ANSI STANDARDS ACTION

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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: December 16, 2018

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

Addenda

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

The indoor air quality procedure has a long history going back to the 1981 standard. Weaknesses in the requirements for identifying the contaminants of concern, identifying concentration limits and exposure periods, and specifying the percentage of building occupants to be satisfied with perceived IAQ. Although the percentage of building occupants to be satisfied with perceived IAQ may be specified, and the standard requires that it be measured; this measurement usually would take place after occupancy so is often ignored or omitted. This proposed addendum adds requirements for designing to specific targets. The target design compounds and mixtures are specifically identified.

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

This proposed addendum adds a maximum indoor air dewpoint in mechanically cooled buildings. The 60°F (15°C) indoor air dewpoint limit avoids the microbial growth problems frequently observed when humid outdoor air infiltrates into buildings. Humidity-related requirements of earlier versions of 62.1 were intended to address both mold growth and comfort concerns by limiting indoor humidity to 65%RH but did not explicitly extend to unoccupied hours when microbial growth often accelerates and because it did not establish a coincident dry bulb temperature and did not limit the mass of water vapor available for surface absorption during periods when cooling is intermittent to conserve energy.

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

The 2018 FGI (Facilities Guidelines Institute) guideline requires certain outpatient spaces to meet local ventilation codes and not ASHRAE/ASHE Standard 170: Neither one of the two mechanical model codes (IMC and UMC) has ventilation rates for these spaces. The IMC and UMC use ASHRAE Standard 62.1 as the basis for their ventilation table. This proposed addendum adds ventilation rates for those spaces in order to bridge the gap with ASHRAE/ASHE Standard 170. It was developed in consultation with FGI in order to understand the activity in each space.

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

The exhaust procedure in Standard 62.1-2016 contains requirements in notes. This proposed addendum relocates those requirements to the body of the standard. The performance compliance path is modified to be consistent with the proposed changes to the IAQ Procedure. Table 6.5.2 (Airstream or Sources) is added as relocated from Section 5.

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

Since the original publication of Standard 62.1, ASHRAE published Standard 188-2015, Legionellosis: Risk Management for Building Water Systems. This proposed addendum requires advising the owner of the basic requirements of ASHRAE Standard 188.

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

This addendum revises the definition of computer room and data center to be consistent with changes occurring in ASHRAE Standard 90.1.

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

This addendum proposes changes to clarify the modeling rules in section G3.1.1(c) to ensure that the intent of this section is met.

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)

The addendum proposes implementation of condensing boilers for new construction to achieve condensing-level efficiency (i.e., 90% Et) 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 the 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.

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

The following addendum represents further modifications to Addendum “bf” as a result of a public comment, and further coordination with existing portions of the section on vestibules. The primary change is relocating revolving doors from an exception (since by exception they are permitted in lieu of vestibule currently) to one of two requirements (a choice).

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

The addendum proposes implementation of condensing boilers for new construction to achieve condensing-level efficiency (i.e., 90% Et) 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.

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

The addendum updates the reference year for Standard 140 in Sections 11 and 12 as well as Appendixes C and G.

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

This addendum adds tables to the list of products that are exempt from meeting the requirements of Section 6.5.6 - Heat Rejection Equipment.

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

Currently, the proposed designs with on-site electricity generation systems often mistakenly model the baseline as having all electricity purchased from grid. The addendum clarifies that such projects must model the same electricity generation system in the baseline and proposed design and is aligned with the interpretation IC 90.1-2013-16 of ANSI/ASHRAE/IES STANDARD 90.1-2013 from January 21, 2018. The proposed designs utilizing cogeneration or combined heat and power systems (CHP) can get credit for recovering waste heat as allowed by 11.4.3.1 and G2.4.1.

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

This addendum adds a new table F-5 to specify DOE covered residential water boiler efficiency requirements similar what was done for other regulated products. In table 6.8.1-6 notes have been added to indicate that products that fall under the requirements for DOE-regulated products the efficiency levels only apply to products applied outside the US.

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

In response to a consensus proposal from the ASHRAE TC8.6 Subcommittee on Standards and Codes, Table 6.8.1-7 has been updated for the 2019 Edition.

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 90.1bt-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.

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

This addendum revises the Appendix G baseline requirements.

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

In response to comments from the second public review, we removed the word “commonly” from this proposed addendum since it is subject to interpretation.

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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

NSF (NSF International)

Revision

BSR/NSF 50-201x (i155r1), Equipment 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: Jason Snider, (734) 418-6660, jsnider@nsf.org

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 567A-201x, Standard for Safety for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85) (revision of ANSI/UL 567A -2018)

The following is being proposed: (1) Addition of CE40a test fluid to the standard.

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Send comments (with copy to psa@ansi.org) to: Jeff Prusko, (847) 664-3416, jeffrey.prusko@ul.com

BSR/UL 842A-201x, Standard for Safety for Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85) (revision of ANSI/UL 842A-2017)

The following is being proposed: (1) Addition of CE40a test fluid to the standard.

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Send comments (with copy to psa@ansi.org) to: Jeff Prusko, (847) 664-3416, jeffrey.prusko@ul.com

BSR/UL 962A-201x, Standard for Safety for Furniture Power Distribution Units (revision of ANSI/UL 962A-2018)

(1) Addition of new Supplement SC - Furniture power distribution units for kitchen and bathroom counter tops.

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

BSR/UL 1191-201X, Standard for Components for Personal Flotation Devices (revision of ANSI/UL 1191-2018)

UL proposes a recirculation for the UL 1191 project dated 6-8-18.

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Send comments (with copy to psa@ansi.org) to: Nicolette Weeks, (919) 549-0973, Nicolette.A.Weeks@ul.com

BSR/UL 2586A-201x, Standard for Safety for Hose Nozzle Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85) (revision of ANSI/UL 2586A-2018)

The following is being proposed: (1) Addition of CE40a test fluid to the standard.

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Send comments (with copy to psa@ansi.org) to: Jeff Prusko, (847) 664-3416, jeffrey.prusko@ul.com

Comment Deadline: December 31, 2018

AAMI (Association for the Advancement of Medical Instrumentation)

Addenda

BSR/AAMI/ISO 11137-1/Amd2-201x, Sterilization of health care products - Radiation - Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices - Amendment 2: Revision to 4.3.4 and 11.2 (addenda to ANSI/AAMI/ISO 11137-1-2006 (R2015))

(1) Add the following sentence to the end of clause 4.3.4: Detailed guidance on dosimetry and associated measurement uncertainty is given in ISO 11137-3. (2) Replace the second sentence of clause 11.2 with the following: The procedure(s) shall define the requirements (see 9.4.3 or 9.4.4 as appropriate) for designating a sterilization process as conforming.

Single copy price: Free

Obtain an electronic copy from: https://standards.aami.org/higherlogic/ws/groups/PUBLIC_REV/documents

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

ACCA (Air Conditioning Contractors of America)

Revision

BSR/ACCA 4 QM-201X, Maintenance of Residential HVAC Systems (revision of ANSI/ACCA 4 QM-2013)

This standard provides minimum requirements for the inspection, HVAC contractors, of residential HVAC equipment found in one- or two-family dwellings of three or fewer stories. This standard includes checklist tasks for inspecting, testing, and measuring electrical, controls, mechanical, venting, air-distribution, and piping systems of residential HVAC systems. The checklists also provide recommended corrective actions which the HVAC contractor shall present to the homeowner to remedy identified faults like cleaning or adjusting and/or replacing equipment and components on a periodic basis. This standard presumes that the HVAC system was designed, installed, and tested in accordance with original equipment manufacturer's (OEM) instructions, applicable codes, and other industry standards. This standard shall not be used to circumvent safety, health, environmental, or the equipment manufacturer's requirements.

Single copy price: Free

Obtain an electronic copy from: www.acca.org/ansi

Order from: Danny.halel@acca.org

Send comments (with copy to psa@ansi.org) to: standards-sec@acca.org. Comments are to be submitted on the ACCA Public Response Form available on acca.org/ansi

ASABE (American Society of Agricultural and Biological Engineers)

New National Adoption

BSR/ASABE/ISO 20383-201x MONYEAR, Tractors and machinery for agriculture and forestry - Speed Identification Sign (SIS) (identical national adoption of ISO 20383:2017 and revision of ANSI/ASAE S584.3-2013 (R2017))

Specifies the dimensions, characteristics, and positioning of Speed Identification Signs (SIS). These signs indicate the maximum equipment ground speed, based on the ground speed design capability, for an agricultural vehicle. A rear-facing SIS is visible to other operators on public roads approaching the equipment from behind. A forward-facing SIS, mounted on the front of towed equipment, alerts operators of the towing vehicle of the maximum specified ground-speed capabilities at which the equipment combination can be operated. This document is applicable to self-propelled, semi-integral, and towed equipment moving on public roads.

Single copy price: $65.00 (non-members); $44.00 (ASABE members)

Obtain an electronic copy from: vangilder@asabe.org

Order from: Carla VanGilder, (269) 932-7015, vangilder@asabe.org

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

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

Addenda

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

Indoor CO2 has had a prominent place in discussions of ventilation and IAQ for many years. The relevant issues include the impacts of CO2 on building occupants, the use of CO2 to control outdoor air ventilation rates, CO2 monitoring as an indicator of general IAQ conditions and the use of indoor CO2 to estimate building ventilation rates. This proposed addendum adds a new Normative Appendix D, Estimation of Steady-State Indoor CO2 Concentrations Based on Per Person Ventilation Rates and Occupant Characteristics. The purpose is to describe the estimation of steady-state indoor carbon-dioxide concentrations for a given per person outdoor air ventilation rate.

Single copy price: $35.00

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

Informative Appendix C (Summary of Selected Air Quality Guidelines) in 62.1-2016 was deleted in a previous addendum. This proposed addendum adds a new Informative Appendix C with content supportive of changes to the Indoor Air Quality Procedure (IAQP).

Single copy price: $35.00

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

This ISC updates pump definitions and requirements in Addendum an based on public review comments received during the first public review. The changes improve the language in the addendum.

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

Addendum aw is a comprehensive revision to the fenestration prescriptive criteria in Tables 5.5-0 through 5.5-8. This 2nd public review ISC to Addendum aw makes corrections in response to comments received on the first public review.

Single copy price: $35.00

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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 addendum revises LPD values. In response to comments received during the first public review, revisions were made to the model. Because of this a number of values changed. A typo resulting in an incorrect value for audience seating area - performance arts theater was corrected and the space type, audience seating area - convention center was removed as it was deemed to be unused.

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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 addendum adds minimum efficiency requirements for heating chiller packages.

Single copy price: $35.00

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

This addendum updates the efficiency requirements for computer-room air conditioners as listed in table 6.8.1-11 and adds a new table 6.8.1-19.

Single copy price: $35.00

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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 addendum updates table 6.8.1-1, Electrically Operated Unitary Air Conditioners and Condensing Units - Minimum Efficiency Requirements.

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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 addendum updates table 6.8.1-2, Electrically Operated Air Cooled Unitary Heat Pumps - Minimum Efficiency Requirements.

Single copy price: $35.00

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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)

This addendum updates the table 6.8.1-4, Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps, Single-Package Vertical Air Conditioners, Single-Package Vertical Heat Pumps, Room Air Conditioners, and Room Air Conditioner Heat Pumps - Minimum Efficiency Requirements.

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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 adds table F-4 and modifies table 6.8.1-5, Warm-Air Furnaces and Combination Warm-Air Furnaces/Air-Conditioning Units, Warm-Air Duct Furnaces, and Unit Heaters - Minimum Efficiency Requirements.

Single copy price: $35.00

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

New DOE refrigeration minimum efficiency requirements went into effect on March 27, 2017 and this addendum updates the requirements in table 6.8.1-12 and 6.8.1-13 to align with the DOE requirements.

Single copy price: $35.00

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

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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 updates table F-2 to reflect the new water heater requirements that were adopted by DOE for residential water heaters effective December 2015.

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

AWS (American Welding Society)

Reaffirmation

BSR/AWS C3.8M/C3.8-2011 (R201x), Specification for the Ultrasonic Pulse-Echo Examination of Brazed Joints (reaffirmation of ANSI/AWS C3.8M/C3.8-2011)

This specification provides the minimum requirements for the pulse-echo ultrasonic examination of brazed joints. Its purpose is to standardize brazed-joint ultrasonic examination requirements for all applications in which brazed joints of assured quality are required. It provides the minimum requirements for equipment, procedures, and the documentation of such tests.

Single copy price: $34.00

Obtain an electronic copy from: kbulger@aws.org

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

AWWA (American Water Works Association)

Revision

BSR/AWWA F102-201x, Match-Die-Molded, Fiberglass-Reinforced Plastic Weir Plates, Scum Baffles, and Mounting Brackets (revision of ANSI/AWWA F102-2013)

This standard describes the minimum requirements for fiberglass-reinforced plastic weir plates, scum baffles, mounting brackets, lap plates, cover washers, and weir pans, fabricated with the matched-die molding process. Included are requirements for design, construction, dimensions, tolerances, physical properties, work quality, appearance, and installation. This standard contains the requirements for using general-purpose and chemical-resist resins.

Single copy price: Free

Obtain an electronic copy from: ETSsupport@awwa.org

Order from: AWWA, Vicki David, vdavid@awwa.org

Send comments (with copy to psa@ansi.org) to: AWWA, Paul J. Olson, polson@awwa.org

ITSDF (Industrial Truck Standards Development Foundation, Inc.)

Revision

BSR/ITSDF B56.9-201X, Safety Standard for Operator Controlled Industrial Tow Tractors (revision of ANSI/ITSDF B56.9-2012)

This Standard defines the safety requirements relating to the elements of design, operation, and maintenance of operator controlled industrial tow tractors up to and including 66750 N (15,000 lb) maximum rated drawbar pull of a non-braked load.

Single copy price: Free

Obtain an electronic copy from: info@itsdf.org

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

NECA (National Electrical Contractors Association)

New Standard

BSR/NECA 331-201x, Standard for Installing Building and Service Entrance Grounding (new standard)

This standard describes installation procedures for building and service entrance grounding as well as building interior bonding and grounding. The information provided in this standard is intended to define what is meant by installing equipment in a "neat and workmanlike manner".

Single copy price: $25.00 (NECA members); $50.00 (non-members)

Obtain an electronic copy from: neis@necanet.org

Order from: Aga Golriz, (301) 215-4549, Aga.golriz@necanet.org

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

NSF (NSF International)

Revision

BSR/NSF 600-201x (i2r1), Health Effects Evaluation and Criteria for Chemicals in Drinking Water (revision of ANSI/NSF 600-2018 (i1r1))

The Standard defines the toxicological review and evaluation procedures for the evaluation of substances imparted to drinking water through contact with drinking water system components (and drinking water additives). It is intended to establish the human health risk, if any, of the substances imparted to drinking water under the anticipated use conditions of the product. Table 4.1 of this Standard contains evaluation criteria that have been determined according to the requirements of this Standard.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/45512/600i2r1%20-%20Table%204.1%20Update%20-%20memo%20&%20ballot.pdf

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

SCTE (Society of Cable Telecommunications Engineers)

New Standard

BSR/SCTE 242-4-201x, Next Generation Audio Coding Constraints for Cable Systems - Part 4: DTS-UHD Audio Coding Constraints (new standard)

This document is Part 4 of a multi-part standard that specifies the coding constraints of Next Generation Audio system for cable television. In conjunction with SCTE 242-1, this document defines the coding constraints on DTS-UHD for cable television. The carriage of the streams described in this specification is defined in SCTE 243-4 in conjunction with SCTE 243-1.

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

BSR/SCTE 243-4-201x, Next Generation Audio Carriage for Cable Systems - Part 4: DTS-UHD Audio Carriage Constraints (new standard)

This document is Part 4 of a multi-part standard that specifies carriage constraints of Next Generation Audio (NGA) codecs in MPEG -2 Transport Stream and in MPEG ISO-BMFF media segments. In conjunction with ANSI/SCTE 243-1, this document defines the carriage of DTS-UHD audio in MPEG-2 Transport Stream and MPEG DASH using ISO BMFF media segments.

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

BSR/SCTE 251-201x, Test Procedure for Determining the Thermal Oxidative Stability of Foamed Polyethylene (new standard)

This method covers the determination of an Oxidative Induction Time (OIT) value for coaxial cable, foamed polyethylene, and insulation materials removed from completed cable products. This test procedure is based on the ASTM D4565. The OIT value is determined by a thermo-analytical measurement of the onset time for the exothermic oxidation of insulation in pure oxygen, at a specified temperature.

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

UL (Underwriters Laboratories, Inc.)

Revision

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) Clarification of the scope that roof attachments for above-roof mounting (rack-mounted style installations) are not covered by this standard; (2) Addition of a reference to the Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products, ASTM A123, in the exception to Clause 10.2; (3) Clarification of the intent for the acceptance criteria for the Mechanical Loading Test in clause 21.6; (4) Update fire testing and classification requirements in sections 11 and 15; (5) Mechanical loading revisions; and (6) Update references to UL 1703 to reflect the publication of UL 61730-1 and UL 61730-2.

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

VITA (VMEbus International Trade Association (VITA))

Revision

BSR/VITA 57.1-201x, FPGA Mezzanine Card (FMC) Standard (revision of ANSI/VITA 57.1-2010)

This standard describes the compliance requirements for an FPGA Mezzanine Card (FMC) IO module which utilizes a mezzanine module to provide for a low-overhead protocol bridge between a carrier card's front-panel IO and an FPGA processing device on the carrier card.

Single copy price: $25.00

Obtain an electronic copy from: admin@vita.com

Send comments (with copy to psa@ansi.org) to: admin@vita.com

Comment Deadline: January 15, 2019

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

ANS (American Nuclear Society)

Revision

BSR/ANS 19.1-201x, Nuclear Data Sets for Reactor Design Calculations (revision of ANSI/ANS 19.1-2002 (R2011))

This standard identifies and describes the specifications for developing, preparing, and documenting nuclear data sets to be used in reactor design calculations. The specifications include: (a) criteria for acceptance of evaluated nuclear data sets; (b) criteria for processing evaluated data sets and preparation of processed continuous data and averaged data sets, and (c) identification of specific evaluated, processed continuous, and averaged data sets that meet these criteria for specific reactor types.

Single copy price: $77.00

Obtain an electronic copy from: orders@ans.org

Order from: orders@ans.org

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

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 2775-201X, Standard for Fixed Condensed Aerosol Extinguishing System Units (revision of ANSI/UL 2775-2017a)

UL proposes a new edition of UL 2775.

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: Nicolette Weeks, (919) 549-0973, Nicolette.A.Weeks@ul.com

Technical Reports Registered with ANSI

Technical Reports Registered with ANSI are not consensus documents. Rather, all material contained in Technical Reports Registered with ANSI is informational in nature. Technical reports may include, for example, reports of technical research, tutorials, factual data obtained from a survey carried out among standards developers and/or national bodies, or information on the "state of the art" in relation to standards of national or international bodies on a particular subject.

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

Comment Deadline: December 16, 2018

RIA (Robotic Industries Association)

RIA TR R15.806-2018, Technical Report for Industrial Robots and Robot Systems - Testing Methods for Power & Force Limiting Collaborative Applications (technical report)

This Technical Report, RIA TR R15.806-2018 ("TR 806"), describes test methods and metrics for measuring the pressures and forces associated with quasi-static and transient contact events of collaborative industrial robot applications where risk reduction is provided primarily by robots with power and force limiting (PFL) by inherently safe design or safety functions according to ANSI/RIA R15.06 -2012 and RIA TR R15.606-2016 ("TR 606"). TR 806 also provides guidance on determining the conditions of the test measurements.

TR 606 contains an informative annex, Annex A, with pressure biomechanical values shown in controlled psychophysical studies to be consistently within human pain tolerance limits. Force values in Annex A are derived from literature studies concerning minor injury. It is possible that greater values for pressure or force will also avoid pain or injury. TR 606 does not describe how to measure pressures and forces due to collaborative application contact situations. This document, R15.806, provides guidance about how to perform this verification.

Single copy price: $45.00

Order from: Carol Franklin, (734) 218-0509, cfranklin@robotics.org

Send comments (with copy to psa@ansi.org) to: Carol Franklin, (734) 218-0509, cfranklin@robotics.org

Projects Withdrawn from Consideration

An accredited standards developer may abandon the processing of a proposed new or revised American National Standard or portion thereof if it has followed its accredited procedures. The following projects have been withdrawn accordingly:

API (American Petroleum Institute)

BSR/API 689/ISO 14224-2007 (R201x), Collection and Exchange of Reliability and Maintenance Data for Equipment (new standard)

Inquiries may be directed to Duane Brown, (202) 682-8190, brownd@api.org; jonesj@api.org

BSR/API RP 5C3/ISO TR 10400-2009 (R201x), Technical Report on Equations and Calculations for Casing, Tubing, and Line Pipe Used as Casing or Tubing; and Performance Properties Tables for Casing and Tubing (reaffirmation of ANSI/API RP 5C3/ISO TR 10400-2009)

30 Day Notice of Withdrawal: ANS 5 to 10 years past approval date

In accordance with clause 4.7.1 Periodic Maintenance of American National Standards of the ANSI Essential Requirements, the following American National Standards have not been reaffirmed or revised within the five-year period following approval as an ANS. Thus, they shall be withdrawn at the close of this 30-day public review notice in Standards Action.

API (American Petroleum Institute)

ANSI/API 689/ISO 14224-2007, Petroleum, petrochemical and natural gas industries - Collection and exchange of reliability and maintenance data for equipment

Notice of Withdrawn ANS by an ANSI-Accredited Standards Developer

In accordance with clause 4.2.1.3.2 Withdrawal by ANSI-Accredited Standards Developer of the ANSI Essential Requirements, the following American National Standards have been withdrawn as an ANS.

API (American Petroleum Institute)

ANSI/API RP 5C3/ISO TR 10400-2009, Technical Report on Equations and Calculations for Casing, Tubing, and Line Pipe Used as Casing or Tubing; and Performance Tables for Casing and Tubing

Questions may be directed to: Stephen Crimaudo, (202) 682-8151, crimaudos@api.org

ANSI/API TR 5C3/ISO 10400 Addenda-2015, Technical Report on Equations and Calculations for Casing, Tubing, and Line Pipe Used as Casing or Tubing; and Performance Properties Tables for Casing and Tubing

Questions may be directed to: Benjamin Coco, (202) 682-8056, cocob@api.org

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: *Colleen Elliott*

Phone: (703) 253-8261

E-mail: celliott@aami.org

BSR/AAMI/ISO 80369-3/Amd 1-201x, Small-bore connectors for liquids and gases in healthcare applications - Part 1: General requirements (addenda to ANSI/AAMI/ISO 80369-3/Amd 1-201x)

BSR/AAMI/ISO 81060-2-201x, Non-invasive sphygmomanometers: Part 2: Clinical investigation of intermittent automated measurement type (identical national adoption of ISO 81060-2 and revision of ANSI/AAMI/ISO 81060-2-2009)

AHRI (Air-Conditioning, Heating, and Refrigeration Institute)

Office: 2311 Wilson Blvd
Suite 400
Arlington, VA 22201

Contact: *Cesar Eizaga Colmenares*

Phone: (703) 982-7746

E-mail: CEizagaColmenares@ahrinet.org

BSR/AHRI 420 (I-P)-201x, Performance Rating of Forced-Circulation Free-Delivery Unit Coolers for Refrigeration (revision and redesignation of ANSI/AHRI Standard 420-2009)

BSR/AHRI 421 (SI)-201x, Performance Rating of Forced-Circulation Free-Delivery Unit Coolers for Refrigeration (new standard)

BSR/AHRI 640 (I-P)-201x, Performance Rating of Commercial and Industrial Humidifiers (revision and redesignation of ANSI/AHRI Standard 640-2005)

BSR/AHRI 641 (SI)-201x, Performance Rating of Commercial and Industrial Humidifiers (new standard)

BSR/AHRI Standard 575-201x, Method of Measuring Machinery Sound within an Equipment Space (revision of ANSI/AHRI Standard 575 -2009)

ASME (American Society of Mechanical Engineers)

Office: Two Park Avenue
New York, NY 10016-5990

Contact: *Mayra Santiago*

Phone: (212) 591-8521

E-mail: ansibox@asme.org

BSR/ASME PASE-20xx, Safety Standard for Portable Automotive Service Equipment (revision of ANSI/ASME PASE-2014)

BSR/ASME TES-1-201x, Safety Standards for Thermal Energy Storage Systems; Molten Salt (new standard)

AWWA (American Water Works Association)

Office: 6666 W. Quincy Ave.
Denver, CO 80235

Contact: *Paul Olson*

Phone: (303) 347-6178

E-mail: polson@awwa.org

BSR/AWWA B502-201x, Sodium Polyphosphate, Glassy (Sodium Hexametaphosphate) (revision of ANSI/AWWA B502-2017)

BSR/AWWA C510-201x, Double Check-Valve Backflow Prevention Assembly (revision of ANSI/AWWA C510-2017)

BSR/AWWA C511-201x, Reduced-Pressure Principle Backflow Prevention Assembly (revision of ANSI/AWWA C511-2017)

CTA (Consumer Technology Association)

Office: 1919 South Eads Street
Arlington, VA 22202

Contact: *Veronica Lancaster*

Phone: (703) 907-7697

E-mail: vlancaster@cta.tech

ANSI/CTA 2005-2006 (R2013), AV Adapter to Connect Ethernet and 1394 Devices (withdrawal of ANSI/CTA 2005-2006 (R2013))

BSR/CTA 709.4-2013 (R201x), Fiber-Optic Channel Specification (reaffirmation of ANSI/CTA 709.4-2013)

ISA (International Society of Automation)

Office: 67 Alexander Drive
Research Triangle Park, NC 27709

Contact: *Eliana Brazda*

Phone: (919) 990-9228

E-mail: ebrazda@isa.org

BSR/ISA 75.19.01-201x, Hydrostatic Testing of Control Valves (revision of ANSI/ISA 75.19.01-2013)

BSR/ISA 62443-3-201x, Security for industrial automation and control systems - Part 3-3: System security requirements and security levels (revision and redesignation of ANSI/ISA 62443-3 (99.03.03)-2013)

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

Office: 1101 K Street NW
Suite 610
Washington, DC 20005-3922

Contact: *Lynn Barra*

Phone: (202) 737-8888

E-mail: comments@standards.incits.org

INCITS 53-1976 [S2018], Programming Language PL/I (stabilized maintenance of INCITS 53-1976 (R2004))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

INCITS 74-1987 [S2018], Information Systems - Programming Language - PL/I General-Purpose Subset (stabilized maintenance of INCITS 74-1987 (R2004))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

INCITS 238-1994 [S2018], Information Technology - Programming Language - PL/B (stabilized maintenance of INCITS 238-1994 (R2004))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

INCITS 274-1996 [S2018], Information Technology - Programming Language REXX (stabilized maintenance of INCITS 274-1996 (R2007))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

INCITS 274-1996/AM1-2000 [S2018], Information Technology - Programming Language REXX Amendment 1 (stabilized maintenance of INCITS 274-1996/AM1-2000 (R2007))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

INCITS/ISO/IEC 10206:1991 [S2018], Information Technology - Progamming Languages - Extended Pascal (stabilized maintenance of INCITS/ISO/IEC 10206-1991 (R2004))

November 16, 2018 Standards Action Announcement
This announcement is made in accordance with 4.7.3 Stabilized maintenance of American National Standards of the ANSI Essential Requirements (www.ansi.org/essentialrequirements).

NECA (National Electrical Contractors Association)

Office: 3 Bethesda Metro Center
Suite 1100
Bethesda, MD 20814

Contact: *Aga Golriz*

Phone: (301) 215-4549

E-mail: Aga.golriz@necanet.org

BSR/NECA 331-201x, Standard for Installing Building and Service Entrance Grounding (new standard)

NSF (NSF International)

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

Contact: *Jason Snider*

Phone: (734) 418-6660

E-mail: jsnider@nsf.org

BSR/NSF 50-201x (i155r1), Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities (revision of ANSI/NSF 50-2017)

BSR/NSF 600-201x (i2r1), Health Effects Evaluation and Criteria for Chemicals in Drinking Water (revision of ANSI/NSF 600-201x (i2r1))

VITA (VMEbus International Trade Association (VITA))

Office: 929 W. Portobello Avenue
Mesa, AZ 85210

Contact: *Jing Kwok*

Phone: (602) 281-4497

E-mail: jing.kwok@vita.com

BSR/VITA 46.30-201x, Higher Data Rate VPX (new standard)

BSR/VITA 57.1-201xx, FPGA Mezzanine Card (FMC) Standard (revision of ANSI/VITA 57.1-2010)

BSR/VITA 62-201x, Modular Power Supply Standard (revision of ANSI/VITA 62-2016)

Call for Members (ANS Consensus Bodies)

Call for Committee Members

ASC O1 – Safety Requirements for Woodworking Machinery

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

- General Interest
- Government
- Producer
- User

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

Final Actions on American National Standards

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

ASME (American Society of Mechanical Engineers)

New Standard

ANSI/ASME B107.410-2018, Struck Tools (new standard): 11/9/2018

AWWA (American Water Works Association)

Supplement

ANSI/AWWA D115a-2018, Addendum to D115-17, Tendon-Prestressed Concrete Water Tanks (supplement to ANSI/AWWA D115-2017): 11/12/2018

ESTA (Entertainment Services and Technology Association)

New Standard

ANSI ES1.19-2018, Safety Requirements for Special Event Structures (new standard): 11/6/2018

ANSI E1.56-2018, Entertainment Technology - Rigging Support Points (new standard): 11/6/2018

Reaffirmation

ANSI E1.29-2009 (R2018), Product Safety Standard for Theatrical Fog Generators that Create Aerosols of Water, Aqueous Solutions of Glycol or Glycerin, or Aerosols of Highly Refined Alkane Mineral Oil (reaffirmation of ANSI E1.29-2009 (R2014)): 11/6/2018

Revision

ANSI E1.42-2018, Entertainment Technology - Design, Installation, and Use of Orchestra Pit Lifts (revision of ANSI E1.42-2016): 11/6/2018

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

New Standard

ANSI N42.48-2018, Standard Performance Requirements for Spectrometric Personal Radiation Detectors (SPRDs) for Homeland Security (new standard): 11/5/2018

IES (Illuminating Engineering Society)

Revision

ANSI/IES RP-1-2013 Addendum 2-2018, Office Lighting (revision of ANSI/IES RP-1-2013): 11/6/2018

ISA (International Society of Automation)

New National Adoption

ANSI/ISA 62453-309 (103.00.08)-2018, Field device tool (FDT) interface specification - Part 309: Communication profile integration - IEC 61784 CPF 9 (national adoption of IEC 62453-309 with modifications and revision of ANSI/ISA 62453-309 (103.00.08) -2011): 11/12/2018

ANSI/ISA 62453-315 (103.00.09)-2018, Field device tool (FDT) interface specification - Part 315: Communication profile integration - IEC 61784 CPF 15 (national adoption of IEC 62453-315 with modifications and revision of ANSI/ISA 62453-315 (103.00.09) -2011): 11/12/2018

ANSI/ISA 62453-303-1 (103.00.05)-2018, Field device tool (FDT) interface specification - Part 303-1: Communication profile integration - IEC 61784 CP 3/1 and CP 3/2 (identical national adoption of IEC 62453-303-1 and revision of ANSI/ISA 62453-303-1 (103.00.05)-2011): 11/12/2018

ANSI/ISA 62453-303-2 (103.00.06)-2018, Field device tool (FDT) interface specification - Part 303-2: Communication profile integration - IEC 61784 CP 3/4, CP 3/5 and CP 3/6 (identical national adoption of IEC 62453-303-2 and revision of ANSI/ISA 62453-303-2 (103.00.06)-2011): 11/12/2018

MHI (Material Handling Industry)

Revision

ANSI MH28.3-2018, Design, Testing and Utilization of Industrial Steel Work Platforms (revision of ANSI MH28.3-2009): 11/12/2018

NSF (NSF International)

New Standard

ANSI/NSF 455-2-2018 (i1r3), Good Manufacturing Practices for Dietary Supplements (new standard): 11/4/2018

Revision

ANSI/NSF 14-2018 (i100r1), Plastics Piping System Components and Related Materials (revision of ANSI/NSF 14-2017): 11/5/2018

SCTE (Society of Cable Telecommunications Engineers)

Revision

ANSI/SCTE 135-1-2018, DOCSIS 3.0 Part 1: Physical Layer Specification (revision of ANSI/SCTE 135-1-2013): 11/9/2018

ANSI/SCTE 191-2018, Test Method for Axial Pull Force, Female F Port (revision of ANSI/SCTE 191-2010): 11/6/2018

TCNA (ASC A108) (Tile Council of North America)

Revision

ANSI A108.01-2018, General Requirements: Subsurfaces and Preparations by Other Trades (revision of ANSI A108.01-2016): 11/6/2018

ANSI A108.02-2018, General Requirements: Materials, Environmental, and Workmanship (revision of ANSI A108.02-2016): 11/6/2018

ANSI A108.11-2018, Interior Installation of Cementitious Backer Units (revision of ANSI A108.11-2010 (R2016)): 11/6/2018

ANSI A137.1-2018, Standard Specifications for Ceramic Tile (revision of ANSI A137.1-2017): 11/6/2018

ANSI A137.2-2018, Standard Specification for Glass Tile (revision of ANSI A137.2-2013): 11/6/2018

UL (Underwriters Laboratories, Inc.)

Reaffirmation

ANSI/UL 60745-2-4-2009 (R2018), Hand-Held Motor-Operated Electric Tools - Safety - Part 2-4: Particular Requirements for Sanders and Polishers Other than Disk Type (reaffirmation of ANSI/UL 60745-2-4-2009 (R2014)): 11/7/2018

ANSI/UL 60745-2-6-2009 (R2018), Standard for Safety for Hand-Held Motor-Operated Electric Tools - Safety - Part 2-6: Particular Requirements for Hammers (reaffirmation of ANSI/UL 60745-2-6 -2009 (R2014)): 11/7/2018

ANSI/UL 61010-2-032-2014 (R2018), Standard for Safety for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 032: Particular Requirements for Laboratory Equipment for Hand-Held and Hand-Manipulated Current Sensors for Electrical Test and Measurement (reaffirmation of ANSI/UL 61010-2-032-2014): 11/5/2018

ANSI/UL 61010-2-033-2014 (R2018), Standard for Safety for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2 -033: Particular Requirements for Laboratory Equipment for Hand-Held Multimeters and Other Meters, for Domestic and Professional Use, Capable of Measuring Mains Voltage, (reaffirmation of ANSI/UL 61010-2-033-2014): 11/5/2018

ANSI/UL 61010-2-091-2014 (R2018), Standard for Safety for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2 -091: Particular Requirements for Laboratory Equipment for Cabinet X-Ray Systems (reaffirmation of ANSI/UL 61010-2-091-2014): 11/5/2018

Revision

ANSI/UL 471-2018, Standard for Safety for Commercial Refrigerators and Freezers (revision of ANSI/UL 471-2016): 11/8/2018

ANSI/UL 471-2018a, Commercial Refrigerators and Freezers (revision of ANSI/UL 471-2016): 11/8/2018

ANSI/UL 507-2018c, Standard for Safety for Electric Fans (revision of ANSI/UL 507-2018): 11/6/2018

ANSI/UL 719-2018a, Standard for Safety for Non-Metallic Sheathed Cable (revision of ANSI/UL 719-2018): 11/6/2018

ANSI/UL 1626-2018, Standard for Residential Sprinklers for Fire-Protection Service (revision of ANSI/UL 1626-2017): 11/9/2018

ANSI/UL 1626-2018a, Standard for Residential Sprinklers for Fire-Protection Service (revision of ANSI/UL 1626-2017): 11/9/2018

ANSI/UL 1989-2018, Standard for Safety for Standby Batteries (revision of ANSI/UL 1989-2013): 11/9/2018

ANSI/UL 1989-2018a, Standard for Safety for Standby Batteries (revision of ANSI/UL 1989-2013): 11/9/2018

ANSI/UL 2560-2018, Standard for Safety for Emergency Call Systems for Assisted Living and Independent Living Facilities (revision of ANSI/UL 2560-2015): 11/8/2018

ANSI/UL 2748-2018, Standard for Safety for Arcing Fault Quenching Equipment (revision of ANSI/UL 2748-2017): 11/5/2018

VC (ASC Z80) (The Vision Council)

Revision

ANSI Z80.23-2018, Corneal Topography Systems - Standard Terminology, Requirements (revision of ANSI Z80.23-2008 (R2013)): 11/9/2018

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.

AAMI (Association for the Advancement of Medical Instrumentation)

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Addenda

BSR/AAMI/ISO 80369-3/Amd 1-201x, Small-bore connectors for liquids and gases in healthcare applications - Part 1: General requirements (addenda to ANSI/AAMI/ISO 80369-3-2016)

Stakeholders: Manufacturers, clinicians.

Project Need: Modification of scope and dimensions of 80369-3 connectors.

This amendment (1) modifies the scope by removing the following exclusion: "Medical devices for rectal drainage, rectal administration of medicines or fluid, and any other rectal access medical device" and (2) makes dimensional changes to revise the through bore of the male connector to return to the dimension that was used for all of the misconnection analysis which was performed during the development of the connector. The through bore will also be further specified denoting a maximum draft angle for a minimum distance. Due to IEC rules that apply to this joint ISO project, the projects initially started as ISO 80369 -3/Amd1 and ISO 80369-3/Amd 2 are now combined into ISO/80369-3/Amd1.

AAMI (Association for the Advancement of Medical Instrumentation)

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New National Adoption

BSR/AAMI/ISO 81060-2-201x, Non-invasive sphygmomanometers: Part 2: Clinical investigation of intermittent automated measurement type (identical national adoption of ISO 81060-2 and revision of ANSI/AAMI/ISO 81060-2-2009)

Stakeholders: Non-invasive blood pressure monitor manufacturers (small, medium, large); users (clinicians, nurses, hospital equipment maintenance, health-care-facility personnel); regulators; testing and certification bodies; as well other general interest categories.

Project Need: This provides some clinical guidance on working with non-invasive blood pressure monitors. This is part of a series of standards in this subject matter, which are all adopted as American National Standards. U.S. participated actively in the development of this standard. This is a revision of an already adopted standard.

ISO 81060-2 specifies the requirements and methods for the clinical validation of medical electrical equipment used for the intermittent non-invasive automatic estimation of the arterial blood pressure by utilizing a cuff. It is applicable to all sphygmomanometers that sense or display pulsations, flow, or sounds for the estimation, display, or recording of blood pressure. These sphygmomanometers need not have automatic cuff inflation. This standard covers sphygmomanometers intended for use in all patient populations (i.e., all age and weight ranges, and all conditions of use, e.g., ambulatory blood pressure monitoring, stress-testing blood pressure monitoring). It is also applicable to the validation of electronically controlled intermittent non-invasive blood pressure measurement medical electrical equipment, including blood pressure monitors for the home healthcare environment or self-measurement.

AHRI (Air-Conditioning, Heating, and Refrigeration Institute)

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New Standard

BSR/AHRI 421 (SI)-201x, Performance Rating of Forced-Circulation Free-Delivery Unit Coolers for Refrigeration (new standard)

Stakeholders: This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors, and users.

Project Need: To create a metric-only version of the ANSI/AHRI Standard 420-2009.

The purpose of this standard is to establish for forced-circulation free-delivery unit coolers for refrigeration: Definitions; test requirements; rating requirements; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions. This standard applies to factory-made, forced-circulation, free-delivery unit coolers, as defined in Section 3 of this standard, operating with a volatile refrigerant fed by either direct expansion or liquid overfeed at wet and/or dry conditions.

BSR/AHRI 641 (SI)-201x, Performance Rating of Commercial and Industrial Humidifiers (new standard)

Stakeholders: This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors, and users.

Project Need: To create a metric-only version of the ANSI/AHRI Standard 640-2005.

The purpose of this standard is to establish for factory-made commercial and industrial humidifiers: Definitions; classifications; test requirements; rating requirements; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions. This standard applies to electric-, gas-, or hot-water-operated commercial and industrial humidifiers including those that utilize steam from a central steam boiler. Commercial and industrial humidifiers are intended for central air systems or direct in-space applications and may be installed in a mechanical room or outdoors.

Revision

BSR/AHRI 420 (I-P)-201x, Performance Rating of Forced-Circulation Free-Delivery Unit Coolers for Refrigeration (revision and redesignation of ANSI/AHRI Standard 420-2009)

Stakeholders: This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors, and users.

Project Need: This standard is subject to review an amendment as technology advances. This project is to begin the required periodic review, and to consider revisions to keep up with the state of practice in the industry. This new edition is an I-P-only version.

The purpose of this standard is to establish for forced-circulation free-delivery unit coolers for refrigeration: Definitions; test requirements; rating requirements; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions. This standard applies to factory-made, forced-circulation, free-delivery unit coolers, as defined in Section 3 of this standard, operating with a volatile refrigerant fed by either direct expansion or liquid overfeed at wet and/or dry conditions.

BSR/AHRI 640 (I-P)-201x, Performance Rating of Commercial and Industrial Humidifiers (revision and redesignation of ANSI/AHRI Standard 640-2005)

Stakeholders: This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors, and users.

Project Need: This standard is subject to review and amendment as technology advances. This project is to begin the required periodic review, and to consider revisions to keep up with the state of practice in the industry. This new edition is an I-P-only version.

The purpose of this standard is to establish for factory-made commercial and industrial humidifiers: Definitions; classifications; test requirements; rating requirements; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions. This standard applies to electric-, gas-, or hot-water-operated commercial and industrial
humidifiers including those that utilize steam from a central steam boiler. Commercial and industrial humidifiers are intended for central air systems or direct in-space applications and may be installed in a mechanical room or outdoors.

BSR/AHRI Standard 575-201x, Method of Measuring Machinery Sound within an Equipment Space (revision of ANSI/AHRI Standard 575-2009)

Stakeholders: This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors, and users.

Project Need: This standard is subject to review and amendment as technology advances. This project is to begin the required periodic review and to consider revisions to keep up with the state of practice in the industry.

This document establishes a uniform method of measuring and recording the sound levels produced by air-conditioning and refrigerating machinery installed in mechanical equipment spaces. This standard applies to water chilling systems, pumps, and similar operating machines and parts thereof, which for reasons of size or operating characteristics are more practically evaluated in situ. Furthermore, this standard provides an indication of occupational exposure.

ASC X9 (Accredited Standards Committee X9, Incorporated)

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Reaffirmation

BSR X9.105-1-2009/ISO 8583-1-2009 (R201x), Financial transaction card originated messages - Interchange message specifications - Part 1: Messages, data elements, and code values (reaffirm a national adoption ANSI X9.105 Part 1-2009)

Stakeholders: Financial Services industry.

Project Need: Specifies a common interface by which financial transaction card-originated messages can be interchanged between acquirers and card issuers.

Part 1 of this three-part American National Standard and identical to its international counterpart of the same name, specifies a common interface by which financial transaction card-originated messages can be interchanged between acquirers and card issuers. The standard specifies message structure, format and content, data elements and values for data elements. The method by which settlement takes place is not within the scope of this part.

BSR X9.105-3-2009/ISO 8583-1-2009 (R201x), Financial transaction card originated messages - Interchange message specifications - Part 3: Maintenance procedures for messages, data elements and code values (reaffirm a national adoption ANSI X9.105-3 -2009)

Stakeholders: Financial Services industry.

Project Need: This part of ISO 8583 establishes the role of the maintenance agency (MA) and specifies the procedures for adding messages and data elements to ISO 8583-1 and to codes listed in Annex A of ISO 8583-1.

The responsibilities of the MA relate to all message-type identifiers and classes, data elements and subelements, and dataset identifiers and codes within ISO 8583-1, with the exception of Institution Identification Codes.

BSR X9.106-2003/ISO 18245 (R201x), Retail Financial Services - Merchant Category Codes (reaffirm a national adoption ANSI X9.106-2003/ISO 18245 (R2013))

Stakeholders: Financial Services industry.

Project Need: Defines code values used to enable the classification of merchants into specific categories based on the type of business, trade, or services supplied.

This standard defines code values used to enable the classification of merchants into specific categories based on the type of business, trade, or services supplied. Values are specified only for those merchant categories that are generally expected to originate retail financial transactions. This standard also establishes the procedures for a Registration and Maintenance Management Group (RMMG), which considers requests for new code values, and a Maintenance Agency (MA), which provides the administrative procedures required to maintain an up-to-date list of codes. It is not within the scope of this International Standard to mandate the use of merchant category codes in any given situation.

ASSP (Safety) (American Society of Safety Professionals)

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Revision

BSR/ASSP Z359.1-201x, The Fall Protection Code (revision of ANSI/ASSE Z359.1-2016)

Stakeholders: Occupational safety and health professionals and individuals working, managing, or addressing fall protection and fall arrest.

Project Need: Based upon the consensus of the members of the Z359 Committee and the ASSP leadership.

The Fall Protection Code is a set of standards that covers program management; system design; training; qualification and testing; and equipment, component, and system specifications for the processes used to protect workers at height in a managed fall protection program. This standard identifies those requirements and establishes their role in the Code and their interdependence.

AWWA (American Water Works Association)

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Revision

BSR/AWWA B200-201x, Sodium Chloride (revision of ANSI/AWWA B200-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for sodium chloride, including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes sodium chloride in the forms of rock, vacuum-granulated, compressed vacuum-granulated, solar, and compressed solar salt for use in the recharging of cation-exchange materials in water supply service for softening municipal and industrial potable water, wastewater, and reclaimed water supplies. Additionally, sodium chloride is used in the recharging of anion-exchange materials for nitrate removal or dealkalization of municipal and industrial supplies.

BSR/AWWA B502-201x, Sodium Polyphosphate, Glassy (Sodium Hexametaphosphate) (revision of ANSI/AWWA B502-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for sodium polyphosphate, glassy, including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes sodium polyphosphate, glassy, for use in the treatment of potable water, wastewater, and reclaimed water.

BSR/AWWA B503-201x, Sodium Tripolyphosphate (revision of ANSI/AWWA B503-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide purchasers, manufacturers, and suppliers with minimum requirements for sodium tripolyphosphate (material), including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes sodium tripolyphosphate for use in the treatment of potable water, wastewater, and reclaimed water.

BSR/AWWA B511-201x, Potassium Hydroxide (revision of ANSI/AWWA B511-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for potassium hydroxide, including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes the use of potassium hydroxide (KOH), dry and liquid, for use in the treatment of potable water, wastewater, and reuse or reclaimed water.

BSR/AWWA B550-201x, Calcium Chloride (revision of ANSI/AWWA B550-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for calcium chloride, including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes the use of calcium chloride, CaCl2, in powder, pellet, granule, flake, or briquette form for use in the treatment of potable water, wastewater, and reuse or reclaimed water.

BSR/AWWA B601-201x, Sodium Metabisulfite (revision of ANSI/AWWA B601-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for sodium metabisulfite, including physical, chemical, sampling, packaging, shipping, and testing requirements.

This standard describes the use of sodium metabisulfite (Na2S2O5) in the treatment of potable water, wastewater, and reclaimed water.

BSR/AWWA B602-201x, Copper Sulfate (revision of ANSI/AWWA B602-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for copper sulfate, including physical, chemical, sampling, testing, packaging, and shipping requirements.

This standard describes copper sulfate for use in the treatment of potable water, wastewater, or reclaimed water.

BSR/AWWA C200-201x, Steel Water Pipe, 6 In. (150 mm) and Larger (revision of ANSI/AWWA C200-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for steel water pipe, 6 in. (150 mm) and larger, including materials and quality of work, fabrication, and testing of pipe and special sections.

This standard describes electrically butt-joint-welded straight-seam or spiral-seam pipe and seamless pipe, 6 in. (150 mm) in nominal diameter and larger, for the transmission and distribution of water or for use in other water system facilities.

BSR/AWWA C206-201x, Field Welding of Steel Water Pipe (revision of ANSI/AWWA C206-2016)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide minimum requirements for field welding and inspection of steel water pipe.

This standard describes manual, semiautomatic, and automatic field welding by the metal arc-welding processes for steel water pipe manufactured in accordance with ANSI/AWWA C200, Steel Water Pipe - 6 In. (150 mm) and Larger.

BSR/AWWA C208-201x, Dimensions for Fabricated Steel Water Pipe Fittings (revision of ANSI/AWWA C208-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide formulas for use in calculating the general minimum requirements for the dimensions of fabricated steel water pipe fittings.

This standard provides formulas to calculate overall dimensions of fittings for steel water transmission and distribution facilities.

BSR/AWWA C219-201x, Bolted Sleeve-Type Couplings for Plain-End Pipe (revision of ANSI/AWWA C219-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for couplings of plain-end pipe, including requirements for materials, design, testing and inspection, installation, and shipping.

This standard describes bolted sleeve-type couplings, reducing or transition couplings, and flanged coupling adapters (couplings) used to join plain-end pipe.

BSR/AWWA C220-201x, Stainless-Steel, Pipe, 1/2 In. (13 mm) and Larger (revision of ANSI/AWWA C220-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for stainless-steel pipe, 1/2 in. (13 mm) and larger, including materials and quality of work fabrication of pipe, specials and fittings, testing and inspection, and marking requirements.

This standard pertains to stainless-steel pipe that is seamless, longitudinal-seam, or spiral-seam welded; 1/2 in. (13 mm) in nominal diameter and larger; and intended for the transmission and distribution of potable water, wastewater, and reclaimed water, and for use in other water-supply system facilities.

BSR/AWWA C224-201x, Nylon-11-Based Polyamide Coatings and Linings for Steel Water Pipe and Fittings (revision of ANSI/AWWA C224-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to establish and describe the minimum requirements for the application and use of polyamide systems for steel articles employed in water handling to maximize long-term performance - in particular, long-term corrosion protection.

This standard describes Nylon-11 polyamide systems for lining and coating of steel pipe, connections, fittings, and special sections (articles) that are used in water-handling equipment that is installed aboveground, belowground, or underwater. Polyamide systems are thermoplastic and are ordinarily applied in a shop or manufacturing facility.

BSR/AWWA C227-201x, Bolted, Split-Sleeve Couplings (revision of ANSI/AWWA C227-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for bolted, split-sleeve couplings for pipe, including requirements for materials, design, testing and inspection, installation, marking, and shipping.

This standard describes bolted, split-sleeve couplings (couplings) used to join pipe of similar outside diameter.

BSR/AWWA C231-201x, Field Welding of Stainless-Steel Water Pipe (revision of ANSI/AWWA C231-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide minimum requirements for field welding and inspection of field welds on stainless-steel potable water, wastewater, and reclaimed water pipe.

This standard describes manual, semiautomatic, and automatic field welding by the metal arc-welding processes for stainless-steel potable water, wastewater, and reclaimed water pipe manufactured in accordance with ANSI/AWWA C220.

BSR/AWWA C303-201x, Concrete Pressure Pipe, Bar-Wrapped Steel-Cylinder Type (revision of ANSI/AWWA C303-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for concrete pressure pipe, bar-wrapped steel-cylinder type, including fabrication and testing requirements.

This standard describes the manufacture of concrete pressure pipe, reinforced with a steel cylinder that is helically wrapped with mild steel bar reinforcement, in sizes ranging from 10 in. through 72 in. (250 mm through 1,830 mm), inclusive, and for working pressures up to 400 psi (2,760 kPa).

BSR/AWWA C508-201x, Swing-Check Valves for Waterworks Service, 2-In. through 48-In. (50 mm through 1,200 mm) NPS (revision of ANSI/AWWA C508-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for swing-check valves for waterworks service, 2-in. through 48-in. (50-mm through 1,200-mm) NPS, including materials and testing.

This standard describes only iron-body unassisted swing-check valves, 2-in. through 48-in. (50-mm through 1,200-mm) NPS, with mechanical-joint or flanged ends that are installed in approximately level settings in water systems.

BSR/AWWA C510-201x, Double Check-Valve Backflow Prevention Assembly (revision of ANSI/AWWA C510-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for double check-valve backflow prevention assemblies for potable water applications, including materials, general and detailed design, workmanship, and shipping and delivery.

This standard describes the double check-valve backflow prevention assembly for potable water applications.

BSR/AWWA C511-201x, Reduced-Pressure Principle Backflow Prevention Assembly (revision of ANSI/AWWA C511-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for reduced-pressure principle backflow prevention assemblies for potable water applications, including materials, general and detailed design, workmanship, and shipping and delivery.

This standard describes the reduced-pressure principle backflow prevention assembly for potable water applications.

BSR/AWWA C530-201x, Pilot-Operated Control Valves (revision of ANSI/AWWA C530-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum requirements for pilot-operated control valves, including sizing considerations, design verification, testing, delivery, handling, and storage.

This standard establishes minimum requirements for pilot-operated control valves of globe, angle, and wye body styles with various end connections in sizes from 1-1/2 in. through 60 in. (37.5 mm through 1,500 mm) in diameter, with water having a pH range from 6 to 9 and a temperature range from 40^{o} to 125^{o} F (4.4^{o} to 52^{o} C).

BSR/AWWA C550-201x, Protective Interior Coatings for Valves and Hydrants (revision of ANSI/AWWA C550-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for protective interior coatings for valves and hydrants, including materials, coating process, testing, and repair.

This standard describes protective interior coatings for valves used for water supply, wastewater collection and treatment, and reclaimed water service having a pH range from 4 to 9; and for hydrants used for water supply service.

BSR/AWWA C600-201x, Installation of Ductile-Iron Mains and Their Appurtenances (revision of ANSI/AWWA C600-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for the installation of ductile-iron potable water, wastewater, reclaimed water, and raw water mains and their appurtenances, including materials, dimensions, tolerances, and testing procedures.

This standard describes installation procedures for ductile-iron mains and their appurtenances for potable water, wastewater, reclaimed water, and raw water.

BSR/AWWA C602-201x, Cement-Mortar Lining of Water Pipelines in Place - 4 In. (100 mm) and Larger (revision of ANSI/AWWA C602-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum requirements for cement-mortar lining of water pipelines, 4 in. (100 mm) and larger, in place, including materials, design, and methods for construction.

This standard describes the requirements for the materials and application of a cement-mortar lining to the inside surface of 4-in. (100 mm) and larger new and old steel, ductile-iron, and cast-iron water pipelines that have been previously installed, as well as related work.

BSR/AWWA C604-201x, Installation of Buried Steel Water Pipe - 4 In. (100 mm) and Larger (revision of ANSI/AWWA C604-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for the installation of buried steel water pipelines, including inspection, unloading, handling, storage, and testing.

This standard provides the field installation guidelines for buried steel water pipe, 4 in. (100 mm) and larger.

BSR/AWWA C810-201x, Replacement and Flushing of Lead Service Lines (revision of ANSI/AWWA C810-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum process requirements for the replacement of lead service lines and for flushing following replacement.

This standard describes essential procedures for the replacement of lead water service lines and flushing following replacement.

BSR/AWWA C901-201x, Polyethylene (PE) Pressure Pipe and Tubing, 3/4 In. (19 mm) through 3 In. (76 mm), for Water Service (revision of ANSI/AWWA C901-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the requirements for materials, testing and inspection, and shipping of PE pipe and 3/4-in. (19-mm) through 2-in. (51-mm) tubing for potable water, wastewater, and reclaimed water systems.

This standard describes polyethylene (PE) pressure pipe and tubing made from material having standard PE code designation PE4710 and intended for use in potable water, reclaimed water, and wastewater service.

BSR/AWWA C907-201x, Injection-Molded Polyvinyl Chloride (PVC) Pressure Fittings, 4 In. through 12 In. (100 mm through 300 mm), for Water, Wastewater, and Reclaimed Water Service (revision of ANSI/AWWA C907-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for PVC injection-molded pressure fittings, 4 in. to 12 in. (100 mm to 300 mm), for underground PVC and PVCO pressure-pipe systems.

This standard describes Pressure Class 235 (PC235) polyvinyl chloride (PVC) injection-molded fittings with push-on rubber-gasketed joints in nominal sizes 4 in. through 12 in. (100 mm through 300 mm) for use in water, wastewater, and reclaimed water service.

BSR/AWWA C111/A21.11-201x, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings (revision of ANSI/AWWA C111/A21.11-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for rubber-gasket joints for ductile-iron pressure pipe and ductile-iron and gray-iron fittings, including requirements and inspection.

This standard describes rubber-gasket joints of the following types for ductile-iron pressure pipe and ductile-iron and gray-iron fittings, valves, hydrants, and other appurtenances for potable water, raw water, non-aggressive wastewater, and reclaimed water supply service.

BSR/AWWA C151/A21.51-201x, Ductile-Iron Pipe, Centrifugally Cast (revision of ANSI/AWWA C151/A21.51-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for ductile-iron pipe, centrifugally cast, for potable water, raw water, wastewater, and reclaimed water systems.

This standard describes 3-in. through 64-in. (80-mm through 1,600-mm) ductile-iron pipe, centrifugally cast, for potable water, raw water, wastewater, and reclaimed water systems with push-on joints or mechanical joints.

BSR/AWWA D102-201x, Coating Steel Water-Storage Tanks (revision of ANSI/AWWA D102-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for coating steel water-storage tanks, including materials, coating systems, surface preparation, application, and inspection and testing.

This standard describes coating systems for coating and recoating the inside and outside surfaces of steel tanks used for potable water storage in water supply service. Coating systems for new bolted steel tanks are not described in this standard (see ANSI/AWWA D103).

BSR/AWWA D104-201x, Automatically Controlled, Impressed-Current Cathodic Protection for the Interior Submerged Surfaces of Steel Water Storage Tanks (revision of ANSI/AWWA D104-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for automatically controlled, impressed-current cathodic protection for the interior submerged surfaces of steel water-storage tanks, including design, system components, quality of work, and installation.

This standard describes automatically controlled, impressed-current cathodic protection systems intended to minimize corrosion of interior submerged surfaces of steel water storage tanks and 30-in. (750-mm) diameter and larger wet risers of elevated tanks.

BSR/AWWA E102-201x, Submersible Vertical Turbine Pumps (revision of ANSI/AWWA E102-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to provide the minimum requirements for submersible vertical turbine pumps.

This standard provides minimum requirements for submersible vertical turbine pumps utilizing a discharge column pipe assembly for installation in wells, water treatment plants, water transmission systems, and water distribution systems. Electric motors are the only type of prime movers addressed in this standard.

BSR/AWWA G100-201x, Water Treatment Plant Operation and Management (revision of ANSI/AWWA G100-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the critical requirements for the operation and management of water treatment plants, including maintaining water quality, system management programs, and operation and maintenance of facilities.

This standard describes the critical requirements for the effective operation and management of drinking water treatment plants.

BSR/AWWA G420-201x, Communication and Customer Relations (revision of ANSI/AWWA G420-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum requirements for establishing an effective communication and customer relations plan for a water and/or wastewater utility.

This standard covers the essential requirements to effectively manage communication and customer relations.

BSR/AWWA G440-201x, Emergency Preparedness Practices (revision of ANSI/AWWA G440-2017)

Stakeholders: Drinking Water Treatment and Supply industry, water utilities, consulting engineers, water treatment equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum emergency preparedness requirements for water, wastewater, and reclaimed water utilities and associated assets; to respond to emergencies and restore normal operations; and to minimize disruption of critical lifeline services that are essential to public health, fire protection, sanitation, economic activity, and consumer confidence.

This standard covers the minimum requirements to establish and maintain an acceptable level of emergency preparedness based on the identified and perceived risks facing utilities within the water sector.

BSR/AWWA G520-201x, Wastewater Collection System Operation and Management (revision of ANSI/AWWA G520-2017)

Stakeholders: Water and wastewater treatment and collection industry. Wastewater and water utilities, consulting engineers, water and wastewater collection equipment manufacturers, and the like.

Project Need: The purpose of this standard is to define the minimum requirements for the operation and management of a wastewater collection system, including maintaining infrastructure and operation and maintenance (O&M) of facilities.

This standard describes the critical requirements for the effective operation and management of a wastewater collection system.

CTA (Consumer Technology Association)

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

Reaffirmation

BSR/CTA 709.4-2013 (R201x), Fiber-Optic Channel Specification (reaffirmation of ANSI/CTA 709.4-2013)

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

Project Need: To reaffirm ANSI/CTA 709.4.

This standard defines a complete 7-layer protocol stack for communications on a CTA-709.4 single-fiber (half-duplex) fiber-optic channel.

Withdrawal

ANSI/CTA 2005-2006 (R2013), AV Adapter to Connect Ethernet and 1394 Devices (withdrawal of ANSI/CTA 2005-2006 (R2013))

Stakeholders: Consumers, manufacturers, and retailers.

Project Need: To withdraw ANSI/CTA 2005-2006 (R2013).

This document addresses the connection of 1394 devices that implement the “Cable/CE Plug ‘n Play ” agreement (1394 C/CE devices) to Digital Living Network Alliance Devices (DLNA Devices) that adhere to the DLNA Home Networked Device Interoperability Guidelines v1.0 on Ethernet/WiFi networks. These DLNA Devices are based on the UPnP Device Architecture v1.0 and implement the UPnP AV Device Control Protocols.

HL7 (Health Level Seven)

Contact: Karen Van Hentenryck, (734) 677-7777, Karenvan@HL7.org
3300 Washtenaw Avenue, Suite 227, Ann Arbor, MI 48104

New Standard

BSR/HL7 MHAFF, R1-201x, HL7 Consumer Mobile Health Application, Release 1 (new standard)

Stakeholders: Payers.

Project Need: Industry is in need of privacy and data standards in order to create consumer smartphone health apps which are secure, private, and that allow for data generated from and through these apps to be used in other health care contexts (e.g., personal data tracking, integration into a person's record of care, clinical decision making). While the HL7 PHR-S FM expresses many of these functional requirements, it is not possible to use the PHR-S FM as-is to create mobile application standards. Mobile apps are generally not comprehensive in scope and, as such, mobile app standards cannot be extracted as PHR system profiles as it is impossible for most apps to adhere to all the SHALL statements within the PHR-S FM.

This project will define security, privacy, and data standards for secure mobile health applications (apps). The intent is to provide industry guidance and common methods to enable the development of mobile health smartphone apps targeted to consumers/citizens that use protected health information (PHI) and personally identifiable information (PII). These standards will not address the content of such apps, but will provide a framework for security, privacy, and trusted integration of data generated from apps into Personal Health Record (PHR) and Electronic Health Record (EHR) systems as well as into other types of data repositories (e.g., personal data stores, population care systems).

Withdrawal

ANSI/HL7 IDMP UNITSMEASURE, R1-2014, Health Informatics - Identification of Medicinal Products - Data Elements and Structures for Unique Identification of Units of Measure, Release 1 (withdrawal of ANSI/HL7 IDMP UNITSMEASURE, R1-2014)

Stakeholders: Pharma.

Project Need: Standard is outdated. Implementers are using the ISO version, which has been updated.

The target is to unambiguously express Units of Measure for (1) Description of quantitative composition of medicinal products and packaging and (2) any Units of Measurement required for adverse drug reaction reporting in the frame of Individual Case Safety Report (ICSRs). This standard applies to medicinal product, pharmacovigilance ICSR reporting, healthcare, and other areas, as applicable.

ISA (International Society of Automation)

Contact: Eliana Brazda, (919) 990-9228, ebrazda@isa.org
67 Alexander Drive, Research Triangle Park, NC 27709

Revision

BSR/ISA 75.19.01-201x, Hydrostatic Testing of Control Valves (revision of ANSI/ISA 75.19.01-2013)

Stakeholders: Consumers, manufacturers, regulatory bodies.

Project Need: To establish requirements and definitions for standard hydrostatic shell testing of control valves by the valve manufacturer to prove the structural integrity and leak tightness of the valves' pressure-retaining parts.

This standard applies to control valves having bodies, bonnets, cover plates, and bottom flanges made of carbon steel, low-alloy and high-alloy (stainless) steel, nickel-base alloy, cast iron, and ductile iron. This standard establishes requirements and definitions for standard hydrostatic shell testing of control valves by the valve manufacturer to prove the structural integrity and leak tightness of the valves' pressure retaining parts, including any closure parts such as the valve body to bonnet joint, but excluding packings, bellows or other moving seals, and packing leakoff/purge/vent port connections.

BSR/ISA 62443-3-201x, Security for industrial automation and control systems, Part 3-3: System security requirements and security levels (revision and redesignation of ANSI/ISA 62443-3 (99.03.03)-2013)

Stakeholders: All manufacturing and industrial processing industries.

Project Need: Integral part of the series on security for industrial automation and control systems (IACS).

This part of the ISA 62443 series provides detailed technical control system requirements (SRs) associated with the seven foundational requirements (FRs) described in ISA 62443-1-1 (99.01.01) including defining the requirements for control system capability security levels, SL C (control system). These requirements would be used by various members of the industrial automation and control system (IACS) community along with the defined zones and conduits for the system under consideration (SuC) while developing the appropriate control system target SL, SL-T(control system), for a specific asset.

NFPA (National Fire Protection Association)

Contact: Dawn Michele Bellis, (617) 984-7246, dbellis@nfpa.org
One Batterymarch Park, Quincy, MA 02169

Revision

BSR/NFPA 750-201x, Standard on Water Mist Fire Protection Systems (revision of ANSI/NFPA 750-2019)

Stakeholders: Insurance, consumer, enforcing authority, labor, installer/maintainer, special expert, research & testing, users, manufacturers.

Project Need: Public interest and need.

This standard contains the minimum requirements for the design, installation, maintenance, and testing of water-mist fire protection systems. This standard does not provide definitive fire performance criteria, nor does it offer specific guidance on how to design a system to control, suppress, or extinguish a fire. Reliance is placed on the procurement and installation of listed water-mist equipment or systems that have demonstrated performance in fire tests as part of a listing process.

VITA (VMEbus International Trade Association (VITA))

Contact: Jing Kwok, (602) 281-4497, jing.kwok@vita.com
929 W. Portobello Avenue, Mesa, AZ 85210

New Standard

BSR/VITA 46.30-201x, Higher Data Rate VPX (new standard)

Stakeholders: Manufacturers, suppliers, and users of modular embedded computers.

Project Need: Fills the need for a printed circuit module with high-performance connector for use with high-speed serial fabrics in embedded applications.

VITA 46.30 defines a standard for a VPX connector that supports higher data rates, to at least 25 Gbaud for protocols such as 100GBASE-KR4 Ethernet and PCIe Gen 4. The higher data rate connectors compliant to VITA 46.30 are intermateable to legacy VITA 46.0 connectors and follow the same form factor.

Revision

BSR/VITA 62-201x, Modular Power Supply Standard (revision of ANSI/VITA 62-2016)

Stakeholders: Manufacturers, suppliers, and users of modular VPX embedded systems.

Project Need: Standardize power supply requirements for modular VPX embedded systems.

This standard provides requirements for building a power supply module that can be used to power a VPX chassis. The module will fit within the standard envelope defined for VPX modules in the VITA 48.0 standards. This revision clarifies hold-up options and other requirements.

American National Standards Maintained Under Continuous Maintenance

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

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

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

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

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

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

ANSI-Accredited Standards Developers Contact Information

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

AAMI
Association for the Advancement of Medical Instrumentation
4301 N. Fairfax Drive, Suite 301
Suite 301
Arlington, VA 22203-1633
Phone: (703) 253-8261
Web: www.aami.org

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

AHRI
Air-Conditioning, Heating, and Refrigeration Institute
2311 Wilson Blvd
Suite 400
Arlington, VA 22201
Phone: (703) 982-7746
Web: www.ahrinet.org

ANS
American Nuclear Society
555 North Kensington Avenue
La Grange Park, IL 60526
Phone: (708) 579-8268
Web: www.ans.org

ASABE
American Society of Agricultural and Biological Engineers
2950 Niles Road
Saint Joseph, MI 49085
Phone: (269) 932-7015
Web: www.asabe.org

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

ASHRAE
American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329
Phone: (678) 539-1214
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) 699-2929
Web: www.assp.org

AWS
American Welding Society
8669 Doral Blvd
Suite 130
Doral, FL 33166
Phone: (800) 443-9353 xt306
Web: www.aws.org

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

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

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

HL7
Health Level Seven
3300 Washtenaw Avenue
Suite 227
Ann Arbor, MI 48104
Phone: (734) 677-7777
Web: www.hl7.org

IEEE (ASC C63)
Institute of Electrical and Electronics Engineers
445 Hoes Lane
Piscataway, NJ 08854
Phone: (732) 562-3874
Web: standards.ieee.org

IES
Illuminating Engineering Society
120 Wall Street, Floor 17
New York, NY 10005
Phone: (917) 913-0027
Web: www.ies.org

ISA (Organization)
International Society of Automation
67 Alexander Drive
Research Triangle Park, NC 27709
Phone: (919) 990-9228
Web: www.isa.org

ITSDF
Industrial Truck Standards Development Foundation, Inc.
1750 K Street NW
Suite 460
Washington, DC 20006
Phone: (202) 296-9880
Web: www.indtrk.org

MHI
Material Handling Industry
8720 Red Oak Boulevard
Suite 201
Charlotte, NC 28217
Phone: (704) 714-8755
Web: www.mhi.org

NECA
National Electrical Contractors Association
3 Bethesda Metro Center
Suite 1100
Bethesda, MD 20814
Phone: (301) 215-4549
Web: www.neca-neis.org

NFPA
National Fire Protection Association
One Batterymarch Park
Quincy, MA 02169
Phone: (617) 984-7246
Web: www.nfpa.org

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

RIA
Robotic Industries Association
900 Victors Way
Suite 140
Ann Arbor, MI 48108-5210
Phone: (734) 218-0509
Web: www.robotics.org

SCTE
Society of Cable Telecommunications Engineers
140 Philips Rd
Exton, PA 19341
Phone: (800) 542-5040
Web: www.scte.org

TCNA (ASC A108)
Tile Council of North America
100 Clemson Research Blvd.
Anderson, SC 29625
Phone: (864) 646-8453
Web: www.tileusa.com

UL
Underwriters Laboratories, Inc.
12 Laboratory Dr.
Research Triangle Park, NC 27709
Phone: (919) 549-0973
Web: www.ul.com

VC (ASC Z80)
The Vision Council
225 Reinekers Lane
Alexandria, VA 22314
Phone: 585-387-9913
Web: www.z80asc.com

VITA
VMEbus International Trade Association (VITA)
929 W. Portobello Avenue
Mesa, AZ 85210
Phone: (602) 281-4497
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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

ACOUSTICS (TC 43)

ISO/DIS 20270, Acoustics - Characterization of sources of structure-borne sound and vibration - Indirect measurement of blocked forces - 11/29/2018, $107.00

ISO/DIS 21388, Hearing aid fitting management (HAFM) - 11/30/2018, $112.00

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO/DIS 21980, Space systems - Evaluation of radiation effects on Commercial-Off-The-Shelf (COTS) parts for use on low-orbit satellite - 1/28/2019, $112.00

APPLICATIONS OF STATISTICAL METHODS (TC 69)

ISO/DIS 16269-5, Statistical interpretation of data - Part 5: Techniques of estimation and tests relating to means and variances - 1/28/2019, $155.00

COLLABORATIVE BUSINESS RELATIONSHIP MANAGEMENT -- FRAMEWORK (TC 286)

ISO/DIS 44002, Collaborative business relationship management - Guidelines on the implementation of ISO 44001 - 1/25/2019, $146.00

CRYOGENIC VESSELS (TC 220)

ISO/DIS 21014, Cryogenic vessels - Cryogenic insulation performance - 11/29/2018, $67.00

EARTH-MOVING MACHINERY (TC 127)

ISO/DIS 17757, Earth-moving machinery and mining - Autonomous and semi-autonomous machine system safety - 12/2/2018, $119.00

EQUIPMENT FOR FIRE PROTECTION AND FIRE FIGHTING (TC 21)

ISO/DIS 7240-17, Fire detection and fire alarm systems - Part 17: Transmission path isolators - 1/21/2019, $93.00

FINE BUBBLE TECHNOLOGY (TC 281)

ISO/DIS 21256-2, Fine bubble technology - Cleaning applications - Part 2: Test method for cleaning machine-oil stained surfaces of machined metallic parts - 1/26/2019, $67.00

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO/DIS 19116, Geographic information - Positioning services - 2/1/2019, $134.00

GEOSYNTHETICS (TC 221)

ISO/DIS 12960, Geotextiles and geotextile-related products - Screening test method for determining the resistance to acid and alkaline liquids - 11/30/2018, $40.00

INDUSTRIAL AUTOMATION SYSTEMS AND INTEGRATION (TC 184)

ISO/DIS 16300-4, Automation systems and integration - Interoperability of capability units for manufacturing application solutions - Part 4: Capability unit assessment for the manufacturing application requirements - 1/28/2019, $82.00

ISO/DIS 15926-10, Industrial automation systems and integration - Integration of life cycle data for process plants including oil and gas production facilities - Part 10: Conformance testing - 12/2/2018, $107.00

INFORMATION AND DOCUMENTATION (TC 46)

ISO/DIS 3297, Information and documentation - International standard serial number (ISSN) - 1/26/2019, $88.00

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

ISO/DIS 15590-4, Petroleum and natural gas industries - Bends, fittings and flanges for pipeline transportation systems - Part 4: Factory cold bends - 11/30/2018, $98.00

MECHANICAL VIBRATION AND SHOCK (TC 108)

ISO/DIS 14830-1, Condition monitoring and diagnostics of machines - Tribology-based monitoring and diagnostics - Part 1: General guidelines - 11/6/2002, $119.00

OPTICS AND OPTICAL INSTRUMENTS (TC 172)

ISO/DIS 10110-8, Optics and photonics - Preparation of drawings for optical elements and systems - Part 8: Surface texture - 1/25/2019, $82.00

OTHER

ISO/DIS 24497-1, Non-destructive testing - Metal magnetic memory - Part 1: Vocabulary and general requirements - 11/30/2018, $67.00

ISO/DIS 24497-2, Non-destructive testing - Metal magnetic memory - Part 2: Inspection of welded joints - 11/30/2018, $53.00

PLASTICS (TC 61)

ISO/DIS 294-3, Plastics - Injection moulding of test specimens of thermoplastic materials - Part 3: Small plates - 12/2/2018, $53.00

ISO/DIS 22404, Plastics - Determination of the aerobic biodegradation of non-floating materials exposed to marine sediment - Method by analysis of evolved carbon dioxide - 1/21/2019, $58.00

ROAD VEHICLES (TC 22)

ISO 6469-3/DAmd1, Electrically propelled road vehicles - Safety specifications - Part 3: Electrical safety - Amendment 1 - 1/27/2019, $40.00

ISO/DIS 21755-2, Motorcycles - Measurement method for evaporative emissions - Part 2: Measurement method by using permeation test procedure - 12/2/2018, $58.00

ISO/DIS 8820-13, Road vehicles - Fuse-links - Part 13: Fuse-links with tabs (blade type) Type P (sub miniature three tabs) - 1/21/2019, $58.00

SECURITY (TC 292)

ISO/DIS 22301, Security and resilience - Business continuity management systems - Requirements - 1/27/2019, $88.00

SIEVES, SIEVING AND OTHER SIZING METHODS (TC 24)

ISO/DIS 14411-2, Preparation of particulate reference materials - Part 2: Polydisperse spherical particles - 1/31/2019, $82.00

ISO/DIS 21501-2, Determination of particle size distribution - Single particle light interaction methods - Part 2: Light scattering liquid-borne particle counter - 1/21/2019, $82.00

ISO/DIS 21501-3, Determination of particle size distribution - Single particle light interaction methods - Part 3: Light extinction liquid-borne particle counter - 1/21/2019, $71.00

SMALL CRAFT (TC 188)

ISO/DIS 25197, Small craft - Electrical/electronic control system for steering, shift and throttle - 11/30/2018, $82.00

SOLID BIOFUELS (TC 238)

ISO/DIS 20024, Solid biofuels - Safe handling and storage of solid biofuel pellets in commercial and industrial applications - 1/26/2019, $175.00

SPORTS AND RECREATIONAL EQUIPMENT (TC 83)

ISO/DIS 20957-2, Stationary training equipment - Part 2: Strength training equipment, additional specific safety requirements and test methods - 1/31/2019, $71.00

ISO/DIS 20957-7, Stationary training equipment - Part 7: Rowing equipment, additional specific safety requirements and test methods - 1/31/2019, $53.00

SURFACE CHEMICAL ANALYSIS (TC 201)

ISO/DIS 20579-3, Surface chemical analysis - Sample handling, preparation and mounting - Part 3: Biomaterials - 11/29/2018, $58.00

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO/DIS 15003, Agricultural engineering - Electrical and electronic equipment - Testing resistance to environmental conditions - 12/3/2018, $88.00

TRADITIONAL CHINESE MEDICINE (TC 249)

ISO/DIS 18615, Traditional Chinese medicine - General requirements of electric radial pulse tonometric device - 11/30/2018, $58.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 11770-4/DAmd1, Information technology - Security techniques - Key management - Part 4: Mechanisms based on weak secrets - Amendment 1: Unbalanced Password-Authenticated Key Agreement with Identity-Based Cryptosystems (UPAKA-IBC) - 1/25/2019, $62.00

ISO/IEC 23009-1/DAmd5, Information technology - Dynamic adaptive streaming over HTTP (DASH) - Part 1: Media presentation description and segment formats - Amendment 5: Device information and other extensions - 1/25/2019, $98.00

ISO/IEC DIS 7816-8, Identification cards - Integrated circuit cards - Part 8: Commands and mechanisms for security operations - 12/1/2018, $107.00

ISO/IEC DIS 23093-2, Information technology - Media context and control - Part 2: Sensory information discovery and communication API - 1/25/2019, $71.00

ISO/IEC DIS 23093-3, Information technology - Media context and control - Part 3: Sensory information - Media data formats and API - 1/25/2019, $215.00

IEC Standards

4/368/CD, IEC 60545 ED2: Guideline for commissioning and operation of hydraulic turbines, pump-turbines and storage pumps, 019/2/1/

14/992/FDIS, IEC 60076-22-1 ED1: Power transformers - Power transformer and reactor fittings - Part 22-1: Protective devices, /2018/12/2

20/1853/DISH, IEC 60332-3-24/ISH1 ED2: Interpretation Sheet 1 - Tests on electric and optical fibre cables under fire conditions - Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C, /2018/12/2

22F/514/CD, IEC 61803 ED2: Determination of power losses in high-voltage direct current (HVDC) converter stations with line-commutated converters, 019/2/1/

31J/285/Q, New revision (future Ed.3) of IEC 60079-10-2: Explosive atmospheres - Part 10-2: Classification of areas - Explosive dust atmospheres, 019/3/1/

34/577/FDIS, IEC 62386-220 ED1: Digital addressable lighting interface - Part 220: Particular requirements for control gear - Centrally supplied emergency operation (device type 19), /2018/12/2

34/580/CD, IEC TS 63105 ED1: Lighting systems and related equipment - Vocabulary, 019/2/1/

34C/1410/CD, IEC 61347-2-7/AMD2/FRAG3 ED3: Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained), 019/2/1/

34D/1437/CD, IEC 60598-1/AMD2/FRAG32 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1436/CD, IEC 60598-1/AMD2/FRAG31 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1441/CD, IEC 60598-1/AMD2/FRAG36 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1442/CD, IEC 60598-1/AMD2/FRAG37 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1434/CD, IEC 60598-2-22/AMD2/FRAG6 ED4: Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting, 019/2/1/

34D/1438/CD, IEC 60598-1/AMD2/FRAG33 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1439/CD, IEC 60598-1/AMD2/FRAG34 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1440/CD, IEC 60598-1/AMD2/FRAG35 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1435/CD, IEC 60598-1/AMD2/FRAG30 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

34D/1443/CD, IEC 60598-1/AMD2/FRAG38 ED8: Luminaires - Part 1: General requirements and tests, 019/2/1/

45A/1246/CD, IEC 60910 ED2: Nuclear power plants - Instrumentation systems important to safety - Containment monitoring for early detection of developing deviations from normal operation in light water reactors, 019/2/1/

47F/322/FDIS, IEC 62047-32 ED1: Semiconductor devices - Micro-electromechanical devices - Part 32: Test method for the nonlinear vibration of the MEMS resonators, /2018/12/2

62D/1652/DTR, IEC TR 61289 ED2: High frequency surgical equipment and high frequency surgical accessories - Operation and maintenance, 019/1/4/

62D/1654/CD, IEC TR 62653 ED2: Guideline for safe operation of medical equipment used for haemodialysis treatments, 019/2/1/

80/905/CD, IEC 61108-5 ED1: Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS) - Part 5: BeiDou satellite navigation system (BDS) - Receiver equipment - Performance requirements, methods of testing and required test results, 019/1/4/

80/906/CD, IEC 63154 ED1: Maritime navigation and radiocommunication equipment and systems - Cybersecurity - General requirements, methods of testing and required test results, 019/2/1/

80/903/CDV, IEC 61097-4/AMD2 ED3: Amendment 2 - Global maritime distress and safety system (GMDSS) - Part 4: Inmarsat-C ship earth station and Inmarsat enhanced group call (EGC) equipment - Operational and performance requirements, methods of testing and required test results, 019/2/1/

80/904/CDV, IEC 61097-6/AMD2 ED2: Amendment 2 - Global maritime distress and safety system (GMDSS) - Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX), 019/2/1/

82/1525/NP, PNW 82-1525: Measurement procedures for materials used in photovoltaic modules - Part 1: Encapsulants - Part 1-1: Polymeric materials used for encapsulants, 019/1/4/

85/662/DTR, IEC TR 63213 ED1: Measurement applications within electrical distribution network, 019/1/4/

86B/4157/CD, IEC 61753-061-2 ED2: Fibre optic interconnecting devices and passive components - Performance standard - Part 061 -2: Single-mode fibre optic pigtailed style polarization independent isolators for category C - Controlled environments, 019/2/1/

86B/4156/CD, IEC 61977 ED4: Fibre optic interconnecting devices and passive components - Fibre optic fixed filters - Generic specification, 019/2/1/

91/1546/CD, IEC 61189-2-804 ED1: Test methods for electrical materials, printed board and other interconnection structures and assemblies - Part 2-804: Test methods for time to delamination - T260, T288, T300, 019/2/1/

91/1545/CD, IEC 61189-2-803 ED1: Test methods for electrical materials, printed board and other interconnection structures and assemblies - Part 2-803: Test methods for Z-Axis Expansion of base materials and printed board, 019/2/1/

91/1543/CD, IEC 61189-2-801 ED1: Test methods for electrical materials, printed board and other interconnection structures and assemblies - Part 2-801: Thermal conductivity test for base materials, 019/2/1/

110/1060/NP, PNW 110-1060: Touch and interactive displays - Part 13 -20: Test methods of touch displays - Mechanical endurance, 019/2/1/

110/1031/CDV, IEC 63145-20-10 ED1: Eyewear display - Part 20-10: Fundamental measurement methods - Optical properties, 019/2/1/

110/1033/CDV, IEC 63145-22-10 ED1: Eyewear display - Part 22-10: Specific measurement methods for AR type - Optical properties, 019/2/1/

110/1034/CDV, IEC 63145-20-20 ED1: Eyewear display - Part 20-20: Fundamental measurement methods - Image quality, 019/2/1/

113/447/CD, IEC TS 62607-6-14 ED1: Nanomanufacturing - Key control characteristics - Part 6-14: Graphene powder - Defect level: Raman spectroscopy, 019/1/4/

119/243/NP, PNW 119-243: Printed Electronics - Part 402-3: Printability - Measurement of qualities - Voids of printed patterns using 2D optical image, 019/2/1/

CIS/A/1278/FDIS, CISPR 16-2-3/AMD1 ED4: Amendment 1 - Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements, /2018/12/2

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

CLINICAL LABORATORY TESTING AND IN VITRO DIAGNOSTIC TEST SYSTEMS (TC 212)

ISO 20184-2:2018, Molecular in vitro diagnostic examinations - Specifications for pre-examination processes for frozen tissue - Part 2: Isolated proteins, $103.00

FINE CERAMICS (TC 206)

ISO 17167:2018, Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of monolithic ceramics at room temperature - Determination of flexural strength by the ring-on-ring test, $103.00

FLOOR COVERINGS (TC 219)

ISO 24342:2018, Resilient and textile floor-coverings - Determination of side length, edge straightness and squareness of tiles, $68.00

GAS CYLINDERS (TC 58)

ISO 21172-1/Amd1:2018, Gas cylinders - Welded steel pressure drums up to 3 000 litres capacity for the transport of gases - Design and construction - Part 1: Capacities up to 1 000 litres - Amendment 1, $19.00

HYDROMETRIC DETERMINATIONS (TC 113)

ISO 1070:2018, Hydrometry - Slope-area method, $162.00

LEATHER (TC 120)

ISO 11457:2018, Leather - Grading of wet blue goat and sheep skins based on defects, $45.00

METALLIC AND OTHER INORGANIC COATINGS (TC 107)

ISO 6158:2018, Metallic and other inorganic coatings - Electrodeposited coatings of chromium for engineering purposes, $103.00

NATURAL GAS (TC 193)

ISO 15112:2018, Natural gas - Energy determination, $209.00

OPTICS AND OPTICAL INSTRUMENTS (TC 172)

ISO 9211-5:2018, Optics and photonics - Optical coatings - Part 5: Minimum requirements for antireflecting coatings, $45.00

PAINTS AND VARNISHES (TC 35)

ISO 150:2018, Raw, refined and boiled linseed oil for paints and varnishes - Specifications and methods of test, $68.00

ISO 3681:2018, Binders for paints and varnishes - Determination of saponification value - Titrimetric method, $68.00

ISO 4619:2018, Driers for paints and varnishes, $138.00

ISO 2812-2:2018, Paints and varnishes - Determination of resistance to liquids - Part 2: Water immersion method, $45.00

PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO 18639-4:2018, PPE ensembles for firefighters undertaking specific rescue activities - Part 4: Gloves, $138.00

PLASTICS (TC 61)

ISO 527-3:2018, Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets, $68.00

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

ISO 13257:2018, Thermoplastics piping systems for non-pressure applications - Test method for resistance to elevated temperature cycling, $68.00

QUALITY MANAGEMENT AND CORRESPONDING GENERAL ASPECTS FOR MEDICAL DEVICES (TC 210)

ISO 80369-1:2018, Small-bore connectors for liquids and gases in healthcare applications - Part 1: General requirements, $162.00

SAFETY OF TOYS (TC 181)

ISO 8124-6:2018, Safety of toys - Part 6: Certain phthalate esters in toys and childrens products, $162.00

SECURITY (TC 292)

ISO 22320:2018, Security and resilience - Emergency management - Guidelines for incident management, $138.00

SOLID MINERAL FUELS (TC 27)

ISO 12900:2018, Hard coal - Determination of abrasiveness, $68.00

STERILIZATION OF HEALTH CARE PRODUCTS (TC 198)

ISO 11137-1/Amd2:2018, Sterilization of health care products - Radiation - Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices - Amendment 2: Revision to 4.3.4 and 11.2, $19.00

TOBACCO AND TOBACCO PRODUCTS (TC 126)

ISO 21160:2018, Cigarettes - Determination of selected carbonyls in the mainstream smoke of cigarettes - Method using high performance liquid chromatography, $103.00

ISO 21330:2018, Cigarettes - Determination of selected volatile organic compounds in the mainstream smoke of cigarettes - Method using GC/MS, $103.00

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 18497:2018, Agricultural machinery and tractors - Safety of highly automated agricultural machines - Principles for design, $103.00

WATER QUALITY (TC 147)

ISO 11704:2018, Water quality - Gross alpha and gross beta activity - Test method using liquid scintillation counting, $138.00

WATER RE-USE (TC 282)

ISO 20469:2018, Guidelines for water quality grade classification for water reuse, $45.00

ISO Technical Reports

DOCUMENT IMAGING APPLICATIONS (TC 171)

ISO/TR 22299:2018, Document management - Digital file format recommendations for long-term storage, $68.00

FLUID POWER SYSTEMS (TC 131)

ISO/TR 22165:2018, Pneumatic fluid power - Application notes for the improvement of the energy efficiency of pneumatic systems, $45.00

ISO Technical Specifications

ENERGY MANAGEMENT AND ENERGY SAVINGS (TC 301)

ISO/TS 50008:2018, Energy management and energy savings - Building energy data management for energy performance - Guidance for a systemic data exchange approach, $103.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 14496-5/Amd43:2018, Information technology - Coding of audio-visual objects - Part 5: Reference software - Amendment 43: New levels of ALS simple profile, SBR enhancements, $19.00

ISO/IEC 20889:2018, Privacy enhancing data de-identification terminology and classification of techniques, $185.00

ISO/IEC 26553:2018, Information technology - Software and systems engineering - Tools and methods for product line realization, $209.00

ISO/IEC 26556:2018, Information technology - Software and systems engineering - Tools and methods for product line organizational management, $209.00

ISO/IEC 29112:2018, Information technology - Office equipment - Test pages and methods for measuring monochrome printer resolution, $232.00

ISO/IEC 29138-1:2018, Information technology - User interface accessibility - Part 1: User accessibility needs, $232.00

ISO/IEC 14496-30:2018, Information technology - Coding of audio-visual objects - Part 30: Timed text and other visual overlays in ISO base media file format, $103.00

ISO/IEC 29167-22:2018, Information technology - Automatic identification and data capture techniques - Part 22: Crypto suite SPECK security services for air interface communications, $185.00

ISO/IEC/IEEE 8802-21/Cor1:2018, Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 21: Media independent services framework - Corrigendum, FREE

IEC Standards

ELECTRICAL APPARATUS FOR EXPLOSIVE ATMOSPHERES (TC 31)

IEC 60079-13 Ed. 2.0 b:2017, Explosive atmospheres - Part 13: Equipment protection by pressurized room "p" and artificially ventilated room "v", $235.00

LIGHTNING PROTECTION (TC 81)

IEC 62561-3 Ed. 2.0 b:2017, Lightning protection system components (LPSC) - Part 3: Requirements for isolating spark gaps (ISG), $164.00

PERFORMANCE OF HOUSEHOLD ELECTRICAL APPLIANCES (TC 59)

IEC 62863 Ed. 1.0 b:2017, Methods of measuring performances of electric hair clippers or trimmers for household use, $82.00

PIEZOELECTRIC AND DIELECTRIC DEVICES FOR FREQUENCY CONTROL AND SELECTION (TC 49)

IEC 61837-2 Ed. 3.0 b:2018, Surface mounted piezoelectric devices for frequency control and selection - Standard outlines and terminal lead connections - Part 2: Ceramic enclosures, $375.00

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES (TC 61)

IEC 60335-2-102 Ed. 2.0 b:2017, Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections, $82.00

SAFETY OF MACHINERY - ELECTROTECHNICAL ASPECTS (TC 44)

IEC 62046 Ed. 1.0 b:2018, Safety of machinery - Application of protective equipment to detect the presence of persons, $375.00

SEMICONDUCTOR DEVICES (TC 47)

IEC 62435-4 Ed. 1.0 b:2018, Electronic components - Long-term storage of electronic semiconductor devices - Part 4: Storage, $117.00

IEC Technical Reports

FLAT PANEL DISPLAY DEVICES (TC 110)

IEC/TR 62977-2-4 Ed. 1.0 en:2018, Electronic displays - Part 2-4: Transparent displays - Overview of application scenarios, $117.00

IEC/TR 62977-2-5 Ed. 1.0 en:2018, Electronic displays devices - Part 2-5: Transparent displays - Measurements of optical characteristics, $235.00

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

American Water Works Association (AWWA)

The reaccreditation of the American Water Works Association (AWWA), 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 AWWA-sponsored American National Standards, effective November 14, 2018. For additional information, please contact: Mr. Paul Olson, P.E., Sr. Manager of Standards, American Water Works Association, 6666 W. Quincy Avenue, Denver, CO 80235; phone: 303.347.6178; e-mail: POlson@awwa.org.

International Organization for Standardization (ISO)

New Secretariats

ISO/TC 215 – Health informatics

Comment Deadline: December 7, 2018

The U.S. TAG to ISO/TC 215 has requested to delegate the responsibilities of the administration of the ISO/TC 215 secretariat to ANSI. The secretariat was previously held by the American Health Information Management Association (AHIMA) and the secretariat transfer is supported by the U.S. TAG.

ISO/TC 215 operates under the following scope:

> Standardization in the field of health informatics, to facilitate capture, interchange and use of health-related data, information, and knowledge to support and enable all aspects of the health system.

Organizations wishing to comment on the delegation of the responsibilities should contact ANSI's ISO Team (isot@ansi.org).

Meeting Notices

ANSI-Accredited Standards Committee: U.S. TAG to ISO TC 299, Robotics.

Meeting Format: Remote via WebEx

Purpose: Develop U.S. response to the questionnaire recently circulated by ISO TC 299, Robotics, to inform the work of Study Group 1 on the structure of Working Groups for TC 299.

Day/Date/Time: Tuesday, December 11, 2018, from 2 – 4 PM Eastern time (Eastern time)

For more information: Contact Carole Franklin, cfranklin@robotics.org

ANSI-Accredited Standards Committee: U.S. TAG to ISO TC 299, Robotics.

Meeting Format: Remote via WebEx

Purpose: Developing the U.S. position for documents under ballot by TC 299; and to determine delegates to the upcoming meetings in Shenzhen, China (TC 299 WG 1, WG 2, WG 4, and WG 6).

Day/Date/Time: Friday, December 14, 2018, from 1 – 3 PM (Eastern time)

For more information: Contact Carole Franklin, cfranklin@robotics.org

ASSP (ASC A10) Committee for Safety Requirements for Construction and Demolition Operations

The American Society of Safety Professionals (ASSP) serves as the secretariat of the A10 Committee for Construction and Demolition Operations. The next meeting of the A10 Committee will be held on January 8, 2019, in Washington D.C. at the International Brotherhood of Electrical Workers (IBEW). The meeting will start at approximately 12:30 p.m. and go to conclusion. There will also be a Membership Subgroup Meeting held earlier that morning at 8:00 a.m. and a meeting of the liaisons and subgroup leadership teams that morning also at 9:30 a.m. We will have RSVP information out in the future but this is notice so you have adequate time for planning. For additional information or if you interested in attending, contact Tim Fisher, (847) 768-3411, TFisher@ASSP.org.

Information Concerning

American National Standards

10-Year Stabilized Maintenance Action

On July 26, 2018, the INCITS Executive Board completed their approval for the 10-year stabilized maintenance action for the standards listed below via ballot LB6086. It has been determined in connection with this approval that the following standards stabilized in 2008 shall continue to be maintained under the stabilized maintenance option.

The ANSI Essential Requirements, Section 4.7.3 states, in part "...If it is determined in connection with this review that the standard shall continue to be maintained under the stabilized maintenance option and as such does not require revision or withdrawal, then this shall be communicated to ANSI by the standards developer and a related announcement shall be made in *Standards Action*. Notification to ANSI shall be accomplished via the submittal of an informational announcement if the standard will continue to be maintained under the stabilized maintenance option or will be withdrawn, or via a PINS, if the standard will be revised…"

INCITS 238-1994 [S2018], *Information Technology – Programming Language – PL/B*

INCITS 274-1996/AM 1-2000 [S2018], *Information Technology – Programming Language REXX – Amendment 1*

INCITS 274-1996 [S2018], *Information Technology – Programming Language REXX*

INCITS 53-1976 [S2018], *Information Systems – Programming Language PL/I*

INCITS 74-1987 [S2018], *Information Systems – Programming Language – PL/I General-Purpose Subset*

INCITS/ISO/IEC 10206:1991 [S2018], *Information Technology – Programming Languages – Extended Pascal*

Information Concerning

International Organization for Standardization (ISO)

Call for International (ISO) Secretariat

ISO/TC 86/SC 6 – *Testing and Rating of Air-Conditioners and Heat Pumps*

Reply Deadline: December 2, 2018

Currently, the U.S. holds a leadership position as Secretariat of ISO/TC 86/SC 6 – *Testing and rating of air-conditioners and heat pumps*. ANSI has delegated the responsibility for the administration of the Secretariat for ISO/TC 86/SC 6 to the Air-Conditioning, Heating and Refrigeration Institute (AHRI). AHRI has advised ANSI of its intent to relinquish its role as delegated Secretariat for this committee.

ISO/TC 86/SC 6 operates under the following scope:

> *Development of standards regarding the testing and rating of air-conditioners and heat pumps within the scope of ISO/TC 86:*
>
> *Standardization in the fields of refrigeration and air-conditioning, including terminology, mechanical safety, methods of testing and rating equipment, measurement of sound levels, refrigerant and refrigeration lubricant chemistry, with consideration given to environmental protection. The scope includes factory-assembled air-conditioners (cooling), heat pumps, dehumidifiers, refrigerants, and refrigerant reclaiming and recycling equipment as well as other devices, components and equipment such as humidifiers, ventilation equipment and automatic controls used in air-conditioning and refrigeration systems that are not covered by other ISO technical committees.*

ANSI is seeking organizations in the U.S. that may be interested in assuming the role of delegated Secretariat for ISO/TC 86/SC 6. Alternatively, ANSI may be assigned the responsibility for administering an ISO Secretariat. Any request that ANSI accept the direct administration of an ISO Secretariat shall demonstrate that:

1. The affected interests have made a financial commitment for not less than three years covering all defined costs incurred by ANSI associated with holding the Secretariat;
2. the affected technical sector, organizations or companies desiring that the U.S. hold the Secretariat request that ANSI perform this function;
3. the relevant U.S. TAG has been consulted with regard to ANSI's potential role as Secretariat; and
4. ANSI is able to fulfill the requirements of a Secretariat.

If no U.S. organization steps forward to assume the ISO/TC 86/SC 6 Secretariat, or if there is insufficient support for ANSI to assume direct administration of this activity by December 2, 2018, then ANSI will inform the ISO Central Secretariat that the U.S. will relinquish its leadership of the committee. This will allow ISO to solicit offers from other countries interested in assuming the Secretariat role.

Information concerning the United States retaining the role of international Secretariat may be obtained by contacting ANSI's ISO Team (isot@ansi.org).

BSR/ASHRAE Addendum aa
to ANSI/ASHRAE Standard 62.1-2016

Public Review Draft

Proposed Addendum aa to Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality

Second Public Review (October 2018)
(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.

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

The indoor air quality procedure (IAQP) has a long history going back to the 1981 standard. It has flexibility.

For design, it requires (simplified version):

1. *Identification if contaminants of concern*
2. *Determining indoor and outdoor sources*
3. *Identifying a concentration limit and exposure period*
4. *Specifying percentage of building occupants to be satisfied with perceived IAQ*
5. *Performing a mass balance analysis for selected compounds*

Weaknesses in current requirements exist in items 1, 3, and 4 above. Although the percentage in item 4 may be specified, and the standard requires that it be measured; this measurement usually would take place after occupancy so is often ignored or omitted. No measurement of any resulting concentration is currently required so the effectiveness of any design is not measured or verified.

This proposed addendum adds requirements for designing to specific targets. The target design compounds are specifically identified. Mixtures are specifically identified.

[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 aa to 62.1-2016

Add new definitions in Section 3 as shown below. The remainder of Section 3 is unchanged.

3. DEFINITIONS (SEE FIGURE 3.1)

Unusual Source: an item or activity that could create or emit contaminants that occurs rarely within an occupancy category.

Revise Section 6.1.2 as shown below.

6. PROCEDURES

6.1.2 IAQ Procedure. The IAQ Procedure (IAQP) is an alternate ventilation procedure that ~~system design method and~~ shall determine the necessary rate of outdoor air flow to maintain concentrations of Design Compounds (DCs) and PM2.5 in the indoor environment at concentrations less than Design Targets, based on indoor and outdoor sources, air cleaning and other variables. Indoor concentrations and outdoor air requirements

shall be calculated with mass balance equations. Verification of satisfaction shall be performed after the building is completed and occupied.

Revise Section 6.3 as shown below. The remainder of Section 6.3 is unchanged.

6.3 Indoor Air Quality (IAQ) Procedure. Breathing zone outdoor airflow (V_{bz}) shall be determined in accordance with Sections 6.3.1 through 6.3.6.

6.3.1 Design Compounds and PM2.5 Sources. The system design shall be based on the DCs and PM2.5 specified in Table 6.3.2.1 at a minimum. If there are additional outdoor sources identified from completing the process in section 4, or unusual sources for the occupancy category, ~~as defined by other parts of this standard~~, the compounds present in the source shall be determined and they shall be added to the DC list if a design target from a cognizant authority exists. For each DC and PM2.5, the emission rates from indoor sources from people, building materials, furnishings, equipment and other sources and ~~outdoor sources~~ the rate of contaminant influx into the building (mass per unit time) shall be determined.

[…]

Table 6.3.2.1 Design compounds, PM2.5, and their design targets

Compound or PM2.5	Cognizant Authority	Design Target	Notes
Acetaldehyde	Cal EPA CREL (June 2016)	140 ug/m^3	
Acetone	AgBB LCI	1,200 ug/m^3	
Benzene	Cal EPA CREL (June 2016)	3 ug/m^3 (1)	A
Dichloromethane	Cal EPA CREL (June 2016)	400 ug/m^3	
Formaldehyde	Cal EPA 8-hour ~~C~~REL (2004)	33 ug/m^3	
Naphthalene	Cal EPA CREL (June 2016)	9 ug/m^3	
Phenol	AgBB LCI	10 ug/m^3 (1)	A
Tetrachloroethylene	Cal EPA CREL (June 2016)	35 ug/m^3 (1)	A
Toluene	Cal EPA CREL (June 2016)	300 ug/m^3	
1,1,1-trichloroethane	Cal EPA CREL (June 2016)	1000 ug/m^3	
Xylene, total	AgBB LCI	500 ug/m^3	
Carbon dioxide		1100 ppm or equivalent to VRP (2)	B
Carbon monoxide	USEPA NAAQS	9 ppm	
PM2.5	USEPA NAAQS (annual mean)	12 ug/m^3 (3)	C
Ozone	USEPA NAAQS	70 ppb	
Ammonia	Cal EPA CREL (June 2016)	200 ug/m^3 (4)	D

A. Benzene, phenol, and tetrachloroethylene shall not be included in the mixture calculation for upper respiratory tract irritation, eye irritation, and CNS depression as they are not expected to cause these principal effects at the design target.

B. The design target for carbon dioxide is 1100 ppm or the equivalent steady state concentration calculated using the ventilation rate calculated using the Ventilation Rate Procedure, whichever is higher. Appendix D contains

requirements for how to calculate the CO_2 equivalent steady state concentration.

C. Outside the U.S., if the outdoor concentrations of carbon monoxide, PM2.5, or ozone exceed the Design Target, the limit is equal to the applicable ambient air standards for the region where the project is located if one exists
D. Ammonia shall be included only for spaces that include non-human animals.

[…]

6.3.3 Air cleaning. Where particulate or gaseous air cleaning is included in the design, the removal efficiencies shall be specified as follows. Particulate matter filters shall report an efficiency reporting value (MERV) in accordance with ASHRAE Standard 52.2[12]. Air cleaners ~~Gaseous scrubbers~~ shall report an efficiency test for the DCs in accordance with ASHRAE Standard 145.2[XX]. Devices that intentionally or unintentionally add ozone, aldehydes, or ultrafine particulate to the indoor air are prohibited.

~~**6.3.3.1 Gaseous scrubbers Documentation.** Gaseous scrubbers shall provide documentation that they do not produce detectable ozone, aldehydes, and ultrafine particulate matter under representative conditions of operation. The concentrations shall be measured using the relevant laboratory methods specified in Table 6.3.4.4.1 and the performance requirements specified in Table 6.3.4.4.2 shall be followed.~~

~~**6.3.3.2 Gaseous scrubbers Requirements.** Devices that intentionally or unintentionally add ozone, aldehydes, or ultrafine particulate to the indoor air are prohibited.~~

[…]

6.3.4.4.1 Design Compounds and PM2.5 Measurement Test. The measurement equipment shall be positioned in the breathing zone. The measurement shall be conducted within 60 days of building commissioning and occupancy during normal working hours, maximum occupant load under conditions of current operation ~~obtainable occupancy~~, and with the HVAC system in normal operation and lowest outdoor air intake setting expected during the year. The number of measurement points shall be specified according to Table 6.3.4.4.3.

[…]

6.3.6 Documentation. Design documentation shall include the inventory of PM2.5, DCs and DTs and mixtures thereof; outdoor source data; emission rates including citations; cognizant authorities for any additional DCs; ASHRAE 52.2[12] and 145.2[XX] efficiency test data for all air cleaning devices ~~devises~~; mass balance calculations; subjective survey and results or documentation of compliance with 6.3.4.3. Design documentation shall include documentation for air cleaners that they do not produce detectable ozone, aldehydes, and ultrafine particulate matter under representative conditions of operation. The concentrations shall be measured using the relevant laboratory methods specified in Table 6.3.4.4.1 and the performance requirements specified in Table 6.3.4.4.2 shall be followed.

BSR/ASHRAE Addendum ae
to ANSI/ASHRAE Standard 62.1-2016

Public Review Draft

Proposed Addendum ae to Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality

First Public Review (September 2018)
(Draft shows Proposed Changes to Current Standard)

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FOREWORD

The 60°F (15°C) indoor air dewpoint limit avoids the microbial growth problems frequently observed when humid outdoor air infiltrates into buildings that are mechanically cooled. Microbial growth has been common during cooling seasons, and especially when cooling and occupancy are intermittent. Examples include schools during summer vacations, apartments and condominiums that are intermittently occupied during summer months, college dormitories and military barracks that are unoccupied for long periods and in health care buildings and hotels in hot or humid climates that contain both naturally-ventilated and mechanically-cooled spaces.

Humidity-related requirements of earlier versions of Standard 62.1 were intended to address both mold growth and comfort concerns by limiting indoor humidity to 65%RH. That requirement, however, did not explicitly extend to unoccupied hours when microbial growth often accelerates. More importantly, because it did not establish a coincident dry bulb temperature, the 65% RH limit did not limit the mass of water vapor available for surface absorption during periods when cooling is intermittent to conserve energy.

Microbial growth is governed by the availability of moisture in the surfaces of building materials, coatings, furnishings and mechanical systems. The RH of the air does not affect microbial growth until the water vapor is absorbed or condenses into the surface. Limiting the indoor air dewpoint rather than the RH limits the total mass of water vapor available for condensation or absorption. Further, limiting the dewpoint to 60°F (15°C) prevents actual condensation until the air contacts a surface that is cooler than 60°F. Few surfaces are cooled that low in buildings, even allowing for typical cold air leakage into interstitial spaces and the frequently less-than-perfect insulation of pipes, valves and duct work.

This specific limit is a compromise between energy and microbial growth concerns. Lower indoor dewpoints would further reduce risk. For example, a 55°F (13°C) maximum dewpoint is the guidance contained in the 2001 and 2008 ASHRAE Humidity Control Design Guide, and in Chapter 62 (Moisture Management in Buildings) and Chapter 23 (Museums, Galleries, Archives and Libraries) of the ASHRAE Handbook 2015—Applications. The 55°F dewpoint limit is also required for all high-performance buildings as defined by the 2017 Federal Facilities Standard (P-100) of the Public Buildings Service of the US General Services Administration. But a dewpoint limit of 55°F (13°C), while certainly an improvement appropriate for reducing risks and improving comfort in high-quality buildings, could also increase energy consumption in unoccupied buildings in highly humid climates, especially when a building is not airtight. A dewpoint limit of 60°F may provide a more affordable balance between the equally important concerns of reducing energy consumption while also reducing risks to occupant health from microbial growth.

As noted by the suggested exception #2, buildings or spaces that are neither equipped with nor served by mechanical cooling equipment can be exempted from the dewpoint limit, because their surfaces tend to stay warm during humid weather, which helps avoid moisture absorption and the risk of microbial amplification.

[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 ae to 62.1-2016

Modify Section 5.9 as shown below.

~~**5.9 Dehumidification Systems.** Mechanical air conditioning systems with dehumidification capability shall be designed to comply with the following subsections.~~

~~**5.9.1 Relative Humidity.** Occupied-space relative humidity shall be limited to 65% or less when system performance is analyzed with outdoor air at the dehumidification design condition (that is, design dew-point and mean coincident dry bulb temperatures) and with the space interior loads (both sensible and latent) at cooling design values and space solar loads at zero.~~

~~**Exception:** Spaces where process or occupancy requirements dictate higher humidity conditions, such as kitchens; hot-tub rooms that contain heated standing water; refrigerated or frozen storage rooms and ice rinks; and spaces designed and constructed to manage moisture, such as shower rooms, pool rooms, and spa rooms.~~

~~***Informative Note:*** System configuration, climatic conditions, or a combination of both might adequately limit space relative humidity at these conditions without additional humidity-control devices. The specified conditions challenge the system dehumidification performance with high outdoor latent load and low space sensible heat ratio.~~

5.9 Maximum Indoor Air Dewpoint in Mechanically Cooled Buildings. Buildings or spaces equipped with or served by mechanical cooling equipment shall be provided with dehumidification components and/or controls that limit the indoor humidity to a maximum dewpoint of 60°F (15°C) during both occupied and unoccupied hours whenever the outdoor air dewpoint is above 60°F (15°C). The dewpoint limit shall not be exceeded when system performance is analyzed with outdoor air at the dehumidification design condition (that is, design dewpoint and mean coincident dry bulb temperatures) and with the space interior loads (both sensible and latent) at cooling design values and space solar loads at zero.

Exceptions:
1. Buildings or spaces that are neither equipped with nor served by mechanical cooling equipment.
2. Buildings or spaces equipped with materials, assemblies, coatings and furnishings that resist microbial growth and that are not damaged by continuously high indoor air dewpoints.

Informative Note: Examples of spaces are shower rooms, swimming pool enclosures, kitchens, spa rooms or semi-cooled warehouse spaces that contain stored contents that are not damaged by continuously high indoor air dewpoints or microbial growth.

Informative Note: This requirement reduces the risk of microbial growth in buildings and their interstitial spaces because it limits the mass of indoor water vapor that can condense or be absorbed into mechanically cooled surfaces. The dewpoint limit is explicitly extended to unoccupied hours because of the extensive public record of mold growth in schools, apartments, dormitories and public buildings that are intermittently cooled during unoccupied hours when the outdoor air dewpoint is above 60°F (15°C).

BSR/ASHRAE Addendum af
to ANSI/ASHRAE Standard 62.1-2016

Public Review Draft

Proposed Addendum af to Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality

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FOREWORD

The 2018 FGI (Facilities Guidelines Institute) guideline requires certain outpatient spaces to meet local ventilation codes and not ASHRAE/ASHE Standard 170: Neither one of the two mechanical model codes (IMC and UMC) has ventilation rates for these spaces. The IMC and UMC use ASHRAE Standard 62.1 as basis for their ventilation table.

This proposed addendum adds ventilation rates for those spaces in order to bridge the gap with ASHRAE/ASHE Standard 170. It was developed in consultation with FGI in order to understand the activity in each space.

[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 af to 62.1-2016

Add a new definition to Section 3 as shown below. The remainder of Section 3 is unchanged.

imaging Room, Class 1: imaging rooms that meet the criterion of Class 1 as per the Facilities Guidelines Institute (FGI) Guidelines for Design and Construction of Outpatient Facilities Table 2.1-5.6.2.5.1.3

Add new occupancy categories to Table 6.2.2.1 as shown below. The remainder of Table 6.2.2.1 is unchanged. Note that the Combined Outdoor Air Rate column in the current standard is not shown.

TABLE 6.2.2.1 Minimum Ventilation Rates in Breathing Zone
(Table 6.2.2.1 shall be used in conjunction with the accompanying notes.)

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Notes	Default Values		
						Occupant Density	Air Class	OS
	cfm/person	L/s•person	cfm/ft²	L/s•m²		#/1000 ft² or #/100 m²		
Outpatient Healthcare Facilities								
General Examination Room	7.5	3.8	0.12	0.6		5	1	
Psychiatric Examination Room	5	2.5	0.06	0.3		5	1	
Psychiatric Consultation Room	5	2.5	0.06	0.3		5	1	

Psychiatric Group R	5	2.5	0.06	0.3	50	1
Psychiatric Seclusion Room	10	5	0.06	0.3	5	1
Birthing Room	10	5	0.18	0.9	15	2
Urgent Care Examination Room	7.5	3.8	0.12	0.6	5	1
Urgent Care Treatment Room	7.5	3.8	0.18	0.9	5	1
Urgent Care Triage R	10	5	0.18	0.9	5	1
Urgent Care Observation Room	5	2.5	0.06	0.3	5	1
Physical Therapy Individual room	10	5	0.06	0.3	5	1
Physical Therapy Exercise Area	20	10	0.18	0.9	7	2
Physical Therapeutic Pool Area	--	--	0.48	2.4	--	2
Speech Therapy Room	5	2.5	0.06	0.3	5	1
Prosthetics and Orthotics Room	10	5	0.18	0.9	5	1
Dental Operatory	10	5	0.18	0.9	5	1
Other Dental Treatment Areas	5	2.5	0.06	0.3	5	1
Class 1 Imaging Rooms	5	2.5	0.12	0.6	5	1

BSR/ASHRAE Addendum x
to ANSI/ASHRAE Standard 62.1-2016

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FOREWORD

The exhaust procedure in Standard 62.1-2016 contains requirements in notes. This proposed addendum relocates those requirements to the body of the standard. The performance compliance path is modified to be consistent with the proposed changes to the IAQ Procedure. Table 6.5.2 Airstream or Sources) is added as relocated from Section 5.

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Addendum x to 62.1-2016

Add new definitions in Section 3 as shown below. The remainder of Section 3 is unchanged.

3. DEFINITIONS (SEE FIGURE 3.1)

unusual Source: an item or activity that could create or emit contaminants that occurs rarely within an occupancy category.

Modify Section 6.5 as shown below. Note that Table 6.3.2.1 and 6.3.2.2 (not shown) are being added by proposed Addendum aa to 62.1-2016.

6.5 Exhaust Ventilation. The Prescriptive Compliance Path or the Performance Compliance Path shall be used to meet the requirements of this section. Exhaust makeup air shall be permitted to be any combination of outdoor air, recirculated air, or transfer air.

6.5.1 Prescriptive Compliance Path. The design exhaust airflow shall be determined in accordance with the requirements in Tables 6.5.1 and 6.5.2.

Exceptions:

1. Laboratory spaces that comply with all requirements of ANSI Z9.5[6] or determined otherwise by the Environmental Health and Safety professional responsible to the owner.
2. Parking garages where two or more sides comprise walls that are at least 50% open to the outside.
3. Exhaust air from toilets that has been cleaned to meet Class 1 criteria per Section 5.16.1 shall be permitted to be recirculated.

6.5.1.1 Source Strengths. The minimum exhaust rates are based on contaminant sources and source strengths that are typical for the listed occupancy categories. For unusual sources within the occupancy, the additional exhaust required must be calculated using Section 6.5.2 performance compliance path.

6.5.1.2 Combustion Equipment. Combustion equipment is expected in some occupancies. The following sections shall apply when combustion equipment is operated. For other occupancies where combustion equipment is used, Section 6.5.2 shall apply.

6.5.1.2.1 Auto Repair Rooms. Stands where engines are run in auto repair rooms shall have exhaust systems that directly connect to the engine exhaust and prevent escape of fumes.

6.5.1.2.2 Parking Garages. Systems in parking garages shall be designed to operate whenever garage is in use. For intermittent operation the procedure in 6.5.2 shall be used.

6.5.1.2.3 Kitchens. Kitchen exhaust shall comply with requirements of ASHRAE Standard 154[X].

6.5.1.2.4 Laboratories. Laboratory spaces with combustion equipment shall comply with all requirements of ANSI Z9.5[6] or by the requirements provided by the Environmental Health and Safety professional responsible to the owner.

6.5.2 Performance Compliance Path. The exhaust airflow shall be determined in accordance with the following subsections.

~~**6.5.2.1 Contaminant Sources.** Contaminants or mixtures of concern for purposes of the design shall be identified. For each contaminant or mixture of concern, indoor sources (occupants, materials, activities, and processes) and outdoor sources shall be identified, and the emission rate for each contaminant of concern from each source shall be determined.~~
~~***Informative Note:*** Informative Appendix C provides information for some potential contaminants of concern.~~

6.5.2.1 Design Compounds and $PM_{2.5}$ Sources. The exhaust system design shall be based on the Design Compounds (DCs) and PM2.5 specified in Table 6.3.2.1 at a minimum. If there are additional outdoor sources identified from completing the process in section 4 or unusual sources for the occupancy category, the compounds present in the source shall be determined and they shall be added to the DC list if a design target from a cognizant authority exists. For each DC and PM2.5, the emission rates from indoor-sources from people, building materials, furnishings, equipment and other sources and the rate of contaminant influx into the building (mass per unit time) shall be determined.

Informative Note: See Section 6.3.

~~**6.5.2.2 Contaminant Concentration.** For each contaminant of concern, a concentration limit and its corresponding exposure period and an appropriate reference to a cognizant authority shall be specified~~

~~***Informative Note:*** Informative Appendix C includes concentration guidelines for some potential contaminants of concern.~~

6.5.2.2 Design Compounds and PM2.5 Concentration. The concentration targets, referred to as Design Targets, shall be as specified in Table 6.3.2.1. Design exhaust shall be such that the calculated concentration of each DC, mixture of DCs, and PM2.5 does not exceed its target. For any compounds added to the minimum DC list, data from cognizant authorities shall be used to determine if the compound causes the effects listed in Table 6.3.2.2 and compounds having one or more of the mixture effects will be added to the mixture list for that effect. For each mixture, the Mixed exposure sum (Em) as determined by Equation 6.3.2 shall be less than 1.0.

6.5.2.3 Objective Evaluation. Perform DC and PM2.5 measurement in the completed and occupied exhaust zone to verify that Design Targets are met. The peak concentration over an 8-hour occupied period shall not exceed the design target for CO and CO2.

For ozone and PM2.5, the average concentration measured over an 8-hour occupied period shall be below the design target.

For all other compounds, the concentration measured over the maximum period allowed by the test method up to 8 hours shall be below the design target for each DC. For DCs mixtures, the mixture calculation shall be less than 1.0. The concentrations shall be measured using the relevant laboratory methods specified in Table 6.3.4.4.1. Inorganic compounds and PM2.5 may be measured instead using direct read instruments that are calibrated in accordance with the device manufacturer's recommendations and, capable of measuring below the design target, and which follow the performance requirements specified in Table 6.3.4.4.2.

6.5.2.4 Subjective Evaluation. Using a subjective occupant evaluation conducted in the completed building, the minimum exhaust airflow rates required to achieve acceptability of 80% or more shall be determined within each zone served by the exhaust system.

Exception: The minimum exhaust airflow rates shall be not less than those found in accordance with Section 6.5.2.4 for a substantially similar zone.

6.5.2.~~3~~5 Dynamic Reset. The system shall be permitted to be designed to reset the exhaust flow as operating conditions change. Monitoring and control systems shall be provided to automatically detect ~~contaminant~~ DC or $PM_{2.5}$ levels ~~of concern~~ and modulate exhaust airflow such that ~~contaminant~~ DC or $PM_{2.5}$ levels are maintained at not greater than the specified ~~contaminant~~ DC or $PM_{2.5}$ compound design target concentration limits.

Modify Table 6.5 as follows:

TABLE 6.5.1 Minimum Exhaust Rates

Occupancy Category	Exhaust Rate, cfm/unit	Exhaust Rate, cfm/ft^2	Notes	Exhaust Rate, L/s·unit	Exhaust Rate, L/s·m^2	Air Class
Arenas	—	0.50	~~B~~	—	—	1
Art classrooms	—	0.70		—	3.5	2
Auto repair rooms	—	1.50	~~A~~	—	7.5	2
Barber shops	—	0.50		—	2.5	2
Beauty and nail salons	—	0.60		—	3.0	2
Cells with toilet	—	1.00		—	5.0	2
Copy, printing rooms	—	0.50		—	2.5	2
Darkrooms	—	1.00		—	5.0	2
Educational science laboratories	—	1.00		—	5.0	2
Janitor closets, trash rooms, recycling	—	1.00		—	5.0	3
Kitchenettes	—	0.30		—	1.5	2
Kitchens—commercial	—	0.70		—	3.5	2
Locker rooms for athletic, industrial, and health care facilities	—	0.50		—	2.5	2
All other locker rooms	—	0.25		—	1.25	2
Shower rooms per shower head	~~20/50~~		~~G,I~~	~~10/25~~		2
Continuous Operation	20			10		
Intermittent Operation	50			25		

~~Paint spray booths~~	~~—~~	~~—~~	~~F~~	~~—~~	~~—~~	~~4~~
Parking garages	—	0.75	~~C~~	—	3.7	2
Pet shops (animal areas)	—	0.90		—	4.5	2
~~Refrigerating machinery rooms~~	~~—~~	~~—~~	~~F~~	~~—~~	~~—~~	~~3~~
~~Residential~~ Dwelling unit kitchens Continuous Operation Intermittent Operation	~~50/100~~ 50 100	—	~~G~~	~~25/50~~ 25 50	—	2
Soiled laundry storage rooms	—	1.00	~~F~~	—	5.0	3
Storage rooms, chemical	—	1.50	~~F~~	—	7.5	4
Toilets—private (one person) Continuous Operation Intermittent Operation	~~25/50~~ 25 50	—	~~E, H~~	~~12.5/25~~ 12.5 25	—	2
Toilets—public (>1 person) Per fixture (water closet or urinal) Continuous Operation Intermittent Operation	~~50/70~~ 50 70	—	~~D, H~~	~~25/35~~ 25 35	—	2
Woodwork shop/classrooms	—	0.50		—	2.5	2

~~**NOTES:**~~

~~A Stands where engines are run shall have exhaust systems that directly connect to the engine exhaust and prevent escape of fumes.~~

~~B Where combustion equipment is intended to be used on the playing surface additional dilution ventilation, source control, or both shall be provided.~~

~~C Exhaust shall not be required where two or more sides comprise walls that are at least 50% open to the outside.~~

~~D Rate is per water closet, urinal, or both. Provide the higher rate where periods of heavy use are expected to occur. The lower rate shall be permitted to be used otherwise.~~

~~E Rate is for a toilet room intended to be occupied by one person at a time. For continuous system operation during hours of use, the lower rate shall be permitted to be used. Otherwise the higher rate shall be used.~~

~~F See other applicable standards for exhaust rate.~~

~~G For continuous system operation, the lower rate shall be permitted to be used. Otherwise the higher rate shall be used.~~

~~H Exhaust air that has been cleaned to meet Class 1 criteria from Section 5.16.1 shall be permitted to be recirculated.~~

~~I Rate is per showerhead.~~

Relocate Table 5.16.1 and modify as follows:

TABLE ~~5.16.1~~ 6.5.2 Airstreams or Sources

Description	Air Class
Diazo printing equipment discharge	4
Commercial kitchen grease hoods	4
Commercial kitchen hoods other than grease	3
Laboratory hoods	4[a]
Residential kitchen hoods in transient occupancy	3
Hydraulic elevator machine room	2
Paint spray booths	4
Refrigerating machinery rooms	3

~~a. Air Class 4 unless determined otherwise by the Environmental Health and Safety professional responsible to the owner or to the owner's designee.~~

Add new reference in Section 9 as shown below. The remainder of Section 9 is unchanged.

X. *ANSI/ASHRAE Standard 154-2016*, *Ventilation for Commercial Cooking Operations*, Atlanta: ASHRAE.

BSR/ASHRAE Addendum y
to ANSI/ASHRAE Standard 62.1-2016

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FOREWORD

Since the original publication of Standard 62.1, ASHRAE published Standard 188-2015 Legionellosis: Risk Management for Building Water Systems. This proposed addendum requires advising the owner of the basic requirements of ASHRAE Standard 188.

[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 y to 62.1-2016

Add new Section 5.18 as follows

5.18 Legionella Risk in the Building Water System. The HVAC system designer shall advise the owner in writing of all water systems and other elements of the HVAC system design that are specifically required by ANSI/ASHRAE Standard 188[X] to be included in a Water Management Program, with the intent of reducing the risk of legionellosis.

Informative Note: Typical elements of HVAC systems addressed by Standard 188 include: Open- and closed-circuit cooling towers and evaporative condensers that provide cooling or refrigeration for the HVAC&R system, misters, atomizers, air washes, humidifiers and other non-potable water systems and devices that release water aerosols.

5.18.1 Documentation. The HVAC system designer shall document compliance with the applicable requirements in Section 8 of ANSI/ASHRAE Standard 188[X].

Add a new reference to Section 9 as shown below. The remainder of Section 9 is unchanged.

9. References

X. *ANSI/ASHRAE Standard 188-2018, Legionellosis: Risk Management for Building Water Systems*. Atlanta: ASHRAE.

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

Public Review Draft

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

First Public Review (November 2018)
(Draft Shows Proposed Changes to Current Standard)

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BSR/ASHRAE Addendum e to ANSI/ASHRAE Standard 90.4-2016, *Energy Standard for Data Centers*
First Public Review Draft

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FOREWORD

This addendum revises the definition of computer room and data center to be consistent with changes occurring in ASHRAE Standard 90.1.

[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 e to 90.4-2016

Modify the standard as follows (IP and SI Units)

3. DEFINITIONS

…

3.2 Definitions

computer room: ~~a room or portions of a building serving an ITE load less than or equal to 10 kW or 20 W/ft2 (215 W/m2) or less of conditioned floor area.~~ a room whose primary function is to house equipment for the processing and storage of electronic data and that has a design electronic data equipment power demand that is less than or equal to 10 kW or power density that is less than or equal to 20 W/ft2 (215 Watts/m2) of conditioned floor area.

data center: ~~a room or building, or portions thereof, including *computer rooms* being served by the *data center systems*, serving a total *ITE* load greater than 10 *kW* and 20 W/ft^2 (215 W/m^2) of *conditioned floor area*.~~ A room or building or portions thereof not intended for human occupancy with a primary function to house equipment for the processing and storage of electronic data having a power demand greater than 10kW and 20 W/ft2 (215 Watts/m2) of conditioned floor area.

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

Public Review Draft

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

Second Public Review (November 2018)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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FOREWORD

The intent of 90.1 section G3.1.1 (c) is to prevent a single zone that is occupied many more hours than the rest of the zones served by the same multizone baseline system from causing the entire system to run longer hours, and to prevent a zone with high internal loads from interfering with the supply air temperature reset in the multizone baseline system. The following proposed changes clarify the modeling rules to ensure that the intent of this section is met.

a. Table G3.1 #3 (Space Use Classification) is updated to disallow building type method as it conflicts with the intent of Table G3.1 #7 Exception 1. For example, if project chooses to use building type method, then all spaces in a school building (classrooms, labs, offices, corridors) will have the same "School/University" space use classification and can be aggregated into one thermal block following G3.1 #7 Exception 1.

b. Table G3.1 #7 Exception 1 is updated to allow aggregating HVAC zones that have either the same space use classification (the existing requirement) or similar peak internal loads. Without the addition of the similar peak internal load criteria, the exception would be too restrictive. For example, it would disallow aggregating into one thermal block an HVAC zone that includes 5 office spaces and an HVAC zone that includes 4 office spaces and one employee break room.

c. An exception is added to Table G3.1 No 7 Thermal Blocks – HVAC Zones Designed to disallow aggregating HVAC zones that have significantly different schedule into thermal block with other zones. For example, without the change HVAC zones that are occupied 24/7 can be aggregated with HVAC zones that are occupied 40 hours per week, hindering application of G3.1.1 (c).

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

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BSR/ASHRAE/IES Addendum al to ANSI/ASHRAE Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
Second Public Review Draft – Independent Substantive Changes

Addendum al to 90.1-2016

Revise the Standard as follows (IP Units)

Table G3.1

3. Space Use Classification	
~~Use~~ The space use classification within each thermal block shall be determined ~~specified~~ using the ~~*building* type or~~ *space* type lighting classifications in accordance with Section ~~9.5.1 or~~ 9.6.1. Exception: Where space types neither exist nor are designated in design documents, use type shall be specified in accordance with 9.5.1. ~~The user shall specify the *space* use classifications using either the *building* type or *space* type categories but shall not combine the two types of categories. More than one *building* type category may be used in a *building* if it is a mixed-use facility. If *space* type categories are used, t~~The user may simplify the placement of the various *space* types within the *building* model, provided that *building* total areas and orientation of glazed exterior walls for each *space* type are accurate.	Same as proposed design.

7. *Thermal Blocks—HVAC Zones* Designed	
Where *HVAC zones* are defined on HVAC design drawings, each *HVAC zone* shall be modeled as a separate *thermal block*. **Exceptions:** Different *HVAC zones* may be combined to create a single *thermal block* or identical *thermal blocks* to which multipliers are applied, provided that all of the following conditions are met: 1. The *space* use classification is the same throughout the *thermal block* or all of the zones have peak internal loads that differ by less than 10 Btu/h·ft^2 (31.2 W/m^2) from the average, 2. All *HVAC zones* in the *thermal block* that are adjacent to glazed *exterior walls* and glazed *semiexterior walls* face the same *orientation* or their orientations vary by less than 45 degrees. 3. All of the zones are served by the same *HVAC system* or by the same kind of *HVAC system*. 4. All of the zones have ~~peak internal loads that differ by less than 10 Btu/h·ft^2 (31.2 W/m^2) from the average, or~~ schedules that differ by 40 or less equivalent full-load hours per week	Same as *proposed design*.

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

First Public Review (November 2018)
(Draft Shows Proposed Changes to Current Standard)

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FOREWORD

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.

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

Addendum BC to 90.1-2016

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.

6.5.4.8.1 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 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 *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*, *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.

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

Public Review Draft

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

Second Public Review (November 2018)
(Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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FOREWORD

The following addendum represents further modifications to Addendum "bf" as a result of a public comment, and further coordination with existing portions of the section on vestibules. The primary change is relocating revolving doors from an exception (since by exception they are permitted in lieu of vestibule currently) to one of two requirements (a choice).

In addition, the proposal also recommends a revision to the format of the provisions for vestibules. The existing charging paragraph is proposed to be divided into three sections, each section containing their own single subject and title. The exceptions have retained the 1st public review Addendum "bf" exception subjects, however the exceptions have now been re-arranged into related groupings (e.g. from large broad application to finite application). The coordination of the titles and section numbering complete the proposed modifications to this section.

This proposal has no substantive modifications to the existing requirements, and therefore has the same energy savings and cost benefit as the current Standard 90.1-2016 provisions.

[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 bf to 90.1-2016

Modify the standard as follows (IP and SI Units)

5.4.3.4 Vestibules and revolving doors. Vestibules and revolving doors shall be installed in accordance with this section.

5.4.3.4.1 Location.
Building entrances that separate *conditioned space* from the exterior shall ~~be~~ have one of the following:

a. ~~protected with~~ an enclosed vestibule, with all *doors* opening into and out of the vestibule equipped with self-closing devices,
b. a revolving door(s) opening into a vestibule or directly into the conditioned space, or,

c. a combination of ‘a’ and ‘b’ above.

5.4.3.4.2 Vestibule size. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior *doors* to open at the same time. Interior and exterior *doors* shall have a minimum distance between them of not less than 7 ft (2.1 m) when in the closed position. The *floor* area of each vestibule shall not exceed the greater of 50 ft^2 (5 m^2) or 2% of the *gross conditioned floor area* for that level of the *building*.

5.4.3.4.3 Vestibule envelope. The exterior envelope of conditioned vestibules shall comply with the requirements for a *conditioned space*. The interior and exterior envelope of unconditioned vestibules shall comply with the requirements for a *semiheated space*.

Exceptions to 5.4.3.4

~~1.~~ ~~*Building entrances* with revolving *doors*~~
~~2.~~ 1. *Doors* not intended to be used as a *building entrance.*
~~3.~~ 2. *Doors* opening directly from a *dwelling unit.*
~~4.~~ 3. *Building entrances* in *buildings* located in Climate Zone 1 or 2.
~~5.~~ 6. *Building entrances* in *buildings* that are located in Climate Zone 3, where the *building* is less than four stories above *grade*, and less than 10,000 ft^2 (1000 m^2) in *gross conditioned floor area.*
~~6.~~ 7. *Building entrances* in *buildings* that are located in Climate Zones 0, 4, 5, 6, 7, or 8 and the *building* is ~~are~~ less than 1000 ft^2 (100 m^2) in *gross conditioned floor area.*
~~7.~~ 8. *Doors* that open directly from a *space* that is less than 3000 ft^2 (300 m^2) in area and is separate from the *building entrance.*
~~8.~~ 4. *Doors* opening into ~~*S*~~*semiheated spaces*.
~~9.~~ 5. Enclosed elevator lobbies for *building entrances* directly from parking garages.
~~10.~~ 9. Self-closing doors in buildings in Climate Zones 0, 3, and 4 that have an air curtain complying with Section 10.4.5.
~~11.~~ 10. Self-closing doors in buildings 15 stories or less in Climate Zones 5 thru 8 that have an air curtain complying with Section 10.4.5.

Re-number subsequent sections

NOTE TO REVIEWER: This section is also modified by addendum Q which is approved and in preparation for publication. The following shows how this section will appear when this addendum and addenda Q are combined. 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.

5.4.3.3 Vestibules and revolving doors. Vestibules and revolving doors shall be installed in accordance with this section.

5.4.3.~~4~~3.1 Location.
Building entrances that separate *conditioned space* from the exterior shall have one of the following:

a. an enclosed vestibule, with all *doors* opening into and out of the vestibule equipped with self-closing devices,
b. a revolving door(s) opening into a vestibule or directly into the conditioned space, or,
c. a combination of ‘a’ and ‘b’ above.

5.4.3.~~4~~3.2 Vestibule size. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior *doors* to open at the same time. Interior and exterior *doors* shall have a minimum distance between them of not less than 7 ft (2.1 m) when in the closed position. The *floor* area of each vestibule shall not exceed the greater of 50 ft^2 (5 m^2) or 2% of the *gross conditioned floor area* for that level of the *building*.

5.4.3.~~4~~3.3 Vestibule envelope. The exterior surfaces of both conditioned vestibules and unconditioned vestibules shall comply with the *continuous air barrier* requirements.

Exceptions to 5.4.3.3

1. *Doors* not intended to be used as a *building entrance.*
2. *Doors* opening directly from a *dwelling unit.*
3. *Building entrances* in *buildings* located in Climate Zone 1 or 2.
4. *Doors* opening into *semiheated spaces*.
5. Enclosed elevator lobbies for *building entrances* directly from parking garages.
6. *Building entrances* in *buildings* that are located in Climate Zone 3, where the *building* is less than four stories above *grade*, and less than 10,000 ft^2 (1000 m^2) in *gross conditioned floor area.*
7. *Building entrances* in *buildings* that are located in Climate Zones 0, 4, 5, 6, 7, or 8 and the *building* is ~~are~~ less than 1000 ft^2 (100 m^2) in *gross conditioned floor area.*
8. *Doors* that open directly from a *space* that is less than 3000 ft^2 (300 m^2) in area and is separate from the *building entrance.*
9. Self-closing doors in buildings in Climate Zones 0, 3, and 4 that have an air curtain complying with Section 10.4.5.
10. Self-closing doors in buildings 15 stories or less in Climate Zones 5 thru 8 that have an air curtain complying with Section 10.4.5.

5.4.3.3.~~1~~ 4 Vestibules for Large Spaces

Where vestibules are required under Section 5.4.3.3, for *spaces* having a *gross conditioned floor area* for that level of the *building* of 40,000 ft^2 (4000 m^2) and greater, and when the *doors* opening into and out of the vestibule are equipped with *automatic*, electrically driven, self-closing devices, the interior and exterior *doors* shall have a minimum distance between them of not less than 16 ft (4.8 m).

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

Public Review Draft

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

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FOREWORD

Addendum Q reorganized the air leakage requirements, including moving the fenestration and door air leakage requirements from 5.4.3.2 to a new section and table 5.8.3.2. However, Addendum Q accidentally did not delete the last item in Section 5.4.3.2, and inadvertently left out one item related to high speed doors from Table 5.8.3.2. This addendum simply corrects these two oversights. There are no changes to technical requirements.

As this is just moving an existing requirement, this addendum does not affect the energy use of the standard and has no economic impact.

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Addendum bh to 90.1-2016

Modify the standard as follows (IP and SI Units)

5.4.3.2 Fenestration and Doors

…

~~f. 0.2 cfm/ft² for all other products tested at a pressure of at least 1.57 psf in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 or NFRC 400, or 0.3 cfm/ft² tested at a pressure of at least 6.24 psf in accordance with AAMA/WDMA/CSA 101/I.S/A440.~~

(Note to reviewer: rest of section not shown. The other items in this section were already deleted in Addendum Q as part of the move to Table 5.8.3.2. Item d, which was inadvertently left out of Table 5.8.3.2 by Addendum Q, is also being moved to Table 5.8.3.2 as shown below.)

Table 5.8.3.2 Maximum Air Leakage for *Fenestration* and *Doors*

***Fenestration* and *Door* Products**	**Maximum air leakage, cfm/ft² (L/s• m²)**	**Minimum Test Pressure, psf (Pa)**	**Test Method**
nonswinging doors intended for vehicular access and material transportation, with a minimum opening rate of 32 in/s (0.8 m/s)	1.3 (6.6)	1.57 (75)	ANSI/DASMA 105, NFRC 400, or ASTM E283;

NOTE TO REVIEWER: Section 5.4.3.2 and Table 5.8.3.2 are also modified by addendum Q which is approved and in preparation for publication. Addendum Q deleted section 5.4.3.2 and relocated the individual items to Table 5.8.3.2, but not item d which is addressed in this addendum. The following shows how Section 5.8.3.2 and Table 5.8.3.2 will appear when this addendum and addenda Q are combined.

5.8.3.2 Fenestration and Doors

Air leakage for *fenestration* and *doors* shall be determined in accordance with the test method and minimum air pressure specified in Table 5.8.3.2 and shall not exceed the maximum air leakage specified in Table 5.8.3.2. Air leakage shall be determined by a laboratory accredited by a nationally recognized accreditation organization and shall be *labeled* and certified by the *manufacturer*.

Exceptions to 5.8.3.2

1. *Field-fabricated fenestration* and *doors*.
2. Metal coiling *doors* in *semiheated spaces* in Climate Zone 0 through 6 shall have an air leakage not exceeding 1.0 cfm/ft^2 when tested at a pressure of at least 1.57 psf in accordance with ANSI/DASMA 105, NFRC 400, or ASTM E283.
3. Products in *buildings* that are tested and shown to comply with a whole *building* air leakage in accordance with Section 5.4.3.1.1 without using Exception 3.

Table 5.8.3.2 Maximum Air Leakage for *Fenestration* and *Doors*

***Fenestration* and *Door* Products**	**Maximum air leakage, cfm/ft^2 (L/s• m^2)**	**Minimum Test Pressure, psf (Pa)**	**Test Method**
glazed swinging *entrance doors*, glazed power-operating sliding *entrance doors*, glazed power-operated folding *entrance doors*, and revolving *doors*	1.0 (5.1)	1.57 (75)	AAMA/WDMA/CSA 101/I.S.2/A440, NFRC 400, or ASTM E283;
curtainwall and storefront glazing	0.06 (0.3)	1.57 (75)	NRFC 400 or ASTM 283
unit *skylights* having condensation weepage openings	0.3 (1.5)	1.57 (75)	AAMA/WDMA/CSA 101/I.S.2/A440 or NFRC 400
	OR		
	0.5 (2.5)	6.24 (300)	AAMA/WDMA/CSA 101/I.S.2/A440
nonswinging doors intended for vehicular access and material transportation, with a minimum opening rate of 32 in/s (0.8 m/s)	1.3 (6.6)	1.57 (75)	ANSI/DASMA 105, NFRC 400, or ASTM E283;
other *opaque nonswinging doors*, glazed *sectional garage doors*, and upward acting glazed *nonswinging*	0.4 (2.0)	1.57 (75)	ANSI/DASMA 105, NFRC 400, or ASTM E283
all other products	0.2	1.57 (75)	AAMA/WDMA/CSA 101/I.S.2/A440 or NFRC 400
	OR		
	0.3 (1.5)	6.24 (300)	AAMA/WDMA/CSA 101/I.S.2/A440

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

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FOREWORD

The addendum updates the reference year for Standard 140 in Sections 11 and 12 as well as Appendix C and G. ANSI/ASHRAE Standard 140-2017 adds test cases for building energy simulation models of airside HVAC mechanical equipment, provided with new Sections 5.5 and 6.5 of Standard 140. These test cases are added to the existing test cases of Standard 140-2014, which are also included in Standard 140-2017. The new test cases were adapted from Airside HVAC BESTEST: Adaptation of ASHRAE RP 865 Airside HVAC Equipment Modeling Test Cases for ASHRAE Standard 140, Volume 1 Cases AE101 – AE445, developed by the National Renewable Energy Laboratory in collaboration with ASHRAE SSPC 140 and several international software developers.

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 bi to 90.1-2016

Revise the Standard as follows (IP/SI Units)

11.4 Simulation General Requirements

11.4.1 Simulation Program

11.4.1.4 The *simulation program* shall be tested according to ASHRAE Standard 140, except for Sections 7 and 8 of Standard 140, and the results shall be furnished by the software provider.

12 Normative References

ANSI/ASHRAE Standard 140-~~2014~~2017 Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs

C3 SIMULATION GENERAL REQUIREMENTS

C3.1 Simulation Program

C3.1.4 The *simulation program* shall be tested according to ASHRAE Standard 140, except for Sections 7 and 8 of Standard 140, and the results shall be furnished by the software provider.

G2 SIMULATION GENERAL REQUIREMENTS

G2.2 Simulation Program

G2.2.4 The *simulation program* shall be tested according to ASHRAE Standard 140, except for Sections 7 and 8 of Standard 140, and the results shall be furnished by the software provider.

*[**Note to ASHRAE Staff for next 90.1 CM revision:** Do not include hyperlinks for the "except for Sections 7 and 8 of Standard 140" references. For that we are referring to Sections 7 and 8 of Standard 140 rather than of 90.1.]*

BSR/ASHRAE/IES Addendum bj
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FOREWORD

This addendum adds tables to the list of products that are exempt from meeting the requirements of section 6.5.6 - Heat Rejection Equipment. All of equipment added includes the condenser fan energy in their methods of test for performance and are not intended to be required to follow additional requirements intended only for stand-alone heat rejection equipment.

Tables already included in the exemptions:

- *6.8.1-1: Electrically Operated Unitary Air Conditioners and Condensing Units*
- *6.8.1-2: Electrically Operated Unitary and Applied Heat Pumps*
- *6.8.1-3: Water-Chilling Packages*
- *6.8.1-4: Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps, Single-Package Vertical Air Conditioners, Single-Package Vertical Heat Pumps, Room Air Conditioners, and Room Air Conditioner Heat Pumps*

Table added in this addendum:

- *6.8.1-9: Electrically Operated Variable-Refrigerant-Flow Air Conditioners*
- *6.8.1-10: Electrically Operated Variable-Refrigerant-Flow and Applied Heat Pumps*
- *6.8.1-11: Air Conditioners and Condensing Units Serving Computer Rooms*
- *6.8.1-12: Commercial Refrigerator and Freezers*
- *6.8.1-13: Commercial Refrigeration*
- *6.8.1-14: Vapor Compression Based Indoor Pool Dehumidifiers*
- *6.8.1-15: Electrically Operated DX-DOAS Units, Single-Package and Remote Condenser, without Energy Recovery*
- *6.8.1-16: Electrically Operated DX-DOAS Units, Single Package and Remote Condenser, with Energy Recovery*

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Addendum bj to 90.1-2016

Modify the standard as follows (IP and SI Units)

6.5.5 Heat-Rejection Equipment

6.5.5.1 General

Section 6.5.5 applies to heat-rejection *equipment* used in comfort cooling *systems*, such as air-cooled condensers, dry coolers, open-circuit cooling towers, closed-circuit cooling towers, and evaporative condensers.

Exception to 6.5.5.1

Heat-rejection devices whose *energy* use is included in the *equipment efficiency* ratings listed in Tables 6.8.1-1 through 6.8.1-4 and Tables 6.8.1-9 through 6.8.1-16.

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FOREWORD

The following changes are applicable to compliance using Section 11 and Appendix G.

Currently, the proposed designs with on-site electricity generation systems often mistakenly model the baseline as having all electricity purchased from grid. The addendum clarifies that such projects must model the same electricity generation system in the baseline and proposed design and is aligned with the interpretation IC 90.1-2013-16 OF ANSI/ASHRAE/IES STANDARD 90.1-2013 form January 21, 2018. The proposed designs utilizing cogeneration or combined heat and power systems (CHP) can get credit for recovering waste heat as allowed by 11.4.3.1 and G2.4.1.

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

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Addendum bk to 90.1-2016

Revise the Standard as follows (IP Units)

On-site electricity generation systems**:** systems located at the *building* site that generate electricity, including but not limited to generators, combined heat and power systems, fuel cells, and *on-site renewable energy* systems

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* shall be no more than 5% of the calculated *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, 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*.

G2.4.1 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 *proposed building performance*. *On-site renewable energy* shall be subtracted from the *proposed design energy* consumption prior to calculating the *proposed building performance* 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.

G2.4.2 Annual Energy Costs

The *design energy cost* and baseline *energy* cost shall be determined using either actual rates for *purchased energy* or state average *energy* prices published by DOE's Energy Information Administration (EIA) for commercial *building* customers, but rates from different sources may not be mixed in the same project. Where *on-site renewable energy* or *site-recovered energy* is used, the *baseline building design* shall be based on the *energy* source used as the backup *energy* source, or the baseline *system energy* source in that category 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*.

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FOREWORD

This addendum adds a new table F-5 to specify DOE covered residential water boiler efficiency requirements similar what was done for other regulated products.

In table 6.8.1-6 add notes to indicate that products that fall under the requirements for DOE regulated products the efficiency levels only apply to products applied outside the US.

[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 bp to 90.1-2016

Modify table 6.8.1-6 IP as shown below to designate residential products that in the US are covered by DOE requirement that will be defined in a new Table F-4;

Table 6.8.1-6 Gas- and Oil-Fired *Boilers*—Minimum *Efficiency* Requirements

Equipment Type[a]	Subcategory or Rating Condition	Size Category (Input)	Minimum *Efficiency*	*Efficiency* as of 3/2/2020	Test Procedure
Boilers, hot water	Gas fired[h]	<300,000 Btu/h[f,g] for applications outside US[i]	82% *AFUE*	82% *AFUE*	10 CFR Part 430 Appendix N
		≥300,000 Btu/h and ≤2,500,000 Btu/h[d]	80% E_t	80% E_t	10 CFR Part 431.86
		>2,500,000 Btu/h[a]	82% E_c	82% E_c	
	Oil fired[e]	<300,000 Btu/h[g]	84% *AFUE*	84% *AFUE*	10 CFR Part 430 Appendix N
		≥300,000 Btu/h and ≤2,500,000 Btu/h[d]	82% E_t	82% E_t	10 CFR Part 431.86
		>2,500,000 Btu/h[a]	84% E_c	84% E_c	
Boilers, steam	Gas fired	<300,000 Btu/h[f] for applications outside US[i]	80% *AFUE*	80% *AFUE*	10 CFR Part 430 Appendix N
	Gas fired—all, except natural draft	≥300,000 Btu/h and ≤2,500,000 Btu/h[d]	79% E_t	79% E_t	10 CFR Part 431.86
		>2,500,000 Btu/h[a]	79% E_t	79% E_t	
	Gas fired—natural draft	≥300,000 Btu/h and ≤2,500,000 Btu/h[d]	77% E_t	79% E_t	

		>2,500,000 Btu/h[a]	77% E_t	79% E_t	
	Oil fired[e]	<300,000 Btu/h[i] for applications outside US[i]	82% *AFUE*	82% *AFUE*	10 CFR Part 430 Appendix N
		≥300,000 Btu/h and ≤2,500,000 Btu/h[d]	81% E_t	81% E_t	10 CFR Part 431.86
		>2,500,000 Btu/h[a]	81% E_t	81% E_t	

a. These requirements apply to *boilers* with rated input of 8,000,000 Btu/h or less that are not packaged *boilers* and to all packaged *boilers*. Minimum *efficiency* requirements for *boilers* cover all capacities of packaged *boilers*.
b. E_c = combustion *efficiency* (100% less flue losses). See reference document for detailed information.
c. E_t = thermal *efficiency*. See reference document for detailed information.
d. Maximum capacity—minimum and maximum ratings as provided for and allowed by the unit's *controls*.
e. Includes oil-fired (residual).
f. *Boilers* shall not be equipped with a constant burning pilot light.
g. A *boiler* not equipped with a tankless domestic water-heating coil shall be equipped with an *automatic* means for adjusting the temperature of the water such that an incremental change in inferred heat load produces a corresponding incremental change in the temperature of the water supplied.
h. For new construction refer to Section 6.4.1.1.1 for additional system compliance requirements.
i See appendix F table F-4 for US minimum efficiencies for residential products covered by DOE requirements

Add a new IP table to appendix F to define DOE regulated residential boilers

Table F-5 Residential Boiler[a] Minimum Efficiency Requirements for applications in the US (Refer to 10 CFR 430)

Product Class	Minimum Efficiency prior to January 15, 2021[b]	Minimum Efficiency as of January 15, 2021[c]	Standby Mode and Off Mode Power Consumption as of January 15, 2021[d]	Design Requirements
Gas Fired hot water boiler	82% AFUE	84% AFUE	$P_{W,SB} \leq 9$ W $P_{W,OFF} \leq 9$ W	Constant burning pilot not permitted. Automatic means for adjusting water temperature required (except for boilers equipped with tankless domestic water heating coils).
Gas-Fired steam boiler	80% AFUE	82% AFUE	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	Constant burning pilot not permitted.
Oil-fired hot water boiler	84% AFUE	86% AFUE	$P_{W,SB} \leq 11$ W $P_{W,OFF} \leq 11$ W	Automatic means for adjusting temperature required (except for boilers equipped with tankless domestic water heating coils).
Oil-fired steam boiler	82% AFUE	85% AFUE	$P_{W,SB} \leq 11$ W $P_{W,OFF} \leq 11$ W	None
Electric hot water boiler	none	none	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	Automatic means for adjusting temperature required (except for boilers equipped with tankless domestic water heating coils).
Electric steam boiler	none	none	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	None

[a] Has a heat input rate of less than 300,000 Btu per hour for electric boilers and low-pressure steam or hot water boilers (per § 430.2)
[b] Annual Fuel Utilization Efficiency, as determined in § 430.23(n)(2)
[c] Annual Fuel Utilization Efficiency, as determined in § 430.23(n)(2)
[d] Standby mode and off mode electric power consumption as determined in § 430.23(n)(5)
[e] See § 430.32(e)(2)(iv) for additional details regarding automatic means for adjusting water temperature.

Modify table 6.8.1-6 SI as shown below to designate residential products that in the US are covered by DOE requirement that will be defined in a new Table F-4;

Table 6.8.1-6 Gas- and Oil-Fired *Boilers*—Minimum *Efficiency* Requirements

***Equipment* Type**[a]	**Subcategory or Rating Condition**	**Size Category (Input)**	**Minimum *Efficiency***	***Efficiency* as of 3/2/2020**	**Test Procedure**
Boilers, hot water	Gas fired[h]	<88 kW[f,g,i] for applications outside US	82% *AFUE*	82% *AFUE*	10 CFR Part 430 Appendix N
		≥88 kW and ≤733 kW[d]	80% E_t	80% E_t	10 CFR Part 431
		>733 kW[a]	82% E_c	82% E_c	
	Oil fired[e]	<88 kW[g]	84% *AFUE*	84% *AFUE*	10 CFR Part 430 Appendix N
		≥88 kW and ≤733 kW[d]	82% E_t	82% E_t	10 CFR Part 431.86
		>733 kW[a]	84% E_c	84% E_c	
Boilers, steam	Gas fired	<88 kW[f,i] for applications outside US	80% *AFUE*	80% *AFUE*	10 CFR Part 430 Appendix N
	Gas fired—all, except natural draft	≥88 kW and ≤733 kW[d]	79% E_t	79% E_t	10 CFR Part 431.86
		>733 kW[a]	79% E_t	79% E_t	
	Gas fired—natural draft	≥88 kW and ≤733 kW[d]	77% E_t	79% E_t	
		>733 kW[a]	77% E_t	79% E_t	
	Oil fired[e]	<88 kW[i] for applications outside US	82% *AFUE*	82% *AFUE*	10 CFR Part 430 Appendix N
		≥88 kW and ≤733 kW[d]	81% E_t	81% E_t	10 CFR Part 431.86
		>733 kW[a]	81% E_t	81% E_t	

a. These requirements apply to *boilers* with rated input of 2346 kW or less that are not packaged *boilers* and to all packaged *boilers*. Minimum *efficiency* requirements for *boilers* cover all capacities of packaged *boilers*.
b. E_c = combustion *efficiency* (100% less flue losses). See reference document for detailed information.
c. E_t = thermal *efficiency*. See reference document for detailed information.
d. Maximum capacity—minimum and maximum ratings as provided for and allowed by the unit's *controls*.
e. Includes oil-fired (residual).
f. *Boilers* shall not be equipped with a constant burning pilot light.
g. A *boiler* not equipped with a tankless domestic water-heating coil shall be equipped with an *automatic* means for adjusting the temperature of the water such that an incremental change in inferred heat load produces a corresponding incremental change in the temperature of the water supplied.
h. For new construction refer to Section 6.4.1.1.1 for additional system compliance requirements.
i See appendix F table F-4 for US minimum efficiencies for residential products covered by DOE requirements

Add a new SI table to appendix F to define DOE regulated residential boilers

Table F-5 Residential Boiler[a] Minimum Efficiency Requirements for applications in the US (Refer 10 CFR Part 430)

Product Class	Minimum Efficiency prior to January 15, 2021[b]	Minimum Efficiency as of January 15, 2021[c]	Standby Mode and Off Mode Power Consumption as of January 15, 2021[d]	Design Requirements
Gas Fired hot water boiler	82% AFUE	84% AFUE	$P_{W,SB} \leq 9$ W $P_{W,OFF} \leq 9$ W	Constant burning pilot not permitted. Automatic means for adjusting water temperature required (except for boilers equipped with tankless domestic water heating coils).[e]
Gas-Fired steam boiler	80% AFUE	82% AFUE	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	Constant burning pilot not permitted.
Oil-fired hot water boiler	84% AFUE	86% AFUE	$P_{W,SB} \leq 11$ W $P_{W,OFF} \leq 11$ W	Automatic means for adjusting temperature required (except for boilers equipped with tankless domestic water heating coils).[e]
Oil-fired steam boiler	82% AFUE	85% AFUE	$P_{W,SB} \leq 11$ W $P_{W,OFF} \leq 11$ W	None
Electric hot water boiler	none	none	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	Automatic means for adjusting temperature required (except for boilers equipped with tankless domestic water heating coils).[e]
Electric steam boiler	none	none	$P_{W,SB} \leq 8$ W $P_{W,OFF} \leq 8$ W	None

[a] Has a heat input rate of less than 88 kW for electric boilers and low-pressure steam or hot water boilers (per § 430.2)
[b] Annual Fuel Utilization Efficiency, as determined in § 430.23(n)(2)
[c] Annual Fuel Utilization Efficiency, as determined in § 430.23(n)(2)
[d] Standby mode and off mode electric power consumption as determined in § 430.23(n)(5)
[e] See § 430.32(e)(2)(iv) for additional details regarding automatic means for adjusting water temperature.

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FOREWORD

In response to a consensus proposal from ASHRAE TC8.6 Subcommittee on Standards and Codes, Table 6.8.1-7 has been updated for the 2019 Edition as follows:

- *Due to upcoming restrictions on the use of R-507A, the rating fluid for both axial and centrifugal fan evaporative condensers has been changed from R-507A to R-448A which has a substantially lower Global Warming Potential (GWP). The minimum efficiencies have been increased by approximately 1.9% to reflect the performance difference between R-448A and R-507A. No economic impact is anticipated based on this change in the rating fluid.*
- *The minimum efficiency for axial fan, air cooled fluid coolers, better known as dry coolers, has been added to the Table using CTI ATC-105DS, Acceptance Test Code for Dry Fluid Coolers, as the test standard. ATC-105DS has been added to Section 12. While dry coolers are referenced in the Standard in many places, no significant, measureable economic impact is anticipated based on this Addendum. However, the introduction of the Test Code will assist purchasers of dry coolers confirm the actual rated capacity that was specified in their system design.*
- *CTI STD 201 RS, Performance Rating of Evaporative Heat Rejection Equipment, was revised in 2017 and the listing has been so updated in Section 12. This updated Standard, referenced in Table 6.8.1-7 remains relevant for both open circuit and closed circuit cooling towers.*

Note that the minimum efficiency for axial fan closed circuit cooling towers was increased by 16.1% for the 2016 Standard.

TC 8.6 is the ASHRAE Technical Committee for Cooling Towers and Evaporative Condensers.

[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 bq to 90.1-2016

Modify the standard as follows (IP Units)

Table 6.8.1-7 Performance Requirements for Heat Rejection *Equipment*—Minimum *Efficiency* Requirements *(Continued)*

Equipment Type	Total *System* Heat-Rejection Capacity at Rated Conditions	Subcategory or Rating Condition[h]	Performance Required[a,b,c,f,g]	Test Procedure[d,e]
Propeller or axial fan open-circuit cooling towers	All	95°F entering water 85°F leaving water 75°F entering wb	≥40.2 gpm/hp	CTI ATC-105 and CTI STD-201 RS
Centrifugal fan open-circuit cooling towers	All	95°F entering water 85°F leaving water 75°F entering wb	≥20.0 gpm/hp	CTI ATC-105 and CTI STD-201 RS
Propeller or axial fan closed-circuit cooling towers	All	102°F entering water 90°F leaving water 75°F entering wb	≥16.1 gpm/hp	CTI ATC-105S and CTI STD-201 RS
Centrifugal closed-circuit cooling towers	All	102°F entering water 90°F leaving water 75°F entering wb	≥7.0 gpm/hp	CTI ATC-105S and CTI STD-201 RS
Propeller or axial fan dry coolers (air cooled fluid coolers)	All	115°F entering water 105°F leaving water 95°F entering db	≥4.5 gpm/hp	CTI ATC-105DS
Propeller or axial fan evaporative condensers	All	R-448A ~~507A~~ test fluid 165°F entering gas temperature 105°F condensing temperature 75°F entering wb	≥160,000 ~~157,000~~ Btu/h·hp	CTI ATC-106
Propeller or axial fan evaporative condensers	All	Ammonia test fluid 140°F entering gas temperature 96.3°F condensing temperature 75°F entering wb	≥134,000 Btu/h·hp	CTI ATC-106
Centrifugal fan evaporative condensers	All	R-448A ~~507A~~ test fluid 165°F entering gas temperature 105°F condensing temperature 75°F entering wb	≥137,500 ~~135,000~~ Btu/h·hp	CTI ATC-106
Centrifugal fan evaporative condensers	All	Ammonia test fluid 140°F entering gas temperature 96.3°F condensing temperature 75°F entering wb	≥110,000 Btu/h·hp	CTI ATC-106
Air cooled condensers	All	125°F condensing temperature 190°F entering gas temperature 15°F subcooling 95°F entering db	≥176,000 Btu/h·hp	AHRI 460

a. For purposes of this table, open-circuit cooling tower performance is defined as the water flow rating of the tower at the thermal rating condition listed in Table 6.8.1-7 divided by the fan motor nameplate power.

b. For purposes of this table, closed-circuit cooling tower performance is defined as the process water flow rating of the tower at the thermal rating condition listed in Table 6.8.1-7 divided by the sum of the fan motor nameplate power and the integral spray pump motor nameplate power.

c. For purposes of this table, dry cooler performance is defined as the process water flow rating of the unit at the thermal rating condition listed in Table 6.8.1-7 divided by the total fan motor nameplate power of the unit ~~For purposes of this table,~~and air-cooled condenser performance is defined as the heat rejected from the refrigerant divided by the total fan motor nameplate power of the unit.

d. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.

e. The efficiencies and test procedures for both open- and closed-circuit cooling towers are not applicable to hybrid cooling towers that contain a combination of separate wet and dry heat exchange sections. The certification requirements do not apply to field-erected cooling towers.

f. All cooling towers shall comply with the minimum *efficiency* listed in the table for that specific type of tower with the capacity effect of any project-specific accessories and/or options included in the capacity of the cooling tower.

g. For purposes of this table, evaporative condenser performance is defined as the heat rejected at the specified rating condition in the table, divided by the sum of the fan motor nameplate power and the integral spray pump nameplate power.

h. Requirements for evaporative condensers are listed with ammonia (R-717) and R-448A~~507A~~ as test fluids in the table. Evaporative condensers intended for use with halocarbon refrigerants other than R-448A~~507A~~ must meet the minimum *efficiency* requirements listed above with R-448A~~507A~~ as the test fluid. For ammonia, the condensing temperature is defined as the saturation temperature corresponding to the refrigerant pressure at the condenser entrance. For R-448A, which is a zeotropic refrigerant, the condensing temperature is defined as the arithmetic average of the Dew Point and the Bubble Point temperatures corresponding to the refrigerant pressure at the condenser entrance.

Modify the standard as follows (SI Units)

Table 6.8.1-7 Performance Requirements for Heat Rejection *Equipment*—Minimum *Efficiency* Requirements *(Continued)*

Equipment Type	Total *System* Heat-Rejection Capacity at Rated Conditions	Subcategory or Rating Condition[h]	Performance Required[a,b,c,f,g]	Test Procedure[d,e]
Propeller or axial fan open-circuit cooling towers	All	35.0°C entering water 29.4°C leaving water 23.9°C entering wb	≥3.40 L/s·*kW*	CTI ATC-105 and CTI STD-201 RS
Centrifugal fan open-circuit cooling towers	All	35.0°C entering water 29.4°C leaving water 23.9°C entering wb	≥1.7 L/s·*kW*	CTI ATC-105 and CTI STD-201 RS
Propeller or axial fan closed-circuit cooling towers	All	38.9°C entering water 32.2°C leaving water 23.9°C entering wb	≥1.36 L/s·*kW*	CTI ATC-105S and CTI STD-201 RS
Centrifugal closed-circuit cooling towers	All	38.9°C entering water 32.2°C leaving water 23.9°C entering wb	≥0.59 L/s·*kW*	CTI ATC-105S and CTI STD-201 RS
Propeller or axial fan dry coolers (air cooled fluid coolers)	All	46.1°C entering water 40.6°C leaving water 35.0°C entering db	≥0.38 L/s·*kW*	CTI ATC-105DS
Propeller or axial fan evaporative condensers	All	R-448A ~~507A~~ test fluid 73.9°C entering gas temperature 40.6°C condensing temperature 23.9°C entering wb	≥62.8 ~~61.6~~ *COPC*	CTI ATC-106
Propeller or axial fan evaporative condensers	All	Ammonia test fluid 60.0°C entering gas temperature 35.7°C condensing temperature 23.9°C entering wb	≥52.6 *COPC*	CTI ATC-106
Centrifugal fan evaporative condensers	All	R-448A ~~507A~~ test fluid 73.9°C entering gas temperature 40.6°C condensing temperature 23.9°C entering wb	≥54.0 ~~53.0~~ *COPC*	CTI ATC-106
Centrifugal fan evaporative condensers	All	Ammonia test fluid 60.0°C entering gas temperature 35.7°C condensing temperature 23.9°C entering wb	≥43.2 *COPC*	CTI ATC-106
Air cooled condensers	All	52.0°C condensing temperature 88.0°C entering gas temperature 8.0°C subcooling 35.0°C entering db	≥69 *COPC*	AHRI 460

a. For purposes of this table, open-circuit cooling tower performance is defined as the water flow rating of the tower at the thermal rating condition listed in Table 6.8.1-7 divided by the fan motor nameplate power.

b. For purposes of this table, closed-circuit cooling tower performance is defined as the process water flow rating of the tower at the thermal rating condition listed in Table 6.8.1-7 divided by the sum of the fan motor nameplate power and the integral spray pump motor nameplate power.

c. For purposes of this table, dry cooler performance is defined as the process water flow rating of the unit at the thermal rating condition listed in Table 6.8.1-7 divided by the total fan motor nameplate power of the unit ~~For purposes of this table,~~and air-cooled condenser performance is defined as the heat rejected from the refrigerant divided by the total fan motor nameplate power of the unit.

d. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.

e. The efficiencies and test procedures for both open- and closed-circuit cooling towers are not applicable to hybrid cooling towers that contain a combination of separate wet and dry heat exchange sections. The certification requirements do not apply to field-erected cooling towers.

f. All cooling towers shall comply with the minimum *efficiency* listed in the table for that specific type of tower with the capacity effect of any project-specific accessories and/or options included in the capacity of the cooling tower.

g. For purposes of this table, evaporative condenser performance is defined as the heat rejected at the specified rating condition in the table, divided by the sum of the fan motor nameplate power and the integral spray pump nameplate power.

h. Requirements for evaporative condensers are listed with ammonia (R-717) and R-448A~~507A~~ as test fluids in the table. Evaporative condensers intended for use with halocarbon refrigerants other than R-448A~~507A~~ must meet the minimum *efficiency* requirements listed above with R-448A~~507A~~ as the test fluid. For ammonia, the condensing temperature is defined as the saturation temperature corresponding to the refrigerant pressure at the condenser entrance. For R-448A, which is a zeotropic refrigerant, the condensing temperature is defined as the arithmetic average of the Dew Point and the Bubble Point

temperatures corresponding to the refrigerant pressure at the condenser entrance.

Add CTI Acceptance Test Code (ATC) 105DS to Section 12 Normative References, as well as update date for CTI STD-201 RS (IP and SI versions):

Cooling Technology Institute (CTI)
3845 Cypress Creek Parkway, Suite 420, Houston, TX 77068; P.O. Box 681807

CTI ATC-105 (00)	Acceptance Test Code for Water Cooling Towers
CTI ATC-105DS (18)	Acceptance Test Code for Dry Fluid Coolers
CTI ATC-105S (11)	Acceptance Test Code for Closed-Circuit Cooling Towers
CTI ATC-106 (11)	Acceptance Test Code for Mechanical Draft Evaporative Vapor Condensers
CTI STD-201 RS (~~15~~17)	Performance Rating of Evaporative Heat Rejection Equipment

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

Public Review Draft

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

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BSR/ASHRAE/IES Addendum bt to ANSI/ASHRAE Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
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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 Standard 90.1-2016 were estimated based on an intermediate Progress Indicator and were further reduced by 0.5. The current proposal uses BPFs based on the final 90.1-2016 Progress Indicator and multiplies them by 0.97 in anticipation of modest savings from the 2019 Standard. Additional documentation about how BPFs are calculated is available at:

Rosenberg, M., R. Hart, 2016. Developing Performance Cost Index Targets for ASHRAE Standard 90.1 Appendix G – Performance Rating Method. PNNL 25202 Rev. 1, Pacific Northwest National Laboratory, Richland, WA. https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-25202Rev1.pdf

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: 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 bt 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	0.71	0.73	0.69	0.69	0.72	0.76	0.63	0.76	0.79	0.77	0.79	0.76	0.72	0.70	0.74	0.70	0.74
Healthcare/ hospital	0.61	0.61	0.59	0.55	0.58	0.56	0.56	0.56	0.55	0.55	0.55	0.53	0.58	0.57	0.53	0.57	0.57
Hotel/motel	0.61	0.59	0.60	0.59	0.61	0.61	0.62	0.59	0.60	0.59	0.58	0.57	0.56	0.55	0.57	0.54	0.53
Office	0.55	0.59	0.53	0.59	0.56	0.60	0.52	0.54	0.57	0.53	0.53	0.55	0.55	0.54	0.55	0.52	0.54
Restaurant	0.62	0.63	0.59	0.60	0.59	0.60	0.57	0.61	0.56	0.60	0.64	0.59	0.63	0.65	0.62	0.67	0.70
Retail	0.53	0.57	0.51	0.57	0.53	0.58	0.57	0.53	0.58	0.56	0.57	0.56	0.52	0.52	0.54	0.50	0.52
School	0.39	0.47	0.38	0.44	0.39	0.43	0.40	0.38	0.41	0.39	0.37	0.41	0.36	0.37	0.37	0.36	0.37
Warehouse	0.38	0.43	0.41	0.43	0.44	0.45	0.44	0.45	0.44	0.47	0.49	0.48	0.50	0.55	0.52	0.58	0.58
All others	0.58	0.59	0.52	0.54	0.52	0.57	0.56	0.54	0.54	0.56	0.52	0.53	0.53	0.52	0.52	0.52	0.48

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

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FOREWORD

1. Sections G3.1.1 and G3.1.2.4 are updated to clarify that they apply to HVAC zones and not individual spaces within a zone.
2. The G3.1.1 and G3.1.3.2 are updated to fix the language remaining from when the baseline heating source was determined by the proposed building heating source which is no longer applicable.
3. Section G3.1.1 is updated in response to user feedback to clarify that when determining if certain zones in a building require a separate baseline HVAC system type from the rest of the building, that decision is dependent on differences in internal gain.
4. The redundant footnotes to Tables 4.2.1.1, G3.1.1-1 and G3.4-1 to G3.4-8 are removed.
5. In section G3.1.3, a number of errors are corrected in the title headings for the subsections, where incorrect system numbers are listed as being applicable.

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 <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 bu to 90.1-2016

Revise the Standard as follows (IP Units)

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

~~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~~

G3.1.1 Baseline HVAC System Type and Description

HVAC systems in the *baseline building design* shall comply with the following:

…

b. Use additional system types for nonpredominant conditions (i.e., residential/nonresidential ~~or heating source~~) if those conditions apply to more than 20,000 ft^2 (1900 m^2) of conditioned floor area.

c. If the baseline *HVAC system* type is 5, 6, 7, 8, 9, 10, 11, 12, or 13 use separate *single-zone systems* conforming with the requirements of *system* 3 or *system* 4 ~~(depending on *building* heating source)~~ for any ~~*spaces*~~ *HVAC zones* that have occupancy, ~~or *process loads*~~ internal gains, or schedules that differ significantly from the rest of the ~~*building*~~ *HVAC zones* served by the *system*. The total ~~P~~peak ~~thermal~~ internal gains ~~loads~~ that differ by 10 Btu/h·ft2 (31.2 W/m^2) or more from the average of other ~~*spaces*~~ *HVAC zones* served by the *system*, or schedules that differ by more than 40 equivalent full-load hours per week from other ~~*spaces*~~ *HVAC zones* served by the *system*, are considered to differ significantly. Examples where this exception may be applicable include but are not limited to natatoriums and continually occupied security areas. This exception does not apply to *computer rooms*.

……

f. If the baseline *HVAC system* type is 9 or 10, use additional *system* types for all ~~*spaces*~~ *HVAC zones* that are mechanically cooled in the *proposed design* ~~shall be assigned to a separate baseline *system* by using the area and heating source of the mechanically *cooled spaces*~~.

G3.1.3.2 Type and Number of Boilers (Systems 1, 5, and 7, 11, and 12)

The *boiler* plant ~~shall use the same *fuel* as the *proposed design* and~~ shall be natural draft, except as noted in Section G3.1.1.1. The *baseline building design boiler* plant shall be modeled as having a single *boiler* if the *baseline building design* plant serves a *conditioned floor area* of 15,000 ft^2 (1400 m^2) or less, and as having two equally sized *boilers* for plants serving more than 15,000 ft^2 (1400 m^2). *Boilers* shall be staged as required by the load.

G3.1.3.3 Hot-Water Supply Temperature (Systems 1, 5, 7, 11, and 12)

G3.1.3.6 Piping Losses (Systems 1,5, 7, 8, ~~and~~ 11, 12, and 13)

G3.1.3.10 Chilled-Water Pumps (Systems 7, 8, ~~and~~ 11, 12, and 13)

G3.1.3.11 Heat Rejection (Systems 7, 8, ~~9,~~ 11, 12, and 13)

G3.1.3.12 Supply Air Temperature Reset (Systems 5 through 8 and 11)

Table G3.1.1-1 Baseline *Building Vertical Fenestration* Percentage of Gross *Above-Grade-Wall* Area

Building* Area Types	**Baseline *Building* Gross *Above-Grade-Wall* Area**

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 G3.4-1 Performance Rating Method Building Envelope* Requirements for Climate Zones 0 and 1 (A,B)

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.
a. Exception to Section A3.1.3.1 applies.

Table G3.4-2 Performance Rating Method Building Envelope* Requirements for Climate Zone 2 (A,B)

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.
a. Exception to Section A3.1.3.1 applies.

Table G3.4-3 Performance Rating Method Building Envelope* Requirements for Climate Zone 3 (A,B,C)

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.
a. Exception to Section A3.1.3.1 applies.

Table G3.4-4 Performance Rating Method Building Envelope* Requirements for Climate Zone 4 (A,B,C)

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.
a. Exception to Section A3.1.3.1 applies.

Table G3.4-5 Performance Rating Method Building Envelope* Requirements for Climate Zone 5 (A,B,C)

***Opaque* Elements**	**Nonresidential**	**Residential**	**Semiheated**

	Assembly Maximum	**Assembly Maximum**	**Assembly Maximum**
Roofs			

~~*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.~~
~~a. Exception to Section A3.1.3.1 applies.~~

I*Table G3.4-6 Performance Rating Method Building Envelope* Requirements for Climate Zone 6 (A,B)~~*~~

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

~~*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.~~
~~a. Exception to Section A3.1.3.1 applies.~~

I*Table G3.4-7 Performance Rating Method Building Envelope* Requirements for Climate Zone 7 ~~*~~

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

~~*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.~~
~~a. Exception to Section A3.1.3.1 applies.~~

I*Table G3.4-8 Performance Rating Method Building Envelope* Requirements for Climate Zone 8 ~~*~~

	Nonresidential	**Residential**	**Semiheated**
***Opaque* Elements**	**Assembly Maximum**	**Assembly Maximum**	**Assembly Maximum**
Roofs			

~~*The following definitions apply: c.i. = *continuous insulation* (see Section 3.2), NR = no (insulation) requirement.~~
~~a. Exception to Section A3.1.3.1 applies.~~

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

Public Review Draft

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

First Public Review (November 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

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.

For reviewers' information, this is the current definition of computer room in 90.1:

> ***computer room:*** a room whose primary function is to house *equipment* for the processing and storage of electronic data and that has a design electronic data *equipment* power density exceeding 20 W/ft² (215 W/m²) of conditioned *floor* area.

The option to follow these requirements has been added as an alternative path in Sections 6 and 8. There is no need to do so in other sections, as 90.4 either has no requirements for those sections or refers users back to 90.1.

Reviewers should note that for section 6 includes a requirement that the HVAC system serve only the computer room (data center). If the HVAC system also serves other parts of the building, the alternative path cannot be used.

The PUE definitions and requirements that were in Section 6.6 have been removed, along with definitions related to PUE. Section 8.2, Compliance Paths, has been updated to allow the use of 8.6, Alternative Compliance Path.

As this addendum only affects one of the multiple optional compliance paths in Section 6.2 and 8.2, there is no impact on cost effectiveness.

[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 bv to 90.1-2016

Modify the standard as follows (IP and SI Units)

Delete the following definitions:

~~***power usage effectiveness (PUE):*** *computer room energy* divided by *IT equipment energy* calculated in accordance with industry accepted standards (see Informative Appendix E).~~

~~***power usage effectiveness—category 0 (PUE0):*** peak electric *demand* (*kW*) for the entire *computer room*, including IT *equipment* and supporting infrastructure, divided by peak electric *demand* (*kW*) of the IT *equipment*.~~

~~***power usage effectiveness—category 1 (PUE1):*** annual *energy* consumption (kWh) for the entire *computer room*, including IT *equipment* and supporting infrastructure, divided by annual *energy* consumption (kWh) of the IT *equipment*.~~

Make the following changes to section 6.2

6.2 Compliance Paths

6.2.1 Compliance

Compliance with Section 6 shall be achieved by meeting all requirements for Sections 6.2, "General"; Section 6.7, "Submittals"; Section 6.8, "Minimum *Equipment Efficiency* Tables"; and one of the following:

a. Section 6.3, "Simplified Approach Option for *HVAC Systems*"

b. Sections 6.4, "Mandatory Provisions" and 6.5, "Prescriptive Path"

c. For *HVAC systems* only serving the heating, cooling, or ventilating needs of a *computer room* with IT *equipment* load greater than 10 kW, Sections 6.4, "Mandatory Provisions" and 6.6, "Alternative Compliance Path"

Make the following changes to section 6.6

6.6.1 Computer Room Systems

HVAC systems only serving the heating, cooling, or ventilating needs of a *computer room* with IT *equipment* load greater than 10 kW shall comply with ~~Sections~~ 6.1, ~~6.4~~, 6.6.1.1 ~~or~~ 6.6.1.2, 6.6.1.3, ~~6.7, and~~ 6.8. ASHRAE Standard 90.4 Energy Standard for Data Centers.

~~**6.6.1.1**~~

~~The *computer room PUE1* shall be less than or equal to the values listed in Table 6.6.1. Hourly simulation of the *proposed design*, for purposes of calculating *PUE1*, shall be based on the ASHRAE Standard 90.1 Appendix G simulation methodology.~~

~~**Exception to 6.6.1.1**~~

~~This compliance path is not allowed for a *computer room proposed design* utilizing a combined heat and power *system*.~~

~~**Table 6.6.1 *Power Usage Effectiveness* (*PUE*) Maximum**~~

~~Climate Zone~~	~~PUE[a]~~
~~0A~~	~~1.64~~
~~0B~~	~~1.62~~
~~1A~~	~~1.61~~
~~1B~~	~~1.53~~
~~2A~~	~~1.49~~
~~2B~~	~~1.45~~

~~3A~~	~~1.41~~
~~3B~~	~~1.42~~
~~3C~~	~~1.39~~
~~4A~~	~~1.36~~
~~4B~~	~~1.38~~
~~4C~~	~~1.38~~
~~5A~~	~~1.36~~
~~5B~~	~~1.33~~
~~5C~~	~~1.36~~
~~6A~~	~~1.34~~
~~6B~~	~~1.33~~
~~7~~	~~1.32~~
~~8~~	~~1.30~~

~~a. *PUE0* and *PUE1* shall not include *energy* for battery charging.~~

~~**6.6.1.2**~~

~~The *computer room PUE0* is less than or equal to the values listed in Table 6.6.1, shall be the highest value determined at outdoor *cooling design temperatures*, and shall be limited to *systems* only using electricity for an *energy* source. *PUE0* shall be calculated for two conditions: 100% design *IT equipment energy* and 50% design *IT equipment energy*.~~

~~**6.6.1.3**~~

~~Documentation shall be provided, including a breakdown of *energy* consumption or *demand* by at least the following components: IT *equipment*, power distribution losses external to the IT *equipment*, *HVAC systems*, and lighting.~~

Make the following changes to section 8.2

8.2 Compliance Paths

8.2.1 Compliance

Power *distribution systems* in all projects shall comply with the requirements of:

a. Section 8.1, "General"; Section 8.4, "Mandatory Provisions"; and Section 8.7, "Submittals." or

b. For power *distribution systems* and *equipment* serving a *computer room* with IT *equipment* load greater than 10 kW, Section 8.6, "Alternative Compliance Path"

Make the following changes to section 8.6

8.6 Alternative Compliance Path ~~(Not Used)~~

8.6.1 Computer Room Systems

Power *distribution systems* and *equipment* serving a *computer room* with IT *equipment* load greater than 10 kW shall comply with ASHRAE Standard 90.4 Energy Standard for Data Centers.

Add to section 12 Normative References:

ANSI/ASHRAE Standard 90.4-2016	Energy Standard for Data Centers

Note to Reviewer: The following sections are also modified by addendum AD which has been approved for publication. If addendum AD and this addendum are published, the combined text will be appear as follows this is for reference only and not for comment. .

6.2 Compliance Paths

Mechanical equipment and systems providing heating, cooling, ventilating, or refrigeration shall comply with Section 6.2.1 and Section 6.2.2.

6.2.1 Requirements for All Compliance Paths

Mechanical equipment and systems shall comply with Section 6.1, "General"; Section 6.4, "Mandatory Provisions"; Section 6.7, "Submittals"; and Section 6.8, "Minimum *Equipment Efficiency* Tables";

6.2.2 Additional Requirements to Comply with Section 6

Mechanical equipment and systems shall comply with one of the following:

a. Section 6.3, "Simplified Approach Building Compliance Path for *HVAC Systems*"
b. Section 6.5, "Prescriptive Compliance Path"
c. For HVAC systems only serving the heating, cooling, or ventilating needs of a computer room with IT equipment load greater than 10 kW, Section 6.6, "Alternative Compliance Path"

Exception: When compliance is shown using Section 6.2.2(a), compliance with Section 6.4 is not required.

…

6.6.1 Computer Room Systems

HVAC systems only serving the heating, cooling, or ventilating needs of a *computer room* with IT *equipment* load greater than 10 kW shall comply with ASHRAE Standard 90.4 Energy Standard for Data Centers.

…

8.2 Compliance Paths

Power distribution systems and equipment shall comply with Section 8.2.1 and Section 8.2.2.

8.2.1 Requirements for All Compliance Paths

Power *distribution systems* and equipment shall comply with one of the following:

a. Section 8.1, "General"; Section 8.4, "Mandatory Provisions"; and Section 8.7, "Submittals." or
b. For power *distribution systems* and *equipment* serving a *computer room* with IT *equipment* load greater than 10 kW, Section 8.6, "Alternative Compliance Path"

…

8.6 Alternative Compliance Path

8.6.1 Computer Rooms Systems

Power *distribution systems* and *equipment* serving a *computer room* with IT *equipment* load greater than 10 kW shall comply with ASHRAE Standard 90.4 Energy Standard for Data Centers.

12 Normative References

ANSI/ASHRAE Standard 90.4-2016	Energy Standard for Data Centers

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

Public Review Draft

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

Third Public Review (November 2018)
(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

In response to comments from the second public review, we removed the word "commonly" since it is subject to interpretation.

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 y to 90.1-2016

Modify the standard as follows (IP and SI Units)

G3.1.2.2.1 Sizing Runs

Weather conditions used in sizing runs to determine baseline *equipment* capacities shall be based on design days developed using *heating design temperatures*, *cooling design temperature*, and *cooling design wet-bulb temperature*. For cooling sizing runs, schedules for internal loads including those used for infiltration, occupants, lighting, gas and electricity using *equipment* shall be equal to the highest hourly value used in the annual simulation runs and applied to the entire design day. For heating sizing runs, schedules for internal loads including those used for occupants, lighting, gas and electricity using *equipment* shall be equal to the lowest hourly value used in the annual simulation runs and schedules for infiltration shall be equal to the highest hourly value used in the annual simulation runs and applied to the entire design day.

Exception: For cooling sizing runs in *residential dwelling units*, the infiltration, occupants, lighting, gas and electricity using *equipment* hourly schedule shall be the same as the most ~~commonly~~ used hourly weekday schedule from the annual simulation.

Tracking #50i155r1 **Revision to NSF/ANSI 50-201X**
 Draft 1, Issue 155 (October 2018)

[Note – the recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by grey highlighting. Rationale Statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard

Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and other Recreational Water Facilities

Evaluation criteria for materials, components, products, equipment, and systems for use at recreational water facilities

•
•
•

14 Ultraviolet (UV) light process equipment

•
•
•

14.5 Performance indication

A supplemental UV system shall be provided with an effective means to alert the user when a component of this equipment is not operating.

A secondary UV ~~Each~~ system shall incorporate on the control panel a constantly visible readout of the actual flow (in GPM), the actual calculated dose (in mj/cm^2) and the actual lamp intensity (in w/cm^2). It is acceptable for the display to constantly cycle thru the parameters. The cycle duration shall not take more than 15s.

BSR/UL 567A, Standard for Safety for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85)

1. Addition of CE40a test fluid to the standard

PROPOSAL

INTRODUCTION

1 Scope

1.9 Products intended to be rated for use with gasoline or gasoline/ethanol blends with nominal ethanol concentrations:

a) Up to 25 percent (E0 - E25) shall be evaluated using the CE25a test fluid as the only applicable test fluid;

b) Up to 40 percent (E0 - E40) shall be evaluated using both the CE25a and CE40a test fluid; or

c) Up to 85 percent shall be evaluated using both the CE25a and the CE85a test fluids.

CONSTRUCTION

5 Materials

5.1 Metallic materials

5.1.1 General

5.1.1.1 A metallic part, in contact with the fuels anticipated by these requirements, shall be resistant to the action of the fuel if degradation of the material will result in leakage of the fuel or if it will impair the function of the device. For all fuel ratings, see Corrosion due to fluid, 5.1.2.1. For products rated for gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent, see Metallic materials - system level, 5.1.3.

5.1.3 Metallic materials - system level

5.1.3.1 Combinations of metallic materials in products rated for use with gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent shall be chosen to reduce degradation due to galvanic corrosion in accordance with 5.1.3.2 - 5.1.3.4.

PERFORMANCE

10 General

10.2 All tests shall be performed using the test fluids specified for that test. No substitution of test fluids is allowed. When the test indicates that CE25a, CE40a or CE85a are to be used, the test fluid shall be prepared as described in Supplement SA.

11 Long Term Exposure Test

11.1 General

11.1.1 The test outlined in 11.2 - 11.4 is to be performed on one or two samples of the device. If the product is rated for use with gasoline or a gasoline/ethanol blend with a nominal ethanol concentration of up to 25 percent (E0 - E25), then the test shall be performed using the CE25a test fluid. If the product is rated for use with gasoline or a gasoline/ethanol blends with a nominal ethanol concentration of up to 40 percent (E0 - E40), then the test shall be performed using both the CE25a and CE40a test fluids. If the product is rated for use with a gasoline/ethanol blend with a nominal ethanol concentration ~~above 25~~ of up to 85 percent, then the test shall be performed using both the CE25a and the CE85a test fluids. See Supplement SA for the test fluids.

11.2 Samples

11.2.5 Material combinations at the product and closure interface will be a specified by the manufacturer. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations up to 25 or 40 percent shall be fabricated of suitable materials. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations above 25 percent shall be fabricated of the materials representing permitted material to which the device may be connected; such as aluminum closures representing an aluminum fitting or tube. Table 5.1 shall be used to determine the worst case metal interactions. Materials that are specified by the manufacturer, but are not included in Table 5.1 shall be tested as necessary to represent worst case conditions.

MARKING

26 General

26.1 A connector or fitting shall be marked with the following information:

a) The manufacturer's or private labeler's identification.

b) A distinctive catalog number or the equivalent.

c) Devices shall be marked to indicate the fuel rating for which they are intended. The marking shall be "Gasoline" for devices rated for gasoline only, shall be "E25" for devices rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 25 percent (E0 - E25), shall be "E40" for valves rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 40 percent ethanol (E0 - E40), or shall be "E85" for devices rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 85 percent (E0 - E85). This marking shall be prominently displayed to identify the device.

SUPPLEMENT SA - Test Fluids

SA.1 Details

There are ~~two~~ three test fluids that are applicable for tests in this standard. The fluids are designated by a format that fits the form of CEXXa; where "C" indicates ASTM Reference Fuel C (50% Isooctane, 50% Toluene); "E" indicates synthetic ethanol (designated CDA20); "XX" indicates percentage amount of the ethanol that is added to the solution; and "a" indicates aggressive elements that are added to the synthetic ethanol. The aggressive elements are used to represent contaminants that can be found in actual use and are used to help represent the worst case test fluid. The aggressive elements are mixed in accordance with the Recommended Practice for Gasoline, Alcohol, and Diesel Fuel Surrogates for Material Testing, SAE J1681.

The aggressive elements include deionized water, sodium chloride, sulfuric acid, and glacial acetic acid. Table SA.1 outlines the amounts of each of these elements in one liter of aggressive ethanol.

Table SA.1

Aggressive ethanol test fluid

Component	Units	1 Liter of CE85a	1 Liter of CE40a	1 Liter of CE25a
ASTM Reference Fuel C	Liter	0.150	0.600	0.750
Synthetic Ethanol	Liter	0.843	0.397	0.248
Deionized Water	Liter	0.007	0.003	0.002
Sodium Chloride	Gram	0.003	0.002	0.001
Sulfuric Acid	Milliliter	0.010	0.005	0.003
Glacial Acetic Acid	Milliliter	0.050	0.020	0.010

CE25a consists of a 75% ASTM Reference Fuel C and 25% aggressive ethanol mixture CE40a consists of a 60% ASTM Reference Fuel C and 40% aggressive ethanol mixture. CE85a consists of a 15% ASTM Reference Fuel C and 85% aggressive ethanol mixture. These ~~two~~ fluids may be used to condition samples as noted in each specific test that indicates that these fluids are to be used. The test fluids are to be prepared just prior to use to minimize effects on the test fluid. The aggressive ethanol is corrosive and changes can occur to the solution from interactions with the storage and transfer containers. Exposure to air and or moisture may also effect the test fluid.

Products intended to be rated for use with gasoline or gasoline/ethanol blends with nominal ethanol concentrations up to 25 percent (E0 - E25) shall be evaluated using the CE25a test fluid as the only applicable test fluid. If the product is rated for use with gasoline or a gasoline/ethanol blends with a nominal ethanol concentration of up to 40 percent (E0 - E40), then the test shall be performed using the CE40a test fluid. Products intended to be rated at gasoline/ethanol

blends with nominal ethanol concentration greater than 25 percent shall be evaluated using both the CE25a test fluid and the CE85a test fluid.

For products evaluated using the CE25a test fluid, one sample is required to be conditioned in accordance with the test sequences in 10.5. For products evaluated using the CE40a test fluid, one sample is required to be conditioned in accordance with the test sequence in Section 10.5. For products using ~~both~~ CE25a and CE85a or CE40a and CE85a test fluids, two samples are required to be conditioned, one in each fluid, in accordance with the test sequences in 10.5.

BSR/UL 842A, Standard for Safety for Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85)

1. Addition of CE40a test fluid to the standard

PROPOSAL

INTRODUCTION

1 Scope

1.5 Products intended to be rated for use with gasoline or gasoline/ethanol blends with nominal ethanol concentrations:

a) Up to 25 percent (E0 - E25) shall be evaluated using the CE25a test fluid as the only applicable test fluid;

b) Up to 40 percent (E0 - E40) shall be evaluated using both the CE25a and CE40a test fluid; or

c) Up to 85 percent shall be evaluated using both the CE25a and the CE85a test fluids.

CONSTRUCTION

5 Materials

5.1 Metallic materials

5.1.1 General

5.1.1.1 A metallic part, in contact with the fuels anticipated by these requirements, shall be resistant to the action of the fuel if degradation of the material will result in leakage of the fuel or if it will impair the function of the device. For all fuel ratings, see Corrosion due to fluid, 5.1.2.1. For products rated for gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent, see Metallic materials - system level, 5.1.3.

5.1.3 Metallic materials - system level

5.1.3.1 Combinations of metallic materials in products rated for use with gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent shall be chosen to reduce degradation due to galvanic corrosion in accordance with 5.1.3.2 - 5.1.3.4.

PERFORMANCE

11 General

11.2 All tests shall be performed using the test fluids specified for that test. No substitution of test fluids is allowed. When the test indicates that CE25a, CE40a or CE85a are to be used, the test fluid shall be prepared as described in Supplement SA.

12 Long Term Exposure Test

12.1 General

12.1.1 The test outlined in 12.2 - 12.4 is to be performed on one or two samples of the device. If the product is rated for use with gasoline or a gasoline/ethanol blend with a nominal ethanol concentration of up to 25 percent (E0 - E25), then the test shall be performed using the CE25a test fluid. If the product is rated for use with gasoline or a gasoline/ethanol blends with a nominal ethanol concentration of up to 40 percent (E0 - E40), then the test shall be performed using both the CE25a and CE40a test fluids. If the product is rated for use with a gasoline/ethanol blend with a nominal ethanol concentration ~~above 25~~ of up to 85 percent, then the test shall be performed using both the CE25a and the CE85a test fluids. See Supplement SA for the test fluids.

12.2 Samples

12.2.5 Material combinations at the product and closure interface will be a specified by the manufacturer. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations up to 25 or 40 percent shall be fabricated of suitable materials. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations above 25 percent shall be fabricated of the materials representing permitted material to which the device may be connected; such as aluminum closures representing an aluminum fitting or tube. Table 5.1 shall be used to determine the worst case metal interactions. Materials that are specified by the manufacturer, but are not included in Table 5.1 shall be tested as necessary to represent worst case conditions.

MARKING

25 General

25.1 Each valve shall be marked with the following information:

a) The manufacturer's or private labeler's identification.

b) A distinctive catalog number or the equivalent.

c) The positions or direction of movement of levers or reset handles of non self-closing type valves. See 4.2.3.

d) The mounting directions for a valve intended to be installed in a definite position in order to function as intended.

e) The rated operating pressure, also the pressure at the seat when lower than the rated operating pressure.

f) Valves shall be marked to indicate the fuel rating for which they are intended. The marking shall be "Gasoline" for dispensers rated for gasoline only, shall be "E25" for dispensers rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 25 percent (E0 - E25), shall be "E40" for valves rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 40 percent ethanol (E0 - E40), or shall be "E85" for dispensers rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 85 percent (E0 - E85). This marking shall be prominently displayed to identify the valve.

SUPPLEMENT SA - Test Fluids

SA.1 Details

There are ~~two~~ three test fluids that are applicable for tests in this standard. The fluids are designated by a format that fits the form of CEXXa; where "C" indicates ASTM Reference Fuel C (50% Isooctane, 50% Toluene); "E" indicates synthetic ethanol (designated CDA20); "XX" indicates percentage amount of the ethanol that is added to the solution; and "a" indicates aggressive elements that are added to the synthetic ethanol. The aggressive elements are used to represent contaminants that can be found in actual use and are used to help represent the worst case test fluid. The aggressive elements are mixed in accordance with the Recommended Practice for Gasoline, Alcohol, and Diesel Fuel Surrogates for Material Testing, SAE J1681.

The aggressive elements include deionized water, sodium chloride, sulfuric acid, and glacial acetic acid. Table SA.1 outlines the amounts of each of these elements in one liter of aggressive ethanol.

Table SA.1

Aggressive ethanol test fluid

Component	Units	1 Liter of CE85a	1 Liter of CE40a	1 Liter of CE25a
ASTM Reference Fuel C	Liter	0.150	0.600	0.750
Synthetic Ethanol	Liter	0.843	0.397	0.248
Deionized Water	Liter	0.007	0.003	0.002
Sodium Chloride	Gram	0.003	0.002	0.001
Sulfuric Acid	Milliliter	0.010	0.005	0.003
Glacial Acetic Acid	Milliliter	0.050	0.020	0.010

CE25a consists of a 75% ASTM Reference Fuel C and 25% aggressive ethanol mixture CE40a consists of a 60% ASTM Reference Fuel C and 40% aggressive ethanol mixture. CE85a consists of a 15% ASTM Reference Fuel C and 85% aggressive ethanol mixture. These ~~two~~ fluids may be used to condition samples as noted in each specific test that indicates that these fluids are to be used. The test fluids are to be prepared just prior to use to minimize effects on the test fluid. The aggressive ethanol is corrosive and changes can occur to the solution from interactions with the storage and transfer containers. Exposure to air and or moisture may also effect the test fluid.

Products intended to be rated for use with gasoline or gasoline/ethanol blends with nominal ethanol concentrations up to 25 percent (E0 - E25) shall be evaluated using the CE25a test fluid as the only applicable test fluid. If the product is rated for use with gasoline or a gasoline/ethanol blends with a nominal ethanol concentration of up to 40 percent (E0 - E40), then the test shall be performed using the CE40a test fluid. Products intended to be rated at gasoline/ethanol blends with nominal ethanol concentration greater than 25 percent shall be evaluated using both the CE25a test fluid and the CE85a test fluid.

For products evaluated using the CE25a test fluid, one sample is required to be conditioned in accordance with the test sequences in 10.5. For products evaluated using the CE40a test fluid, one sample is required to be conditioned in accordance with the test sequence in Section 10.5. For products using ~~both~~ CE25a and CE85a or CE40a and CE85a test fluids, two samples are required to be conditioned, one in each fluid, in accordance with the test sequences in 10.5.

BSR/UL 962A, Standard for Safety for Furniture Power Distribution Units

1. Addition of New Supplement SC - Furniture Power Distribution Units For Kitchen and Bathroom Counter Tops

1.12 This standard contains the following Supplements:

a) Supplement SA - Furniture Power Distribution Units Incorporating Batteries.

b) Supplement SB - Furniture Power Distribution Units for Clustered Seating.

c) Supplement SC - Furniture Power Distribution Units For Kitchen and Bathroom Counter Tops.

SUPPLEMENT SC - FURNITURE POWER DISTRIBUTION UNITS FOR KITCHEN AND BATHROOM COUNTER TOPS

INTRODUCTION

SC1 Scope

SC1.1 These requirements cover indoor use only cord and plug connected, furniture power distribution unit (FPDU's) for a kitchen or bathroom counter tops. A FPDU for a kitchen or bathroom counter top is intended for connection to a permanently-installed receptacle on a branch circuit rated 125 V AC and 20 Amperes or less. A FPDU for a kitchen or bathroom counter top is intended for mounting to either a portable or stationary furnishings only, as a power supply connection for cord and plug connected electrical utilization equipment, in accordance with the National Electrical Code, NFPA 70.

SC1.2 A FPDU for a kitchen or bathroom counter top is only intended to provide power for cord-and-plug-connected electrical utilization equipment and shall not serve as fixed wiring of a structure.

SC1.3 A FPDU for a kitchen or bathroom counter top is not intended to be series connected (daisy chained) to other FPDUs, relocatable power taps, or extension cords.

SC1.4 The enclosure of a FPDU for a kitchen or bathroom counter top shall not be provided with a knockout for connection to a permanently-installed receptacle.

SC1.5 A cord-and-plug-connected product as described in SC1.1 that employs ground-fault protection is covered under the requirements for portable GFCIs in the Standard for Ground-Fault Circuit Interrupters, UL 943.

SC1.6 A FPDU for a kitchen or bathroom counter top consists of an enclosure providing cord-and-plug connection to a permanently-installed receptacle and may be provided with supplementary overcurrent protection and one or no more than three receptacle outlets.

SC1.7 A FPDU for a kitchen or bathroom counter top may include receptacles with integral power supply with Class 2 output connector(s).

SC1.8 A FPDU for a kitchen or bathroom counter top with one or receptacle outlets that also employs an electromagnetic interference filter is covered under this Supplement.

SC1.9 A FPDU for a kitchen or bathroom counter top with one or no more than three receptacle outlets and that employs a surge protective device (SPD) is covered under this Supplement.

SC1.10 An assembly consisting of a retractable flush mount receptacle, outlet box and flush device cover plate intended for fixed installation on a branch circuit is covered as a pop-up receptacle assembly in the Standard for Attachment Plugs and Receptacles, UL 498.

SC2 Glossary

SC2.1 For the purposes of this Supplement, the following definitions apply.

SC2.2 KITCHEN or BATHROOM COUNTERTOP - A work surface of either a portable or stationary furnishing.

SC2.3 FURNITURE POWER DISTRIBUTION UNIT (FPDU) KITCHEN OR BATHROOM COUNTER TOP - An assembly intended for mounting to a kitchen or bathroom counter top of a portable or stationary furnishing. Cord and plug connected to a branch circuit receptacle. A FPDU assembly is suitable for installation in a kitchen or bathroom counter top. They are provided with one or no more than three receptacle outlets. The outlets are retractable for storage below the counter top surface.

SC3 General

SC3.1 A FPDU for a kitchen or bathroom counter top shall comply with requirements in the Standard for Furniture Power Distribution Units, UL 962A except as modified by the requirements of Supplement SC.

CONSTRUCTION

SC4 General

SC4.1 The construction of a FPDU for a kitchen or bathroom counter top shall comply with all construction requirements in UL 962A except as modified by the requirements of this Supplement.

SC4.2 A FPDU for a kitchen or bathroom counter top shall employ no more than 3 receptacle outlets.

SC4.3 All receptacle outlets employed in a FPDU for a kitchen or bathroom counter top shall be of the tamper-resistant type and shall comply with the tamper-resistant receptacle requirements contained in the Standard for Attachment Plugs and Receptacles, UL 498.

SC4.4 Gaskets or seals shall comply with the applicable requirements in the Standard for Gaskets and Seals, UL 157 or the Standard for Enclosures for Electrical Equipment, Environmental Considerations, UL 50E, for a minimum Type 2 rating.

PERFORMANCE

SC5 General

SC5.1 In addition to all the performance requirements in UL 962A, a FPDU for a kitchen or bathroom counter top shall also comply with the following tests identified in Sections SC6 through SC7.

SC6 Mechanical Endurance Test

SC6.1 This test shall be conducted on a representative retractable FPDU capable of being used without being installed in an additional enclosure, and is intended for installation in a kitchen or bathroom countertop. At the conclusion of this test, the device shall comply with the following:

a) The retractable assembly shall remain operational as intended,

b) There is no indication of dielectric breakdown, and

c) The leakage current did not exceed 0.5 mA.

SC6.2 A sample of a FPDU for a kitchen or bathroom counter top shall be mounted in a counter surface in accordance with the manufacturers installation instructions. Power shall not be applied to the device. The retractable assembly shall initially be in the extended position and retracted back into the closed latched position within the counter surface. The retractable assembly shall then be released, fully extended and then fully retracted for one cycle of operation. The above extension and retraction cycle shall be repeated for a total of 6,000 cycles at a cycling rate as permitted by the construction of the unit. A faster cycling rate is permitted if agreed to by the manufacturer.

SC6.3 At the conclusion of the cycling, the device shall be connected to a rated source of supply. Power shall be available at the receptacle outputs as determined by the use of a test light or equivalent means.

SC6.4 The same sample shall then be subjected to the Leakage Current Test, Section 31, with no humidity conditioning, followed by the Dielectric Withstand Test of Section 30.

SC6.5 The same sample shall then be subjected to the Spill Test of Section SC7.

SC7 Kitchen and Bathroom Countertop Spill Test

SC7.1 The same sample previously subjected to Mechanical Endurance Test, Section SC6 shall be secured to a counter surface in accordance with the manufacturer's installation instructions. The assembly shall be fully extended. Any covers provided shall be opened to their most disadvantageous position. Covers that tend to close themselves shall be allowed to fall to their natural resting position. If more than one outlet is enclosed by such a self-closing cover, a single power supply cord shall be mated with one of the receptacle outlets and the cord shall exit from behind the cover.

SC7.2 A container measuring 7-1/8 inch (181 mm) I.D. by 9-7/8 inch (251 mm) tall shall be filled with 1/2 gallon (1.9 L) of saline solution, consisting of 0.28 ounce (8 grams) of table salt per liter 0.264 gallon (0.99 L) of distilled water. The salt shall be fully dissolved into solution. The container shall be placed on the counter surface with its base 12 inches (305 mm) from the sample, and facing the receptacle outlet(s). The container shall then be tipped over all at once. An effort shall be made to direct the spill toward the most disadvantageous area of the assembly.

SC7.3 One minute after the container of water is tipped over, the sample shall be subjected the Leakage Current Test in UL 962A, Section 31 with no humidity conditioning, and Dielectric Withstand Test in UL 962A, Section 30.

SC7.4 The test sequence of paragraphs SC7.2 and SC7.3 shall be repeated with the assembly fully retracted back into the closed latched position within the counter surface.

MARKINGS

SC8 General

SC8.1 In addition to the marking requirements in UL 962A, a FPDU for a kitchen or bathroom counter top shall also be marked with the following.

SC8.2 A counter top mounted retractable FPDU assembly shall be marked: "DANGER: Risk of Electric Shock, Unit Shall be Connected to a GFCI Receptacle or connected to a GFCI branch circuit", or equivalent The word DANGER shall be a minimum of 9/64 in (3.6 mm) high and the remaining words shall be a minimum of 1/16 in (1.6 mm) high. This marking shall also be provided in the instruction manual.

SC8.3 A counter top mounted retractable FPDU assembly shall be marked: "Suitable for installation in a kitchen or bathroom counter top surface" or an equivalent wording, where visible during installation. This marking shall also be provided in the instruction manual.

BSR/UL 1191, Standard for Safety for Components for Personal Flotation Devices

1. ANSI and SCC Approval for Components for Personal Flotation Devices, ANSI/CAN/UL 1191

PROPOSAL

Table 2.1

Use codes

Use code	Product Classification	Description of device
1	Level 150 and 100 Lifejacket	Inherently Buoyant Adult or Child sizes
1F		Fully Inflatables
2	Level 100 Lifejacket	Recreational Buoyant Adult or Child sizes
2A		Recreational Buoyant Adult sizes only
2C		Recreational Buoyant Child sizes only
2F		Recreational Fully Inflatables
3F		Recreational Fully Inflatables
3	Level 50 and 70 Buoyancy Aid	Inherently Buoyant Adult or Child sizes
3A		Inherently Buoyant Adult sizes only
3C		Inherently Buoyant Child sizes only
3F		Inflatables
4	Throwable	Any Styles
4B		Any ring or horseshoe buoy
4BC		Buoyant Cushions
4H		Horseshoe buoys
4RB		Recreational ring buoys
5	Special Use Level 150 and 100 Lifejacket or Special Use Level 50 and 70 Buoyancy Aid	Any styles except Hybrids or work vests
5H		Hybrids
5SB		Recreational sailboard devices
5R		Any recreational style Type V; except Hybrids
5WV		Workvest
6F	Special Use Inflation systems	Unique, limited or restricted categories for devices not covered in this Table. When used, the

		intended application for this Use Code/Product Classification shall be specifically described, such as convertible inflation systems/
6I	Immersion Suit	Abandonment Suit or Constant Wear Suit

BSR/UL 2586A, Standard for Safety for Hose Nozzle Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85)

1. Addition of CE40a test fluid to the standard

PROPOSAL

INTRODUCTION

1 Scope

1.8 Products intended to be rated for use with gasoline or gasoline/ethanol blends with nominal ethanol concentrations:

a) Up to 25 percent (E0 - E25) shall be evaluated using the CE25a test fluid as the only applicable test fluid;

b) Up to 40 percent (E0 - E40) shall be evaluated using both the CE25a and CE40a test fluid; or

c) Up to 85 percent shall be evaluated using both the CE25a and the CE85a test fluids.

CONSTRUCTION

5 Materials

5.1 Metallic materials

5.1.1 General

5.1.1.1 A metallic part, in contact with the fuels anticipated by these requirements, shall be resistant to the action of the fuel if degradation of the material will result in leakage of the fuel or if it will impair the function of the device. For all fuel ratings, see Corrosion due to fluid, 5.1.2.1. For products rated for gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent, see Metallic materials - system level, 5.1.3.

5.1.3 Metallic materials - system level

5.1.3.1 Combinations of metallic materials in products rated for use with gasoline/ethanol blends with nominal ethanol concentrations greater than ~~25~~ 40 percent shall be chosen to reduce degradation due to galvanic corrosion in accordance with 5.1.3.2 - 5.1.3.4.

PERFORMANCE

10 General

10.2 All tests shall be performed using the test fluids specified for that test. No substitution of test fluids is allowed. When the test indicates that CE25a, CE40a or CE85a are to be used, the test fluid shall be prepared as described in Supplement SA.

12 Long Term Exposure Test

12.1 General

12.1.1 The test outlined in 12.2 - 12.4 is to be performed on one or two samples of the device. If the product is rated for use with gasoline or a gasoline/ethanol blend with a nominal ethanol concentration of up to 25 percent (E0 - E25), then the test shall be performed using the CE25a test fluid. If the product is rated for use with gasoline or a gasoline/ethanol blends with a nominal ethanol concentration of up to 40 percent (E0 - E40), then the test shall be performed using both the CE25a and CE40a test fluids. If the product is rated for use with a gasoline/ethanol blend with a nominal ethanol concentration ~~above 25~~ of up to 85 percent, then the test shall be performed using both the CE25a and the CE85a test fluids. See Supplement SA for the test fluids.

12.2 Samples

12.2.5 Material combinations at the product and closure interface will be a specified by the manufacturer. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations up to 25 or 40 percent shall be fabricated of suitable materials. All closures for devices rated for gasoline/ethanol blends with nominal ethanol concentrations above 25 percent shall be fabricated of the materials representing permitted material to which the device may be connected; such as aluminum closures representing an aluminum fitting or tube. Table 5.1 shall be used to determine the worst case metal interactions. Materials that are specified by the manufacturer, but are not included in Table 5.1 shall be tested as necessary to represent worst case conditions.

MARKING

29 General

29.1 Each valve shall be marked with the following information:

a) The manufacturer's or private labeler's identification.

b) A distinctive catalog number or the equivalent.

c) Hose Nozzle Valves shall be marked to indicate the fuel rating for which they are intended. The marking shall be "Gasoline" for hose nozzle valves rated for gasoline only, shall be "E25" for hose nozzle valves rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 25 percent (E0 - E25), shall be "E40" for valves rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 40 percent ethanol (E0 - E40), or shall be "E85" for hose nozzle valves rated for gasoline and gasoline/ethanol blends with nominal ethanol concentrations up to 85 percent (E0 - E85). This marking shall be prominently displayed to identify the hose nozzle valve.

SUPPLEMENT SA - Test Fluids

SA.1 Details

There are ~~two~~ three test fluids that are applicable for tests in this standard. The fluids are designated by a format that fits the form of CEXXa; where "C" indicates ASTM Reference Fuel C (50% Isooctane, 50% Toluene); "E" indicates synthetic ethanol (designated CDA20); "XX" indicates percentage amount of the ethanol that is added to the solution; and "a" indicates aggressive elements that are added to the synthetic ethanol. The aggressive elements are used to represent contaminants that can be found in actual use and are used to help represent the worst case test fluid. The aggressive elements are mixed in accordance with the Recommended Practice for Gasoline, Alcohol, and Diesel Fuel Surrogates for Material Testing, SAE J1681.

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E40), then the test shall be performed using the CE40a test fluid. Products intended to be rated at gasoline/ethanol blends with nominal ethanol concentration greater than 25 percent shall be evaluated using both the CE25a test fluid and the CE85a test fluid.

For products evaluated using the CE25a test fluid, one sample is required to be conditioned in accordance with the test sequences in 10.5. For products evaluated using the CE40a test fluid, one sample is required to be conditioned in accordance with the test sequence in Section 10.5. For products using ~~both~~ CE25a and CE85a or CE40a and CE85a test fluids, two samples are required to be conditioned, one in each fluid, in accordance with the test sequences in 10.5.