modeled the total capacities shall be allocated in the same proportion as in the *proposed design*. b. Where no *system* exists or is specified to provide *on-site renewable energy in the proposed design*, *on-site renewable energy* shall be modeled as an unshaded photovoltaic system with the following physical characteristics: Size: Rated capacity per Section 10.5.1.1 Module Type: Crystalline Silicon Panel with a glass cover, 15% nominal efficiency and temperature coefficient of -0.47 %/°C, Performance shall be based on a reference temperature of 77°F (25°C) and irradiance of 317 Btu/ft2-hr (1,000 W/m2). Array Type: Rack mounted array with installed nominal operating cell temperature (INOCT) of 103°F (45°C). Total System losses (DC output to AC output): 14 % Tilt: 0-degrees (mounted horizontally) Azimuth:180 degrees If the *on-site renewable energy system* cannot be modeled in the *simulation program* Section 11.4.5 shall be used.

==========

Section 11.4.3.2 is also modified by addendum bk which is not yet published. If both addenda are published, the section will be appear as follows. Text that did not appear in addendum bk or in the previous sections of this draft, are shown below in strikethrough/underline:

11.4.3.2 Annual Energy Costs

The *design energy cost* and *energy cost budget* shall be determined using rates for *purchased energy* (such as electricity, gas, oil, propane, steam, and chilled water) that are approved by the *adopting authority*. Where *on-site renewable energy* or *site-recovered energy* is in excess of what is required in the *budget building design* by Table 11.5.1, the *budget building design* shall be based on the *energy* source used as the backup *energy* source, or electricity if no backup *energy* source has been specified. Where the proposed design includes *on-site electricity generation systems* other than *on-site renewable energy systems*, the baseline design shall include the same generation systems excluding its *site-recovered energy*.

BSR/ASHRAE/IES Addendum cm
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FOREWORD

Addendum 90.1au revised Exception 2 to Section 6.5.2.1 Zone Controls to reference the Simplified Procedure to determining ventilation rates and airflow minimums that was incorporated in Standard 62.1 by Addendum 62.1f in early 2018.

2. Zones with *DDC* that comply with all of the following:
   a. The airflow rate in *dead band* between heating and cooling does not exceed the larger of the following:
      ~~(1) Twenty percent of the zone design peak supply rate.~~
      (~~2~~1) The minimum primary ~~outdoor~~ airflow rate required to meet the Simplified Procedure ventilation requirements of ASHRAE Standard 62.1 for the zone and is permitted to be the average airflow rate as allowed by ASHRAE Standard 62.1.
      (~~3~~2) Any higher rate that can be demonstrated, to the satisfaction of the authority having jurisdiction, to reduce overall system annual energy use by offsetting reheat/recool energy losses through a reduction in outdoor air intake.
      (43) The airflow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum air change rates.
   b. The airflow rate that is reheated, recooled, or mixed shall be less than 50% of the zone design peak supply rate.
   c. The first stage of heating consists of modulating the zone supply air temperature *set point* up to a maximum *set point* while the airflow is maintained at the *dead band* flow rate.
   d. The second stage of heating consists of modulating the airflow rate from the *dead band* flow rate up to the heating maximum flow rate.

However, we overlooked that Exception 1 had the same 20% minimum for DDC systems. This addendum makes the same change to Exception 1.

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Addendum cm to 90.1-2016

(IP and SI Units)
Revise Exception 1 to Section 6.5.2.1 to the Standard as follows:

6.5.2 Simultaneous Heating and Cooling Limitation

6.5.2.1 Zone Controls

. . .

Exceptions to 6.5.2.1

1. Zones for which the volume of air that is reheated, recooled, or mixed is less than the larger of the following:
   a. ~~Twenty~~ ~~percent~~ For systems without DDC, 30% of the zone design peak supply ~~for systems with DDC and 30% for other systems~~.
   b. For systems with DDC, the minimum primary ~~outdoor~~ airflow rate required to meet the Simplified Procedure ventilation requirements of ASHRAE Standard 62.1 for the zone and is permitted to be the average airflow rate as allowed by ASHRAE Standard 62.1.
   c. Any higher rate that can be demonstrated, to the satisfaction of the authority having jurisdiction, to reduce overall system annual energy use by offsetting reheat/recool energy losses through a reduction in outdoor air intake for the system.
   d. The airflow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum air change rates.

NOTE TO REVIEWERS: Addendum au also changed section 6.5.2.1 of Standard 90.1-2016. Following is how section 6.5.2.1 would appear after this modification.

6.5.2 Simultaneous Heating and Cooling Limitation

6.5.2.1 Zone Controls

Zone *thermostatic controls* shall prevent

a. *reheating*;
b. *recooling*;
c. mixing or simultaneously supplying air that has been previously mechanically heated and air that has been previously cooled, either by *mechanical cooling* or by economizer *systems*; and
d. other simultaneous operation of heating and cooling *systems* to the same zone.

Exceptions to 6.5.2.1

1. Zones for which the volume of air that is reheated, recooled, or mixed is less than the larger of the following:
   a. For systems without DDC, 30% percent of the zone design peak supply.
   a. For systems with DDC, the minimum primary airflow rate required to meet the Simplified Procedure ventilation requirements of ASHRAE Standard 62.1 for the zone and is permitted to be the average airflow rate as allowed by ASHRAE Standard 62.1.

c. Any higher rate that can be demonstrated, to the satisfaction of the *authority having jurisdiction*, to reduce overall *system* annual *energy* use by offsetting *reheat*/*recool energy* losses through a reduction in *outdoor air* intake for the *system.*

d. The airflow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum air change rates.

2. Zones with *DDC* that comply with all of the following:

a. The airflow rate in *dead band* between heating and cooling does not exceed the larger of the following:

(1) The minimum primary airflow rate required to meet the Simplified Procedure ventilation requirements of ASHRAE Standard 62.1 for the zone and is permitted to be the average airflow rate.

(2) Any higher rate that can be demonstrated, to the satisfaction of the authority having jurisdiction, to reduce overall system annual energy use by offsetting reheat/recool energy losses through a reduction in outdoor air intake.

(3) The airflow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum air change rates.

b. The airflow rate that is reheated, recooled, or mixed shall be less than 50% of the zone design peak supply rate.

c. The first stage of heating consists of modulating the zone supply air temperature *set point* up to a maximum *set point* while the airflow is maintained at the *dead band* flow rate.

d. The second stage of heating consists of modulating the airflow rate from the *dead band* flow rate up to the heating maximum flow rate.

3. Laboratory exhaust *systems* that comply with Section 6.5.7.3.

4. Zones where at least 75% of the *energy* for *reheating* or for providing warm air in mixing *systems* is provided from *site-recovered energy* (including condenser heat) or *site-solar energy*.

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FOREWORD

This proposal considers a minimum prescriptive requirement for onsite renewable energy. The renewable energy resources are defined within the proposal; however, the specific resource to be used is left up to the designer or building owner. The listed capacity requirement, as well as the scalar evaluation, is based on photovoltaic generation as that is the most ubiquitous and cost effective renewable energy resource and equipment/system currently available across the industry. The renewable energy capacity component was determined thru a comparative analysis exercise considering economics, (roof) space competition, annual energy production/contribution to the building energy budget and equivalencies against other energy efficiency measures. The annual purchased energy reduction budget for this renewable energy proposal, based on the PI prototype models considered, is 4.5%. The building prototypes and solar zones evaluated passed the ASHRAE scalar assessment for cost effectiveness.

[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 by to 90.1-2016

Modify the standard as follows (IP and SI Units)

3.2 Definitions

on-site renewable energy: *energy* ~~generated~~ from *renewable energy resources* ~~produced~~ harvested at the *building* site**.**

renewable energy resources: *energy* from solar, wind, biomass or hydro, or extracted from hot fluid or steam heated within the earth.

~~***site-solar energy:*** thermal, chemical, or electrical *energy* derived from direct conversion of incident solar radiation at the *building* site and used to offset consumption of purchased *fuel* or electrical *energy* supplies. For the purposes of applying this standard, *site-solar energy* shall not include passive heat gain through *fenestration systems*.~~

Note to reviewers: {Eliminating *site-solar energy* requires the follow sections to replace *site-solar energy* with *on-site renewable energy*}

6.5.2.1 exception 4; Zones where at least 75% of the *energy* for *reheating* or for providing warm air in mixing *systems* is provided from *site-recovered energy* (including condenser heat) or ~~*site-solar energy*~~ *on-site renewable energy.*

6.5.2.3 exception 4; *Systems* serving *spaces* where specific humidity levels are required to satisfy process needs, such as a vivarium; museum; surgical suite; pharmacy; and *buildings* with refrigerating *systems*, such as supermarkets, refrigerated warehouses, and ice arenas, and where the *building* includes *site-recovered energy* or ~~*site-solar energy*~~ *on-site renewable energy* that provide *energy* equal to at least 75% of the annual *energy* for *reheating* or for providing warm air in mixing *systems*. This exception does not apply to *computer rooms*.

6.5.2.3 exception 5: At least 90% of the annual *energy* for *reheating* or for providing warm air in mixing *systems* is provided from *site-recovered energy* (including condenser heat) or ~~*site-solar energy*~~ *on-site renewable energy.*

6.5.3.5 exception 3; *Systems* in which at least 75% of the *energy* for *reheating* (on an annual basis) is from *site recovered energy* or ~~*site-solar energy*~~ *on-site renewable energy.*

6.5.6.1 exception 3; Where more than 60% of the *outdoor air* heating *energy* is provided from *site-recovered energy* or ~~*site-solar energy*~~ *on-site renewable energy.*

6.5.6.2.2 exception 2; Facilities that provide 60% of their *service water heating* from ~~*site-solar energy*~~ *on-site renewable energy* or *site-recovered energy* or from other sources

7.4.5.2 exception; *Pools* deriving over 60% of the *energy* for heating from *site-recovered energy* or ~~*site-solar energy*~~ *on-site renewable energy*.

7.5.3 exception 1; Where 25% of the annual *service water-heating* requirement is provided by ~~*site-solar energy*~~ *on-site renewable energy* or *site-recovered energy*.

…

10 Other Equipment

10.1 General

10.1.1 Scope

This section applies only to the *equipment* described below.

…

10.2 Compliance Paths

10.2.1 Compliance

Compliance with Section 10 shall be achieved by meeting all requirements of Section 10.1, “General”; Section 10.4, “Mandatory Provisions”; Section 10.5 "Prescriptive Path" and Section 10.8, “Product Information.”

10.2.2

Projects using the Energy Cost Budget Method (Section 11 of this standard) must comply with Section 10.4, the mandatory provisions of this section, as a portion of that compliance path.

…

10.5 Prescriptive Compliance Path ~~(Not Used)~~

10.5.1 *Renewable Energy Resources*.
Buildings shall be served by *renewable energy resources* complying with Section 10.5.1.1.

10.5.1.1 On-site renewable energy.
The *building* site shall have *equipment* for *on-site renewable energy* with a rated capacity of not less than 0.25 W/ft² (2.7W/m²) multiplied by the sum of the *gross conditioned floor area* for all floors up to the three (3) largest floors.

Exceptions to 10.5.1.1:

1. Any *building* located where an unshaded flat plate collector oriented towards the equator and tilted at an angle from horizontal equal to the latitude receives an annual daily average incident solar radiation less than 3.5 kWh/m²·day (1.1 kBtu/ft²·day).
2. Any *building* where more than 80% of the *roof* area is covered by any combination of *equipment* other than for *on-site renewable energy systems*, planters, vegetated space, *skylights* or occupied *roof* deck.
3. Any *building* where more than 50% of *roof* area is shaded from direct-beam sunlight by natural objects or by structures that are not part of the *building* for more than 2,500 annual hours between 8:00 AM and 4:00 PM.

NOTE TO REVIEWER: Addenda W, AD, AJ, AP, and DN(2013) also affect portions of sections changed by this proposal. The following shows how this section will appear combined with addenda W, AD, AJ, AP, and DN(2013). Additional changes needed to combine this addendum with prior addenda are shown in strikeout and underline. Such changes do not change the substantive nature of prior approved addenda and are not available for comment. (No additional changes needed in this case.)

3.2 Definitions

on-site renewable energy: *energy* from renewable resources harvested at the *building* site**.**

Renewable energy resources: *energy* harvested from solar, wind, biomass or hydro, or extracted from hot fluid or steam heated within the earth.

6.5.2.1 exception 4; Zones where at least 75% of the *energy* for *reheating* or for providing warm air in mixing *systems* is provided from *site-recovered energy* (including condenser heat) or *on-site renewable energy*.

6.5.2.3 exception 4; *Systems* serving *spaces* where specific humidity levels are required to satisfy *process application* needs, such as a vivarium; museum; surgical suite; pharmacy; and *buildings* with refrigerating *systems*, such as supermarkets, refrigerated warehouses, and ice arenas, and where the *building* includes *site-recovered energy* or *on-site renewable energy* that provide *energy* equal to at least 75% of the annual *energy* for *reheating* or for providing warm air in mixing *systems*. This exception does not apply to *computer rooms*. *[Note: modified by addendum AJ]*

6.5.2.3 exception 5: At least 90% of the annual *energy* for *reheating* or for providing warm air in mixing *systems* is provided from *site-recovered energy* (including condenser heat) or *on-site renewable energy.*

6.5.3.5 exception 5; *Systems* in which at least 75% of the *energy* for *reheating* (on an annual basis) is from *site recovered energy* or *on-site renewable energy*. *[Note: renumbered by addendum AP]*

6.5.6.1.2 exception 3; Heating energy recovery where more than 60% of the *outdoor air* heating *energy* is provided from *site-recovered energy* or *on-site renewable energy*. *[Note: modified by addendum DN(2013)]*

6.5.6.2.2 exception 2; Facilities that provide 60% of their *service water heating* from *on-site renewable energy* or *site-recovered energy* or from other sources

7.4.6.2 exception; *Pools* deriving over 60% of the *energy* for heating from *site-recovered energy* or *on-site renewable energy*. *[Note: renumbered by addendum W]*

7.5.3 exception 1; Where 25% of the annual *service water-heating* requirement is provided by *on-site renewable energy* or *site-recovered energy*.

10 Other Equipment

10.1 General

10.1.1 Scope

This section applies only to the *equipment* described below.

…

10.2 Compliance Paths *[Note: Sections 10.2, 10.2.1, and 10.2.2 modified by addendum AD]*

Other equipment shall comply with Section 10.2.1 and Section 10.2.2.

10.2.1 Requirements for All Compliance Paths

Other equipment shall comply with Section 10.1, "General"; Section 10.4, "Mandatory Provisions"; Section 10.5 "Prescriptive Path" and Section 10.8, "Product Information."

10.2.2 Additional Requirements to Comply with Section 10 (Not Used)

…

10.5 Prescriptive Compliance Path

10.5.1 ***Renewable Energy Resources***.
Buildings shall be served by *renewable energy resources* complying with Section 10.5.1.1.

10.5.1.1 On-site renewable energy.
The *building* site shall have *equipment* for *on-site renewable energy* with a rated capacity of not less than 0.25 W/ft² (2.7W/m²) multiplied by the *gross conditioned floor area* for all floors up to the three (3) largest floors.

Exceptions to 10.5.1.1:

4. Any *building* located where an unshaded flat plate collector oriented towards the equator and tilted at an angle from horizontal equal to the latitude receives an annual daily average incident solar radiation less than 3.5 kWh/m²·day (1.1 kBtu/ft²·day)
5. Any *building* where more than 80% of the *roof* area is covered by any combination of *equipment*, planters, vegetated space, *skylights* or occupied *roof* deck.
6. Any *building* where more than 50% of *roof* area is shaded from direct-beam sunlight by natural objects or by structures that are not part of the *building* for more than 2,500 annual hours between 8:00 AM and 4:00 PM.

BSR/ASHRAE/IES Addendum bz
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum bz to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

First Public Review (February 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

(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

This addendum clarifies aligns the requirements of Appendix C with more informative outputs, clarifies the schedule of shades, updates energy costs, and references updated minimum efficiency requirements in Section 6.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

[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 bz to 90.1-2016

Modify the standard as follows (IP and SI Units)

3.2 Definitions

envelope performance factor: the trade-off value for the *building envelope* performance compliance option expressed in annual energy cost calculated using the procedures specified in Section 5.6. For the purposes of determining *building envelope* requirements, the classifications are defined as follows:

> ***base envelope performance factor:*** the *building envelope performance factor* for the base design.
> ***proposed envelope performance factor:*** the *building envelope performance factor* for the *proposed design*.

C1.4 For Fenestration

The *class of construction*, area, assembly *U-factor*, assembly *SHGC*, *VT*, and *PF* shall be specified for *fenestration*. ~~For *skylight wells*, the width, depth, and height shall be defined as shown in Figure C1.4~~. Each *fenestration* element shall be associated with a surface as defined in Section C1.2 and shall have the *orientation* of that surface.

C2 Output requirements

C2.1…

…

C2.6 All differences between the *proposed envelope performance factor* and the *base envelope performance factor*.

C2.7 Peak heating and cooling loads for *building classes of constructions*. ~~Total conductive heat gain and conductive heat loss through all opaque classes of construction.~~

~~C.2.8 Total conductive heat gain, conductive heat loss, and solar heat gain through all *fenestration classes of construction*.~~

. . .

C3.1 Simulation Program

C3.1.1…

C3.1.2 ……

Informative Note

Neither the *proposed envelope performance factor* nor the *base envelope performance factor* are predictions of actual energy consumption or costs for the proposed design after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and maintenance, weather, energy use not covered by this procedure, changes in energy rates between design of the building and occupancy, and the precision of the calculation tool.

. . .

C3.3 Purchased Energy Rates

The following rates for purchased energy shall be used to determine the proposed envelope performance factor and the base envelope performance factor:

a. Electricity: ~~0.1032~~ $0.1063/kWh

b. Heating: ~~0.99~~ $0.98/therm

Exception to C3.3

Where approved by the *authority having jurisdiction*, actual annual rates for *purchased energy* or state average *energy* prices published by the Department of Energy's Energy Information Administration shall be permitted. The same rates shall be used for both the *proposed envelope performance factor* and the *base envelope performance factor*.

. . .

C3.5.5.1 Shading

Manually operated interior shades shall be modeled on all *vertical fenestration*. Shades shall be modeled to be in the lowered position when either the transmitted luminance ~~luminous intensity~~ is greater than 200 cd/ft^2 or the direct solar transmitted *energy* exceeds 30 Btu/h·ft^2, and then remain lowered for rest of the day. Shades shall be modeled with visible light transmittance of 0.10, visible light *reflectance* of 0.40, solar transmittance of 0.21, and solar *reflectance* of 0.23. Permanent shading devices such as fins and overhangs shall be modeled.

. . .

C3.5.8 HVAC Systems

One *HVAC system* shall be provided for each thermal zone and shall have the following characteristics:

a. Constant-volume fan *control*.

b. Electrically-provided cooling with EER from Table 6.8.1-1, based on requirements for split system air conditioners with heating section type "all other" between 65,000 Btu/h(19kW) and 135,000 Btu/h(40kW).~~with constant *COP*, excluding the indoor fan power equal to 4.4~~ The EER shall be adjusted to remove the fan power in accordance with Section 11.5.2c.

c. Gas furnace with constant thermal efficiency equal to the minimum AFUE allowed for gas-fired warm-air furnaces with maximum capacity <225,000 Btu/h(<66kW), in accordance with Table 6.8.1-5.

d……

(remainder of section unchanged)

The text in this proposed addendum does not conflict or otherwise modify any approved or pending addendum since the 2016 edition.

ASME B1.25-20XX: MEASUREMENT UNCERTAINTY FACTORS IN THE CALIBRATION OF SCREW THREAD GAGES

Revision of paragraph 4.3 for BSR-8

TENTATIVE
SUBJECT TO REVISION OR WITHDRAWAL
Specific Authorization Required for Reproduction or Quotation
ASME Codes and Standards

4.3 Thread Measuring Wires:

The dimensional requirements for thread measuring wires are noted in detail in the standard to which they are made for calibration of thread gages to North American standards. The requirements that follow are from ASME standard B89.1.17

Basic Requirements:

--Wires must be within 0.00002$\underline{0}$" (0.0005mm) of 'best' wire size and calibrated to 0.00001$\underline{0}$" (0.00025mm). Other size wires can be used but the corrections and calculations involved simplified or eliminated if the wires used comply with those of the standard.
--Each of the three wires in a set are to be within 0.00001$\underline{0}$" (0.00025mm) of each other for size, roundness and taper.
--Wires must be round within 0.00001$\underline{0}$" (0.00025mm)
--Taper over the central 1" (25.4mm) of the wire length to be within 0.00001$\underline{0}$" (0.00025mm)

Standards require that the diameter of thread wires be calibrated using specified measuring forces and a value for the 'constant' of the set be calculated from the calibration results. The method outlined in the applicable thread standard must be used for calculating the constants.
Note: Nominal 'constant' values from charts or container labels should not be used as it may not be the correct constant value based on actual wire size. Constants vary with the form and type of thread involved. Always consult the standard for a particular thread.

In most applications following ASME standards, it is assumed that three wires are used for pitch diameter measurement of parallel threads.

4.4 Thread Measuring Balls/Probes

Thread measuring balls, or probes containing them, are made to specified 'best' sizes as used for thread measuring wires. (See ASME Standard B89.1.17). Since one, two, or three may be used for an application, single balls are supplied rather than sets of three as is done with thread measuring wires.

Basic Requirements:

--Ball diameter must be within 0.000020" (0.0005mm) of 'best' size the standard shows for a

given pitch and calibrated to 0.000010”(0.00025mm). Different sizes can be used but calculations and corrections are required to produce accurate results
--Balls or spherical probe tip diameters must be within 0.000010” (0.00025mm) of each other
--Sphericity of such contacts must be within 0.000010”(0.00025mm) of each other

Note: Calculations for constants, measurements over/under a ball, probe offsets and/or setting master configurations require actual calibrated values for accuracy. Always consult the standard for the specific thread you are measuring.

ASME BPVC.IX-2017

17-2492

Table QW/QB-422
Ferrous/Nonferrous P-Numbers
Grouping of Base Metals for Qualification

Spec. No.	Type or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding P-No.	Welding Group No.	Brazing P-No.	ISO 15608 Group	Nominal Composition	Product Form
				Ferrous					
CSA Z245.1	241	...	60 (414)	1	1	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	290	...	60 (414)	1	1	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	359	...	66 (455)	1	1	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	386	...	71 (490)	1	2	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	414	...	75 (517)	1	2	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	448	...	77 (531)	1	2	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	483	...	82 (565)	1	3	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	550	...	90 (620)	1	4	101	11.1	C-Mn	Smls & welded pipe
CSA Z245.1	620	...	100 (690)	1	4	101	11.1	C-Mn	Smls & welded pipe

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) Spec. No. (by numeric value within "A/SA-" and "A" prefix, then by numeric value within each remaining alphabetically sorted prefix)

(2) UNS No. (alpha-numeric sort)

(3) Type or Grade (alpha-numeric sort)

(4) Minimum Specified Tensile (by numeric value)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

NONMANDATORY APPENDIX D
P-NUMBER LISTING

P-No.	Grp. No.	Spec. No.	Type, Grade, or UNS No.
1	1	CSA Z245.1	241
1	1	CSA Z245.1	290
1	1	CSA Z245.1	359
1	2	CSA Z245.1	386
1	2	CSA Z245.1	414
1	2	CSA Z245.1	448
1	3	CSA Z245.1	483
1	4	CSA Z245.1	550
1	4	CSA Z245.1	620

BPVC Section IX 17-2492

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) P-No.
(2) Grp. No.
(3) Spec. No. (by numeric value within "A/SA-" and "A" prefix, then by numeric value within each remaining alphabetically sorted prefix)
(4) Type, Grade, or UNS No. (alpha-numeric sort)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

Table QW/QB-422
Ferrous/Nonferrous P-Numbers
Grouping of Base Metals for Qualification

Spec. No.	Type or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding P-No.	Welding Group No.	Brazing P-No.	ISO 15608 Group	Nominal Composition	Product Form
				Ferrous					
CSA Z245.11	207	...	48 (331)	1	1	101	11.1	C-Mn	Fittings
CSA Z245.11	241	...	60 (414)	1	1	101	11.1	C-Mn	Fittings
CSA Z245.11	290	...	60 (414)	1	1	101	11.1	C-Mn	Fittings
CSA Z245.11	317	...	63 (434)	1	1	101	11.1	C-Mn	Fittings
CSA Z245.11	359	...	66 (455)	1	1	101	11.1	C-Mn	Fittings
CSA Z245.11	386	...	71 (490)	1	2	101	11.1	C-Mn	Fittings
CSA Z245.11	414	...	75 (517)	1	2	101	11.1	C-Mn	Fittings
CSA Z245.11	448	...	77 (531)	1	2	101	11.1	C-Mn	Fittings
CSA Z245.11	483	...	82 (565)	1	3	101	11.1	C-Mn	Fittings
CSA Z245.11	550	...	90 (620)	1	4	101	11.1	C-Mn	Fittings
CSA Z245.11	620	...	100 (690)	1	4	101	11.1	C-Mn	Fittings

BPVC Section IX **17-2492**

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) Spec. No. (by numeric value within "A/SA-" and "A" prefix, then by numeric value within each remaining alphabetically sorted prefix)

(2) UNS No. (alpha-numeric sort)

(3) Type or Grade (alpha-numeric sort)

(4) Minimum Specified Tensile (by numeric value)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

NONMANDATORY APPENDIX D
P-NUMBER LISTING

P-No.	Grp. No.	Spec. No.	Type, Grade, or UNS No.
1	1	CSA Z245.11	207
1	1	CSA Z245.11	241
1	1	CSA Z245.11	290
1	1	CSA Z245.11	317
1	1	CSA Z245.11	359
1	2	CSA Z245.11	386
1	2	CSA Z245.11	414
1	2	CSA Z245.11	448
1	3	CSA Z245.11	483
1	4	CSA Z245.11	550
1	4	CSA Z245.11	620

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) P-No.

(2) Grp. No.

(3) Spec. No. (by numeric value within "A/SA-" and "A" prefix, then by numeric value within each remaining alphabetically sorted prefix)

(4) Type, Grade, or UNS No. (alpha-numeric sort)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

BPVC Section IX 17-2492

Table QW/QB-422
Ferrous/Nonferrous P-Numbers
Grouping of Base Metals for Qualification

Spec. No.	Type or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding P-No.	Welding Group No.	Brazing P-No.	ISO 15608 Group	Nominal Composition	Product Form
						Ferrous			
CSA Z245.12	248	...	60 (414)	1	1	101	11.1	C-Mn	Flanges
CSA Z245.12	290	...	60 (414)	1	1	101	11.1	C-Mn	Flanges
CSA Z245.12	317	...	63 (434)	1	1	101	11.1	C-Mn	Flanges
CSA Z245.12	359	...	66 (455)	1	1	101	11.1	C-Mn	Flanges
CSA Z245.12	386	...	71 (490)	1	2	101	11.1	C-Mn	Flanges
CSA Z245.12	414	...	75 (517)	1	2	101	11.1	C-Mn	Flanges
CSA Z245.12	448	...	77 (531)	1	2	101	11.1	C-Mn	Flanges
CSA Z245.12	483	...	82 (565)	1	3	101	11.1	C-Mn	Flanges
CSA Z245.12	550	...	90 (620)	1	4	101	11.1	C-Mn	Flanges
CSA Z245.12	620	...	100 (690)	1	4	101	11.1	C-Mn	Flanges

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) Spec. No. (by numeric value within "A/SA-" and "A" prefix, then by numeric value within each remaining alphabetically sorted prefix)

(2) UNS No. (alpha-numeric sort)

(3) Type or Grade (alpha-numeric sort)

(4) Minimum Specified Tensile (by numeric value)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

BPVC Section IX **17-2492**

NONMANDATORY APPENDIX D
P-NUMBER LISTING

P-No.	Grp. No.	Spec. No.	Type, Grade, or UNS No.
1	1	CSA Z245.12	248
1	1	CSA Z245.12	290
1	1	CSA Z245.12	317
1	1	CSA Z245.12	359
1	2	CSA Z245.12	386
1	2	CSA Z245.12	414
1	2	CSA Z245.12	448
1	3	CSA Z245.12	483
1	4	CSA Z245.12	550
1	4	CSA Z245.12	620

Note to Editor: Insert all line items into the existing table. The entire table shall be in the following sorted order:

(1) P-No.
(2) Grp. No.
(3) Spec. No. (by numeric value within “A/SA-“ and “A” prefix, then by numeric value within each remaining alphabetically sorted prefix)
(4) Type, Grade, or UNS No. (alpha-numeric sort)

Final sort order will be provided for proof-reading purposes by SGM (IX) Chair prior to the cut-off deadline for the next edition.

ANSI/IIAR 2-2014
Addendum A

Standard for Safe Design of Closed-Circuit
Ammonia Refrigeration Systems

Public Review Draft #4

Reviewers of Addendum A are welcome to comment on the *changes* in the standard, indicated by underline and strikethrough text. Original parts of the standard are provided for context only.

Please refrain from commenting on layout, formatting and punctuation issues.

Comments on informative appendices are welcome, but might not be formally addressed.

15.3.1 ASME Pressure vessels and Non-ASME Equipment

15.3.1.1 Pressure vessels and equipment built and stamped in accordance with ASME B&PVC, Section VIII, ~~Division 1~~ shall be provided with pressure relief protection in accordance with the ASME B&PVC, Section VIII, Division 1.

15.3.1.2 *Refrigerant containing equipment ~~with an internal volume greater than 0.5 cubic feet that is~~ not built in accordance ASME BPVC, Section VIII, ~~Division 1~~and having any single ammonia-containing section exceeding 0.5 ft^3 of internal volume shall be provided with pressure relief protection that is in accordance with the ASME B&PVC Section VIII, Division 1.

EXCEPTION: ~~This does not include compressors, pumps, controls, headers, piping, evaporators, condensers, and other types of equipment built in accordance with ASME B31.5.~~
The following equipment is not required to have overpressure protection unless it is required by other sections of this standard:
1. Compressors, pumps, controls, headers, piping, evaporator coils, and condenser coils
2. Equipment built in accordance with ASME B31.5
3. Equipment listed by a nationally recognized testing laboratory

17.7 Detection and Alarm Levels. Where this standard specifies an ammonia detection and alarm concentration, the operational criteria shall be as specified in this section.

EXCEPTION: Where approved, alternatives to fixed ammonia leak detectors shall be permitted for areas with high humidity or other harsh environmental conditions that are incompatible with detection devices.

17.7.1 Level 1 Ammonia Detection and Alarm. Level 1 ammonia detection and alarm shall have the following features:

1. At least one ammonia detector shall be provided in the room or area.
2. The detector shall activate an alarm that reports to a monitored location so that corrective action can be taken at an indicated concentration of 25 ppm or higher.
EDITOR'S NOTE: Level 2 and Level 3 were removed in PRD 3, but -level 3 is now re-inserted for PRD 4

17.7.2 Level 3 Ammonia Detection and Alarm. Level 3 ammonia detection and alarm shall have the following features:

1. At least one ammonia detector shall be provided in the room or area.
2. The detector shall activate an alarm that reports to a monitored location so that corrective action can be taken at an indicated concentration of 25 ppm or higher.
3. Audible and visual alarms shall be provided inside the room to warn that, when the alarm has activated, access to the room is restricted to authorized personnel and emergency responders.
4. Upon activation of the alarm, control valves feeding liquid and hot gas to equipment in the affected area shall be closed. Refrigerant pumps, nonemergency fans, or other motors that are part of the ammonia refrigeration equipment in the room shall be de-energized.
5. Upon activation of the alarm, emergency exhaust systems, where required, shall be activated

EDITOR'S NOTE: Sections below are informative.

A15.3.1.2 Evaporators, condensers or other types of equipment that incorporate an ASME stamped component are required to have overpressure protection per section 15.3.1.1 and applicable equipment chapters. Hydrostatic protection is required by section 15.6.

This section could be applicable to plate-type heat exchangers, falling film heat exchangers, scraped surface heat exchangers, small vessels, "waffle pans", odd-shaped or unforeseen heat exchangers that are not designed per ASME B31.5 or the Boiler and Pressure Vessel Code.

~~Plate type heat exchangers, plate freezers or any assemblies, subassemblies, accessories, or components of a refrigeration system, with internal volumes greater than or equal to 0.5 cubic feet, that are not specifically designed to comply to ASME B31.5 should be provided with pressure relief protection per section 15.3.~~

A17.7 The normative parts of this standard currently require only level one and level 3 ammonia detection and alarm levels. Information regarding level 2 is retained here for reference. Designers or end users may wish to use level 2 in lieu of level 1. ~~do not require ammonia detection and alarm levels other than level 1. Some end-users may prefer to use a more stringent level of detection and response. The following detection and alarm levels are possible alternatives~~:

Level 2 Ammonia Detection and Alarm. If Level 2 ammonia detection and alarm is implemented, it would ~~shall~~ have the following features:

1. At least one ammonia detector ~~shall~~would be provided in the room or area.
2. The detector ~~shall~~would activate an alarm that reports to a monitored location so that corrective action can be taken at an indicated concentration of 25 ppm or higher.
3. Audible and visual alarms ~~shall~~would be provided inside the room to warn that, when the alarm has activated, access to the room is restricted to authorized personnel and emergency responders.

~~**Level 3 Ammonia Detection and Alarm.** Level 3 ammonia detection and alarm shall have the following features:~~

~~4. At least one ammonia detector shall be provided in the room or area.~~
~~5. The detector shall activate an alarm that reports to a monitored location so that corrective action can be taken at an indicated concentration of 25 ppm or higher.~~
~~6. Audible and visual alarms shall be provided inside the room to warn that, when the alarm has activated, access to the room is restricted to authorized personnel and emergency responders.~~
~~7. Upon activation of the alarm, control valves feeding liquid and hot gas to equipment in the affected area shall be closed. Refrigerant pumps, nonemergency fans, or other motors that are part of the ammonia refrigeration equipment in the room shall be de-energized.~~
~~8. Upon activation of the alarm, emergency exhaust systems, where required, shall be activated.~~

[Note – the changes are seen below using strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted text is within the scope of this ballot.]

NSF/ANSI Standard for Drinking Water Treatment Units – Aesthetic Effects

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7.3.2 Chloramine reduction testing

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Table 7.2 – Chloramine reduction requirements

	Average influent challenge concentration	Individual influent sample point limits[1]	Percent reduction requirement	Compound
chloramine[2]	3.0 mg/L ± 10%	3.0 ± 0.5 mg/L	0.5 mg/L	monochloramine

[1] Equals average influent challenge concentration variability plus one of the following, in order of availability:

1. Acceptable continuing calibration verification (CCV) limits stated in the appropriate US EPA Method.
2. Acceptable spike recoveries as stated in the appropriate US EPA Method.
3. Opinion of laboratory professionals – no guidance available in US EPA Method.

[2] As monochloramine (measured as Cl_2/L).

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7.3.2.6 Influent challenge

7.3.2.6.1 Chloramine reduction test water

A water supply with the following specific characteristics shall be used:

pH	9.0 ± 0.25
temperature	20 ± 3 °C (68 ± 5 °F)
TDS	200 to 500 mg/L
hardness	< 170 mg/L as $CaCO_3$
turbidity	< 1 NTU
organic nitrogen[1]	< 0.2 mg/L[2]
chloramine (analyzed as specified in Section 7.3.2.3)	2.7 to 3.3 mg/L monochloramine (measured as Cl_2/L)[3]

[1] Measured as the difference between Kjeldahl nitrogen and ammonia nitrogen.

[2] This requirement may be waived if the test water used during analytical validation (Section 7.3.2.3.2) contains organic nitrogen > 0.2 mg/L.

[3] Monochloramine NH_2Cl (CAS #10599-90-3)

NOTE — mg/L monochloramine (as mg Cl_2/L) = mg/L NH_2Cl × 1.4.

The water characteristics shall be adjusted using the procedures in this Section. In addition, the test water shall be prefiltered through a particulate reduction filter rated to the Class I requirements of NSF/ANSI 42.

7.3.2.6.2 pH adjustment

The pH shall be increased by adding 6 N sodium hydroxide (NaOH). The pH shall be decreased by adding 6 N hydrochloric acid (HCl).

7.3.2.6.3 TDS adjustment

The TDS concentration shall be increased by adding sodium chloride (NaCl). The TDS concentration shall be decreased by blending with deionized water.

7.3.2.6.4 Hardness adjustment

The hardness shall be decreased by blending with deionized water.

7.3.2.6.5 Chloramine formation

The following procedure is an example of a method used for the formation of chloramine in the challenge water. Other methods of mono-chloramine formation may be used if the resulting challenge water can be demonstrated to provide equivalent performance. Chloramine-T (CAS #127-65-1 or 7080-50-4) shall not be used to generate the challenge water. Only the formation of mono-chloramine NH_2Cl (CAS #10599-90-3) shall be used as the challenge water compound.

In order to ensure optimal monochloramine formation, the molar concentration of ammonium ion in the challenge water shall be greater than the molar concentration of chlorine in the challenge water.

WARNING – Monochloramine preparation procedures may produce hazardous reaction products. Adequate ventilation must be provided and appropriate safety precautions must be taken.

a) The challenge water shall first be adjusted for all other water characteristics as specified in Section 7.3.2.5 before the formation of monochloramine.

b) Ammonium chloride, NH_4Cl, shall be added to the challenge water to a concentration of 6 mg/L.

c) A 12% w/w sodium hypochlorite, NaOCl, shall then be added to achieve a concentration of 0.037 mL/L in the challenge water. The sodium hypochlorite solution shall be diluted at least 10:1 prior to adding to the challenge water.

WARNING – Do not combine ammonium chloride and sodium hypochlorite directly. The ammonium chloride *must* be diluted into the challenge water before the addition of sodium hypochlorite. If this procedure is not followed, hazardous reaction products may be formed.

d) The sodium hypochlorite addition shall be adjusted as needed to achieve a monochloramine concentration of 2.7 to 3.3 mg/L (measured as Cl_2/L).

e) The challenge water shall be prepared at least 1 h before use to allow for the complete reaction of the sodium hypochlorite and the ammonium chloride.

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7.3.2.8 Sampling

Collection of the influent challenge and product water samples shall begin during the on portion of the cycle after one unit volume has passed through the test unit. Sampling shall occur after the passage of 10 unit volumes of the influent challenge and at 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% of the estimated system capacity. The volume of water collected for each sample shall not exceed 1 L (0.26 gal) or four times the amount required for analysis, whichever is larger. If the on cycle ends before the necessary sample volume has been collected, the remaining sample volume shall be collected in the same manner during the next on cycle.

Influent challenge water shall be sampled and analyzed for conformance with the pH requirements under 7.3.2.6.1 and chloramine reduction requirements under Table 7.2, a minimum of once for each batch of challenge water or every 3785 L (1000 gal)~~, whichever is greater~~.

Rationale: Revised to clarify testing for pH and other parameters for chloramine reduction testing per 2018 JC meeting discussion (May 9, 2018).

Tracking #49i127r1 **Revision to NSF/ANSI 49 – 2018**
 Issue 127, Revision 1 (January 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 International Standard for Biosafety Cabinetry —

Biosafety Cabinetry: Design, Construction, Performance, and Field Certification

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Annex A
(normative)

Performance tests

~~NOTE —~~ Before any performance tests are run, the cabinet shall be properly installed and leveled and airflows adjusted to the nominal set point (± 3 ft/min [± 0.015 m/s]). These tests are intended for the qualification of a new cabinet model by the testing organization. The testing organization also requires and performs appropriate tests during periodic requalification. Cabinet models undergoing major redesign shall be requalified as stated in 1.3 of this Standard. Field tests are provided in Annex F.

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Annex F
(normative)

Field tests

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F.3.3.3.4 Calculated method for Type B2 cabinets using an anemometer and pitot tube if applicable:

a) Turn on the cabinet downflow blower and exhaust system blower.

b) Set the sash at the height specified by the testing organization.

c) Measure and calculate the exhaust volume in accordance with the testing organization's verified methodology, or with ASHRAE standards for air velocity measurements in round or rectangular ducts, or with the Industrial Ventilation Manual.

d) Measure the supply air velocity on a grid as specified on the data plate. The air measurement probe shall be held rigidly in a freestanding fixture (ring-stand and clamp) that permits accurate positioning and does not distort the airflow pattern (see Annex A, Figure 30). Average the velocity readings and multiply by the area in ft^2 (m^2) of the plane in which the velocities were measured to determine the total filtered supply air volume flow rate in ft^3/min (m^3/s).

e) Subtract the supply air volume rate in ft^3/min (m^3/s) from the total exhaust volume rate in ft^3/min (m^3/s); the difference represents the calculated inflow volume rate in ft^3/min (m^3/s).

f) Divide the calculated inflow volume rate by the area of the access opening in ft^2 (m^2) to determine the average inflow velocity in ft/min (m/s).

g) Include the following in reported data: individual exhaust velocity readings, calculated average exhaust velocity, exhaust duct area, calculated exhaust volume, individual supply velocity readings, average supply velocity, effective supply area, calculated supply air volume, area of the work access opening, calculated inflow air volume, calculated average inflow velocity, and methods used to determine them.

h) Reported values shall be:

- individual duct velocity readings;
- overall average of the duct velocity readings;
- calculated exhaust volume;
- duct size, shape and area;
- work access opening dimensions and area;
- dimensions and area of the supply velocity measurement location (used to determine supply volume);
- individual supply velocity readings (not to be confused with downflow velocities);
- calculated supply air velocity and volume;
- calculated inflow velocity and method used for calculations;
- correction factor used (if applicable);
- acceptance criteria for average inflow velocity;
- inflow velocity test method; and
- name of test (inflow velocity test).

~~NOTE — Canopy connected A1 and A2 cabinets must be tested with a method that measures the inflow volume at the work access opening.~~

Canopy connected A1 and A2 cabinets shall be tested with a method that measures the inflow volume at the work access opening.

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F.7.3.2.2 Exhaust alarm system – Type A1 or A2 canopy connection

The canopy connection on Type A1 or A2 cabinets:

- shall be tested at time of alarm verification.

- introduce a visible medium source into the canopy air intake(s) while slowly reducing the exhaust volume until there is a loss of capture of the visible medium into the canopy air intake(s). The audible and visual canopy alarms shall respond within 15 s, and the cabinet fan(s) will continue to operate.

- reported values shall be:

  - name of test (Type A canopy exhaust alarm test); and
  - pass or fail.

~~NOTE — Direct connected Type A1 or A2 cabinets shall not be considered in compliance with the Standard.~~

Direct connected Type A1 or A2 cabinets shall not be considered in compliance with the Standard.

Rationale*: While conducting research with other projects, it's been determined that the use of the term 'NOTE' within Standard 49 is not always correct. When used correctly, the word 'NOTE' calls out items within Normative sections of a Standard, which are considered Informative and must be treated as such. In fact the very use of the word 'NOTE' can be interpreted as making the statement Informative in nature.*

The 3 instances within this ballot represent the statements within Standard 49 that are actually Normative and thus the term 'NOTE' should be removed.

[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 50 - 2017
Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities

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14 Ultraviolet (UV) light process equipment

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14.6 Operation and installation instructions

14.6.1 Drawings and a parts list for easy identification and ordering of replacement parts shall be furnished with each unit and shall include:

— model number of the unit;

— instructions for proper size selection and installation;

— whether the system has a mechanical cleaning system or requires an external chemical cleaning system installed per 14.13.1;

— operation and maintenance instructions;

— a statement of the manufacturer's warranty;

— applicable caution statements (prominently displayed);

— ventilation requirements (if applicable);

— cross connection protection (if the unit is physically connected to a potable water supply);

— maximum daily operation time (if not designed for continuous operation); and

— a warning, if the potential exists for release of high dosages of substances that may endanger bathers.

14.6.2 UV systems claiming inactivation of cysts, the installation and operational instructions or product manual shall contain the following:

— reactor configuration type (U, S, etc.);

— number of lamps per reactor;

— lamp designation or model number;

— sensor designation or model number;

— UVT of water (minimum value or a range of UVTs under which validation was performed);

— organism used in testing;

— correlation between test organism and *Cryptosporidium parvum*;

— effective log inactivation of organism at maximum flow rate or validated flow rates; ~~and~~

— effective UV dose delivered at specified wavelength and flow rate; and.

— whether the system has a mechanical cleaning system or requires an external chemical cleaning system installed per 14.13.1

[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 International Standard / American National Standard –

Residential Dishwashers

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6 Performance

6.1 Soil removal

6.1.1 Performance requirement

When operated in accordance with the manufacturer's instructions, a dishwasher shall render dishes free of soil and detergents.

6.1.2 Test method

The soil removal efficacy of a residential dishwasher shall be evaluated by observing its ability to remove test soil from dishes~~, glasses, and utensils~~. The test soil used to assess the soil removal of the residential dishwashing equipment shall be cultured buttermilk with 1% milk-fat content.

The residential dishwasher shall be conditioned and operated according to sections 4.2, 4.3, 4.6, 4.7, 4.8.1 and 4.8.2 of ANSI/AHAM DW-1. Water hardness shall be between 4 and 200 ppm. Where necessary a cation exchange water softener may be used to maintain water hardness at this level.

~~Dinner plates, glasses, cups, and dinner forks,~~ Dishes shall conform to the requirements of Appendix A of ANSI/AHAM DW-1. Glasses shall be Libbey® glass 551 HT or equivalent. All ~~plates, glasses, and forks~~ dishes shall be clean and dry before applying test soil. Two common stainless steel dinner forks will be used in proportion to each dinner plate used. The forks shall be immersed completely within the test soil, allowed to drain for 45 ± 5 min, and then transferred to a clean rack. Glasses and cups (when used) shall be filled with the test soil, dumped, and then dipped so that 1 ± ⅛ in (25 ± 3 mm) of the outside rim ~~of the glass~~ is coated. Glasses and cups (when used) shall be inverted and allowed to drain for 45 ± 5 min and then transferred to a clean rack. Dinner plates shall have 2 ± 0.3 fluid oz (60 ± 10 mL) of test soil applied to each center. The plate shall be swirled to totally cover the inner portion, less the rim, placed in a rack to drain for 45 ± 5 min in an inclined position, then transferred to a clean rack. All ~~plates, glasses, and forks~~ dishes shall be air dried for 17 ± 1 h at 100 ± 3 °F (38 ± 2 °C). For consistency, the soiled ~~plates, glasses, and forks~~ dishes shall be oriented according to a specified pattern for each replicate trial. Plates ~~and~~, glasses, and cups (when used) shall be loaded so that no sides shall be touching. Forks shall be loaded so they are not nesting.

When testing dishwashers with two racks, enough plates shall be used to completely fill the lower rack of the dishwasher and enough glasses shall be used to completely fill the upper rack of the dishwasher. No cups shall be used.

When testing dishwashers with only one rack, plates and glasses shall be used to completely fill the rack ~~of the dishwasher~~ in a pattern equivalent to the manufacturer's instructions. No cups shall be used.

When testing dishwashers with three racks, enough plates shall be used to completely fill the lower standard depth rack of the dishwasher and enough glasses shall be used to completely fill the standard depth upper rack, whether that rack is located in the middle or the top. The third shallow depth rack shall be loaded in a pattern equivalent to the manufacturer's instructions. Sections of the third shallow depth rack intended for glasses and cups as indicated by the manufacturer's instructions shall be completely filled. If the dishwasher is provided with a flatware basket for use on one of the standard depth racks and all or a portion of the third shallow depth rack is intended for flatware, the soil removal test shall be performed with half of the required dinner forks in the flatware basket and the remaining dinner forks arranged on the third shallow depth rack.

The detergent shall be loaded into the dishwasher following the manufacturer's instructions. The detergent(s) used for assessing the soil removal shall be one of the following: Cascade, Sunlight, Finish ~~Electrasol~~, or the equivalent. An equivalent detergent may be used if it is used by at least 25% of the U. S. domestic market during the past calendar year. The dishwasher shall be operated in accordance with the manufacturer's instructions. When the dishwasher has completed washing and cleaning (specified cycle), the dishes ~~plates, glasses, and forks~~ shall be observed for the presence of test soil.

6.1.3 Acceptance criteria

The surfaces of all ~~plates, glasses, and forks~~ dishes shall be free of visible soil and detergent. If the presence of soil or detergent on ~~plates, glasses, and forks~~ dishes is found, a second trial shall be completed following the procedures contained in 6.1.2. The presence of soil or detergent on ~~plates, glasses, and forks~~ dishes is not grounds for rejection unless soil or detergent is present following both the first and the second trial. Redeposit of buttermilk flakes is not considered unremoved soil and is not reason for failure.

6.2 Sanitization efficacy

6.2.1 Performance requirement

To ensure adequate sanitization, the rinse portion of one complete sanitizing wash cycle of a dishwasher shall deliver a minimum of 3600 HUEs at the surface of dishes.

6.2.2 Test method

The HUEs delivered by a dishwasher shall be quantified by continuously monitoring the temperature at the surface of three dinner plates in the lower rack and three glasses in the upper rack over the course of a complete dishwashing cycle. The residential dishwasher shall be conditioned and operated according to sections 4.2, 4.3, 4.6, 4.7, 4.8.1, and 4.8.2 of ANSI/AHAM DW-1. The machine tub shall return to room ambient temperature before beginning the test. ~~After verifying proper dishwasher functioning, the lower rack shall contain the three monitored plates distributed as shown in Figure 6.1. The rest of the lower rack shall be filled with unmonitored plates.~~

When testing dishwashers with two racks, the lower rack shall contain the three monitored plates distributed as shown in figure 6.1. The rest of the lower rack shall be filled with unmonitored plates. Three monitored glasses shall be placed in the upper rack as shown in figure 6.1. The rest of the upper rack shall be filled with unmonitored glasses. The flatware tray shall be filled with unmonitored stainless steel dinner forks such that no nesting occurs. The number and location of dinner forks shall be as described in 6.1.2.

Dishwashers with only one rack shall be loaded in the same pattern as used in 6.1.2, with thermocouples located on two plates and one glass as shown in figure 6.1.

When testing dishwashers with three racks, the lower standard depth rack shall contain the three monitored plates distributed as shown in figure 6.1. The rest of the lower standard depth rack shall be filled with unmonitored plates. Three monitored glasses shall be placed in the standard depth upper rack, whether that rack is located in the middle or the top as shown in figure 6.1. The rest of the standard depth upper rack shall be filled with unmonitored glasses. The third shallow depth rack shall be loaded as described in 6.1.2. Two glasses or cups, as applicable, shall be monitored at the front and rear of the rack. Any stainless steel dinner forks loaded onto the third shallow depth rack shall be unmonitored.

The dishwasher shall then be subject to one complete sanitizing wash cycle. The temperature at the plate, ~~and~~ glass, ~~and cup~~ surfaces shall be monitored by a calibrated thermocouple attached at the center of each monitored plate and the inside bottom surface of each monitored glass and cup (when used). The thermocouple shall have an accuracy of ± 1.0 °F (± 0.5 °C).

All temperature data points of 143 °F (62 °C) or greater shall be used to calculate the total HUEs delivered during the sanitization rinse cycle. Calculation of HUEs at each monitored plate, ~~and~~ glass, and cup (when used) location shall be based on the information in annex A. Calculations will be based on HUEs gathered per 1-second intervals.

6.2.3 Acceptance criteria

Without interruption, a minimum of 3600 HUEs shall be accumulated at each of the monitored plate, ~~and~~ glass, and cup (when used) locations in the dishwasher. If the temperature at any thermocouple location drops below 143 °F (62 °C), the accumulation of HUEs shall begin at zero once the temperature returns to 143 °F (62 °C). Sanitizing rinse temperatures shall meet or exceed 150 °F (66 °C).

> ***Rationale****: The performance tests in NSF/ANSI 184 for soil removal and sanitization efficacy describe how to performance test residential dishwashers with one rack and two racks. An increasing number of residential dishwashers are now being manufactured with a third rack. Additional guidance is needed with respect to testing of the third rack.*

BSR/UL 486E, Standard for Safety for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors

1. Conductor Insulation Type

9.1.5.2 With reference to 9.1.5.1, a connector may be ~~is not prohibited from being~~ tested with uninsulated conductors or conductors with any type of insulation when the connector assembly does not rely on the conductor insulation, i.e. insulation piercing connector. When using uninsulated conductors, Table 11 shall not be applied.

Table 11 - Conductor insulation[a]
(Clauses 9.1.5.1 and 9.1.5.2)

		AWG or kcmil (mm^2)	Type of insulation[b]
	Solid	12 (3.31) and larger	THHN
			THW
Aluminum			USE
			XHHW
			PE or XLPE thermoset insulation
	Stranded	All sizes	USE
			PE or XLPE thermoset insulation
	Solid and stranded	30 - 24 (0.05 - 0.20)	Thermoplastic at least 0.254 (0.010 in) thick
		22 - 16 (0.32 - 1.31)	Thermoplastic at least 0.762 mm (0.030 in) thick
Copper		14 (2.08) and larger	THHN
			THW
			USE
			XHHW

[a] Table 11 is not applicable when testing with uninsulated conductors.

[b] Type of insulation is not specified when testing with a connector assembly that does not rely on the conductor insulation.

BSR/UL 746B, Standard for Polymeric Materials – Long Term Property Evaluations

1. Revision of Paragraphs 19.7 – 19.9

19.7 The Arrhenius equation for reaction rate is given by k=Ae to the power (−E/RT) in which k is the specific reaction rate, E is the activation energy (relatively constant for a small temperature change), R is ~~a~~ the gas constant, T is the absolute temperature, A is the frequency factor (constant), and e is 2.718284.

19.8 The Arrhenius equation can be simplified by taking natural logarithms in the following form:

$$\log_e k = \log_e A - \frac{E}{RT}$$

letting $Y = \log_e k$, $a = \log_e A$, $b = - E/R$, and $X = 1/T$, we then have $Y = a + bx$. This relates the two variables Y and X in the form of a linear equation, assuming a and b are ~~constant~~ constants.

For RTI analysis purpose, $\log_e$ could be replaced by $\log_{10}$. If the above equation is divided throughout by “ln(10)”, the same relationship Y= a + bx is obtained as depicted below:

$$\log_{10} k = \frac{\log_e k}{\log_e 10} = \frac{\log_e A}{\log_e 10} + \left(\frac{-E}{\log_e 10 * R}\right) * \frac{1}{T}$$

Y = a + bx

This reduces to a linear plot between 1/T- Reciprocal Temperature and $\log_{10}$ k - Specific Reaction rate.

19.9 The evaluation of the insulation is completed by the regression analysis. This method of analysis is concerned with the study of the relationship between two or more variables. In this instance, a study is to be made of the relationship between material property life and operating conditions. Property life is denoted as the dependent variable represented by the letter Y, and the operating condition as the independent variable, represented by the letter X. Thus, the regression analysis becomes a study of Y ($\log_e$ of specific reaction rate) as a function of X (reciprocal of operating temperature).

BSR/UL 1310, Standard for Class 2 Power Units

1. Removal of Background Marking Requirement

PROPOSAL

53.3 ~~The markings on a tag shall be printed in contrasting colors on a background other than blue or yellow and shall be located on the projecting flag of a flag-type tag.~~The required markings shall be legible and shall comply with the following:

a) For tags and labels, the letters shall be black on a white background; and

b) For other media, the letters shall be on a high contrast background. Colors such as black on red, black on green, yellow on green, yellow on blue, or the reverse of any of these combinations, and other low contrast markings are not permitted.