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: April 19, 2020

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

Addenda

BSR/ASHRAE Addendum a to BSR/ASHRAE Standard 90.4-202x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

Addendum a to 90.4-2019 modifies the Annualized MLC section requirements to specify how heat recovery measures can be incorporated in the data center design and calculations. The addendum also includes clarifications to some of the pre-existing language in Section 6.5 and lifts previous requirements about meeting ASHRAE Thermal Guidelines for 8,460 hours per year, which is considered restrictive for most data centers.

Click here to view these changes in full

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

BSR/ASHRAE Addendum b to BSR/ASHRAE Standard 90.4-202x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

Addendum b to 90.4-2019 modifies the Alternative Compliance Method in Section 11, providing a new option to obtain credit for on-site renewable energy systems up to 5% of the IT load.

Click here to view these changes in full

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

BSR/ASHRAE Addendum d to BSR/ASHRAE Standard 90.4-202x, Energy Standard for Data Centers (addenda to ANSI/ASHRAE Standard 90.4-2016)

Addendum d to 90.4-2019 provides several updates to the language in Section 8 to clarify that diesel rotary UPS systems can be used in the design. It also includes corrections to a few errors and inconsistencies identified in the 2019 publication.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bc to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017)

Addendum bc to 189.1-2017 adds a new requirement for compliance with the Chapter 7 performance option calling for larger building projects to perform Energy Simulation Aided Design per ASHRAE Standard 209.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bf to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bf to 189.1-2017 provides improvements to the numbering and language regarding the application of Section 8.3.1.10 (Preoccupancy Ventilation Control) to better convey the intent behind those requirements.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bg to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bg to 189.1-2017 reflects changes to Chapters 7 and 8 that were identified based on the updated publication of ASHRAE 62.1. Specific changes include a clarification on the use of Standard 170 vs 62.1, the addition of ISO filter standards as an alternative to MERV ratings, and further details concerning outdoor ozone air cleaning requirements.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bl to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bl to 189.1-2017 clarifies the relationship between Standard 90.1 Appendix G and Standard 189.1 Appendix C and verifies that these modeling rules apply to Sections 7.5.1, 7.5.2, and 7.5.3. The addendum also adds language to Normative Appendix C that clarifies how on-site non-renewable energy generation and combined heat and power systems are modeled for performance calculations.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bn to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bn to 189.1-2017 adds a requirement that air cleaning devices must not emit ozone, which closely resembles a recent change in Standard 62.1.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bo to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bo to 189.1-2017 modifies soil-gas control requirements to reflect current industry practices that incorporate ANSI/AARST mandated soil-gas control measures in new building construction projects. Specifically, new requirements from ANSI/AARST Standard CC-1000-2018 have been introduced to Section 8. Additional requirements for mitigation and testing based on AARST standards have also been included in Section 10.

Click here to view these changes in full

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

BSR/ASHRAE/ICC/USGBC/IES Addendum bp to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017)

Addendum bp to 189.1-2017 modifies Section 4.2 to remove language that was considered problematic in the context of an ASHRAE standard. The changes seen here do not alter the intent of Section 4.2, which addresses the jurisdictional options added to the standard to facilitate local adoption of the Standard or the IgCC.

Click here to view these changes in full

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

BSR/ASHRAE/IES Addendum d to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019)

This addendum proposes revisions to parking garage ventilation requirements in Standard 90.1.

Click here to view these changes in full

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

BSR/ASHRAE/IES Addendum e to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019)

This addendum is intended to create requirements for the insulation of hot gas refrigerant piping used for space heating or service water heating, clarify that service water piping insulation requirements apply only to piping not supplied by the manufacturer of the service water heating equipment and update the title of Table 6.8.3-1 to reflect current definitions.

Click here to view these changes in full

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

BSR/ASHRAE/IES Addendum f to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019)

This addendum proposes footnote changes Table 6.5.1-2. Historically, the required efficiency increases to eliminate economizer has been a point of confusion for the industry. The confusion stems from whether you need to increase both the full-load efficiency and part-load efficiency or just the part-load efficiency of the equipment. Additionally, if the metric is not in the format of work out divided by energy in (ex. IPLV), then you could get different efficiency levels required based on how you do the math.

Click here to view these changes in full

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

BSR/ASHRAE/IES Addendum g to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019)

The current language in 6.5.1.1.5 is: "Systems shall provide a means to relieve excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet shall be located so as to avoid recirculation into the building." This is vague and unenforceable. Consequently, it is often ignored and violated. The proposed language is specific and enforceable and will achieve the desired intent of the current language.

Click here to view these changes in full

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

BSR/ASHRAE/IES Addendum h to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2019)

Section 4.2.1.1 requires calculating the area-weighted average BPF for mixed-use buildings that have several building area types. However, there are several different types of areas defined in the standard -- gross floor area, gross conditioned floor area, gross lighted floor area, etc., and it is unclear which area applies in this case. The proposed addendum clarifies that the gross floor area should be used when calculating the area-weighted BPF.

Click here to view these changes in full

Send comments (with optional 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 173-202x (i90r2), Dietary Supplements (revision of ANSI/NSF 173-2019)

The purpose of NSF/ANSI 173 is to serve as an evaluation tool for analyzing dietary supplements. Certification to this Standard serves as a communication tool between manufacturers of ingredients and finished product, retailers, healthcare practitioners, and consumers. This Standard provides test methods and evaluation criteria to allow for the determination that a dietary supplement contains the ingredients claimed on the label, either qualitatively or quantitatively, and that it does not contain specific undeclared contaminants. In some instances, validated laboratory methods are not yet available for analyzing certain ingredients. In such cases, new methods will be added to this Standard as they become available.

Click here to view these changes in full

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

BSR/NSF 223-202x (i6r1), Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI 60 Drinking Water Treatment Chemicals - Health Effects (revision of ANSI/NSF 223-2015)

This Standard establishes minimum requirements for certification bodies to be used when certifying products to NSF/ANSI 60, Drinking Water Treatment Chemicals – Health Effects. These requirements are supplemental to those contained in ISO Guide 65 or ISO 17020 and do not replace the requirements of either ISO standard. By specifying this Standard, users of product certifications can communicate their expectation that certification activities addressed in this standard are performed in the particular manner described.

Click here to view these changes in full

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

BSR/NSF 223-202x (i7r1), Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects (revision of ANSI/NSF 223-2015)

This Standard establishes minimum requirements for certification bodies to be used when certifying products to NSF/ANSI 60, Drinking Water Treatment Chemicals – Health Effects. These requirements are supplemental to those contained in ISO Guide 65 or ISO 17020 and do not replace the requirements of either ISO standard. By specifying this Standard, users of product certifications can communicate their expectation that certification activities addressed in this standard are performed in the particular manner described.

Click here to view these changes in full

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

BSR/NSF/CAN 50-202x (i160r2), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2019)

This Standard covers materials, chemicals, 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 optional copy to psa@ansi.org) to: jsnider@nsf.org

BSR/NSF/CAN 61-202x (i155r1), Drinking Water System Components - Health Effects (revision of ANSI/NSF/CAN 61-2019)

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

Click here to view these changes in full

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

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 13-202X, Standard for Power-Limited Circuit Cables (revision of ANSI/UL 13-2019)

Topic (1): Add a continuity test to Section 23 Impact Test for Type PLTC Cable Marked "-ER".

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 79-202x, Standard for Safety for Power-Operated Pumps for Petroleum Dispensing Products (revision of ANSI/UL 79-2019)

The following topic is being proposed: (1) Addition of reference to UL 61800-5-1 as a replacement to UL 508C.

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 79A-202x, Standard for Safety for Power-Operated Pumps for Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85) (revision of ANSI/UL 79A-2016)

The following topic is being proposed: (1) Addition of reference to UL 61800-5-1 as a replacement to UL 508C.

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 79B-202x, Standard for Safety for Power-Operated Pumps for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil (revision of ANSI/UL 79B-2020)

The following topic is being proposed: (1) Addition of reference to UL 61800-5-1 as a replacement to UL 508C.

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 1247-202x, UL Standard for Safety for Diesel Engines for Driving Stationary Fire Pumps (revision of ANSI/UL 1247-2019)

(1) Time delay for high temperature signal; (2) Energizing the water solenoid valve during manual starting.

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Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 1839-202x, Standard for Safety for Automotive Battery Booster Cables (revision of ANSI/UL 1839-2016)

(1) Provisions for nonmetallic clamp design.

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 2250-202X, Standard for Instrumentation Tray Cable (revision of ANSI/UL 2250-2017)

Topic (1): Add a continuity test to Section 32 Impact Test for Type ITC Cable Marked "-ER".

Click here to view these changes in full

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

Comment Deadline: May 4, 2020

AAFS (American Academy of Forensic Sciences)

New Standard

BSR/ASB STD 093-202x, Standard Test Method for the Examination and Testing of Firearms (new standard)

This document establishes standard procedures for the examination and testing of a firearm by firearm and toolmark examiners or technicians. Following these procedures, an examiner or technician will be able to conduct, document, and report the examination and testing of a firearm.

Single copy price: Free

Obtain an electronic copy from: This is a public comment period for a recirculation. Updated document, redline version, and comments can be viewed on the AAFS Standards Board website at: http://www.asbstandardsboard.org/notice-of-standard-development-and-coordination/.

Order from: Document will be provided electronically on AAFS Standards Board website http://www.asbstandardsboard.org/ free of charge.

Send comments (with optional copy to psa@ansi.org) to: asb@aafs.org

ABYC (American Boat and Yacht Council)

Revision

BSR/ABYC A-33-202x, Emergency Engine/Propulsion Cut-Off Devices (revision of ANSI/ABYC A-33-2018)

This standard is a guide for the design, construction, installation, and performance of devices used to disable the propulsion system when the operator is unexpectedly displaced from the boat and may include provisions to alert the operator when passengers are unexpectedly displaced from the boat. This standard applies to all recreational boats less than 26 ft capable of developing 115 lb or more of static thrust; all mechanically powered boats equipped with devices that disable propulsion when the operator is unexpectedly displaced from the boat; and boats equipped with a warning system for passengers unexpectedly displaced from the boat.

Single copy price: $50.00

Obtain an electronic copy from: www.abycinc.org

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

BSR/ABYC H-31-202x, Seat Structures (revision of ANSI/ABYC H-31-2017)

This standard addresses the design, construction, installation, and testing of permanently installed seating systems in all boats. This standard applies to permanently installed seats in cockpits, deck areas, and all helm position(s), including their fastenings and structures to which they are attached.

Single copy price: $50.00

Obtain an electronic copy from: www.abycinc.org

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

ANS (American Nuclear Society)

Reaffirmation

BSR/ANS 3.11-2015 (R202x), Determining Meteorological Data for Nuclear Facilities (reaffirmation of ANSI/ANS 3.11-2015)

This consensus standard provides criteria for gathering, assembling, processing, storing, and disseminating meteorological information at commercial nuclear electric generating stations, U.S. Department of Energy / National Nuclear Security Administration nuclear facilities, and other national or international nuclear facilities. While well-established monitoring and analysis methods are adequately addressed, this revision provides information on newer systems, both hardware and software, and more modern methods to keep up with the state of the science. Meteorological data collected, processed, stored, and disseminated through implementation of this standard are utilized to support the full life cycle (i.e., siting, construction, operation, and decommissioning) of nuclear facilities. The meteorological data are employed in a large number of applications associated with determining environmental impacts, enabling consequence assessments in routine release and design-basis accident evaluations, supporting emergency preparedness and response programs, and other important applications, such as evaluating beyond design-basis events.

Single copy price: $220.00

Obtain an electronic copy from: orders@ans.org

Order from: orders@ans.org

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

APA (APA - The Engineered Wood Association)

Revision

BSR 117-202x, Standard Specification for Structural Glued Laminated Timber of Softwood Species (revision of ANSI 117-2015)

This standard provides basic design information for structural glued laminated timber (glulam) and grading rules for laminating lumber

Single copy price: Free

Obtain an electronic copy from: borjen.yeh@apawood.org

Order from: Borjen Yeh, (253) 620-7467, borjen.yeh@apawood.org

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

ASA (ASC S1) (Acoustical Society of America)

New Standard

BSR/ASA S1.13-201x, Measurement of Sound Pressure Levels in Air (new standard)

This standard specifies requirements and describes procedures for the measurement of sound pressure levels in air at a single point in space. These requirements and procedures apply primarily to measurements performed indoors but may be utilized in outdoor measurements under specified conditions. This is a standard applicable to a wide range of measurements and to sounds that may differ widely in temporal and spectral characteristics; more specific American National Standards complement its requirements. This standard applies only to the measurement of continuous sounds, those whose duration is 1 second or greater and does not apply to the measurement of impulsive sounds whose duration is less than 1 second. This standard is intended to be used by practitioners in the field. This is a replacement for a previous version of ANSI S1.13.

Single copy price: $143.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, standards@acousticalsociety.org

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

ASA (ASC S1) (Acoustical Society of America)

Reaffirmation

BSR/ASA S1.1-2013 (R202x), Acoustical Terminology (reaffirmation of ANSI/ASA S1.1-2013)

This standard provides definitions for terms used in acoustics and electroacoustics. Many terms apply to all branches of acoustics. A number of general terms from the fields of architectural acoustics, engineering acoustics, physical acoustics, physiological and psychological acoustics, sonics and ultrasonics, underwater sound, and music are also provided. Specialized terms relating to the field of vibration and shock and to the fields of psychoacoustics and bioacoustics are contained in Standards listed among the general references. Definitions provided in this Standard are intended to be consistent with their counterparts in International Standards. Terms defined in an earlier edition of this Standard for the field of recording and reproducing sound are not provided in this edition because they are more properly a subject for other Standards.

Single copy price: $231.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.6-202x, Preferred Frequencies and Filter Band Center Frequencies for Acoustical Measurements (reaffirmation of ANSI/ASA S1.6 -2016)

For certain acoustical measurements, a constant-frequency increment is a suitable spacing. More commonly, however, a constant-percentage increment is adopted and the frequencies then form a geometric series. This is useful as acoustical data is commonly plotted on a logarithmic frequency axis (see IEC 60263). This standard deals with the geometric series. The present standard is not concerned with specification of preferred frequencies for music or musical instruments, or with the calculation of band-edge frequencies for bandpass filters.

Single copy price: $126.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.8-2016 (R202x), Reference Values for Levels Used in Acoustics and Vibrations (reaffirmation of ANSI/ASA S1.8-2016)

The scope of this standard includes reference values for commonly used levels in acoustics, electroacoustics, and mechanical vibrations. The use of levels to describe acoustical or vibratory quantities is not made mandatory by this standard. Reference values are provided for use when levels are employed. The purpose of this standard is to encourage uniformity of practice by providing reference values of convenient magnitude for various kinds of acoustical levels. Variable quantities for which this standard applies may vary in time or position, or both. Reference values for acoustical levels not described in this standard should be selected after consideration of the guidelines given in Clause 3.

Single copy price: $90.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.11-2016/Part 2/IEC 61260-2:2016 (R202x), Electroacoustics - Octave-Band and Fractional-Octave-Band Filters - Part 2: Pattern-Evaluation Tests (reaffirm a national adoption ANSI/ASA S1.11-2016/Part 2/IEC 61260-2:2016)

This part of ANSI/ASA S1.11/IEC 61260 provides details of the tests necessary to verify conformance to all mandatory specifications given in ANSI/ASA S1.11-2014/Part 1/IEC 61260-1:2014 for octave-band and fractional-octave-band filters. Tests and test methods are applicable to class 1 and class 2 bandpass filters. The aim is to ensure that all testing laboratories use consistent methods to perform pattern-evaluation tests.

Single copy price: $194.60

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.11-2016/Part 3/IEC 61260-3:2016 (R202x), Electroacoustics - Octave-Band and Fractional-Octave Band Filters - Part 3: Periodic Tests (reaffirm a national adoption ANSI/ASA S1.11-2016/Part 3/IEC 61260-3:2016)

This part of ANSI/ASA S1.11/IEC 61260 describes procedures for periodic testing of octave-band and fractional-octave-band filters that were designed to conform to the class 1 or class 2 specifications given in IEC 61260-1:2014. The aim of this standard is to ensure that periodic testing is performed in a consistent manner by all laboratories. The purpose of periodic testing is to assure the user that the performance of an octave-band and fractional-octave-band filter conforms to the applicable specifications of IEC 61260-1 for a limited set of key tests and for the environmental conditions under which the tests were performed. The extent of the tests in this standard is deliberately restricted to the minimum considered necessary for periodic tests. Periodic tests described in this standard apply to filters for which the manufacturer claims conformance to the specifications in IEC 61260-1:2014. Periodic tests in this standard apply to filters for which the model has been, or has not been, pattern approved by an independent testing organization responsible for pattern approvals in accordance with the test procedures of IEC 61260-2. Because of the limited extent of the periodic tests, if evidence of pattern approval is not publicly available, no general conclusion about conformance to the specifications of IEC 61260-1 can be made, even if the results of the periodic tests conform to all applicable requirements of this standard.

Single copy price: $194.60

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.15-1997/Part 1 (R202x), Measurement Microphones - Part 1: Specifications for Laboratory Standard Microphones (reaffirmation of ANSI/ASA S1.15-1997/Part 1 (R2016))

This Part 1:

— specifies mechanical dimensions and certain electroacoustic characteristics for condenser microphones used as laboratory standards for sound pressure measurements of the highest attainable accuracy. The specifications are intended to ensure that primary calibration by the reciprocity method can be readily carried out for the purpose of traceability to national standards;

— establishes a system for classifying laboratory standard condenser microphones into a number of types according to their dimensions and properties in order to facilitate the specification of calibration methods, the conduct of inter-laboratory comparisons involving the calibration of the same microphones in different laboratories, and the interchangeability of microphones in a given calibration system

Single copy price: $138.60

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.15-2005/Part 2 (R202x), Measurement Microphones - Part 2: Primary Method for Pressure Calibration of Laboratory Standard Microphones by the Reciprocity Technique (reaffirmation of ANSI/ASA S1.15-2005/Part 2 (R2015))

This standard:

— is applicable to laboratory standard microphones meeting the requirements of ANSI S1.15- 1997/Part 1 (R2001) and other types of condenser microphones having the same mechanical dimensions;

— specifies a primary method of determining the pressure sensitivity to establish a reproducible and accurate basis for the measurement of sound pressure.

Single copy price: $231.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.16-2000 (R202x), Method for Measuring the Performance of Noise Discriminating and Noise Canceling Microphones (reaffirmation of ANSI/ASA S1.16-2000 (R2015))

This Standard specifies the laboratory physical measurement procedure, calculation, and results reporting for quantifying the performance of noise-canceling and noise-discriminating microphones in a diffuse noise field. The purpose of this Standard is to describe procedures designed to measure the noise canceling performance of noise canceling and noise discrimination microphones in a diffuse sound field. This method provides a measure of merit, the Noise Canceling Index, which can be used to quantify the overall performance of a microphone in canceling or discriminating noise when compared to a laboratory-quality pressure microphone, meeting the requirements of ANSI S1.12-1967 (R1997).

Single copy price: $126.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.20-2012 (R202x), Procedures for Calibration of Underwater Electroacoustic Transducers (reaffirmation of ANSI/ASA S1.20-2012)

This standard establishes measurement procedures for calibrating underwater electroacoustic transducers and describes forms for presenting and assessing the resultant data. It is a revision of American National Standard S1.20-1988 (R2003).

Single copy price: $231.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.25-1991 (R202x), Specification for Personal Noise Dosimeters (reaffirmation of ANSI/ASA S1.25-1991 (R2017))

This standard specifies certain characteristics of a personal noise dosimeter. It also specifies allowable tolerances of those characteristics, and it describes how those characteristics are to be verified. It provides for three different exchange rates, two frequency weightings, and two exponential averaging time constants. NOTE: At present, the regulatory practices of the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) specify use of dosimeters having A-weighting, 5-dB exchange rate and SLOW exponential time averaging. The U.S. Department of Defense practices specify A-weighting, 4-dB exchange rate and SLOW exponential time averaging. Other options, including C-weighting, 3-dB exchange rate and FAST exponential time averaging, are included to provide instrument standards to serve the needs of research and developing regulatory practices. International Organization for Standardization Standard 1999: 1990 for occupational noise specifies only A-weighted sound exposure with 3-dB exchange rate and with no exponential time averaging. This standard is intended to specify a dosimeter suitable for measurement of impulsive, intermittent, and continuous noise.

Single copy price: $140.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

BSR/ASA S1.40-2006 (R202x), Specifications and Verification Procedures for Sound Calibrators (reaffirmation of ANSI/ASA S1.40-2006 (R2016))

Sound calibrators generate known sound pressure levels at one or more frequencies in a coupler into which a specified model of microphone is inserted in a specified configuration. NOTE: An example of a specified configuration may be with or without a grid. This Standard specifies performance requirements and verification procedures for three classes of coupler-type sound calibrators:

- Class LS: Laboratory Standard calibrator with the smallest tolerance limits;
- Class 1: Sound calibrators that are generally intended for field use with class 1 sound-level meters and similar instruments;
- Class 2: Sound calibrators that are generally intended for field use with class 2 sound-level meters, dosimeters, and similar instruments.

For class LS calibrators, the Standard requires the use of a laboratory-standard microphone as specified in ANSI S1.15-1997/Part 1.

For class 1 and class 2 calibrators, the Standard requires the use of a working standard microphone as specified in IEC 61094-4:1995. Tolerance limits in this Standard include maximum permitted expanded uncertainties of measurement as well as the tolerance limits allowed for design and manufacturing.

Single copy price: $231.00

Obtain an electronic copy from: standards@acousticalsociety.org

Order from: Nancy Blair-DeLeon, (516) 576-2341, asastds@acousticalsociety.org

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

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

Addenda

BSR/ASHRAE/ICC/USGBC/IES Addendum bk to BSR/ASHRAE/ICC/USGBC/IES Standard 189.1-202x, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017)

Addendum bk to 189.1-2017 updates the envelope criteria in Informative Appendix E based on changes to fenestration requirements that occurred in ANSI/ASHRAE/IES Standard 90.1-2019. In accordance with Section 7.4.2.1, Appendix E is calculated by reducing Standard 90.1 requirements for U-factor by 5% for vertical fenestration and skylights. The same is true for calculating the solar heat gain coefficient (SHGC) for skylights and east- and west-oriented vertical fenestration, unless otherwise noted. There are no changes to the opaque envelope requirements.

Single copy price: $35.00

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

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

BSR/ASHRAE/IES Addendum av to BSR/ASHRAE/IES Standard 90.1-202x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This ISC to addendum av introduces requirements to address thermal bridges in this standard. The contents of this proposal include prescriptive and performance (e.g., modeling thermal transmission values) options. The goal is to provide users with as many options as are currently available and allow users to choose which method of evaluation (e.g., simple or complex) that may be in the best interest of the building owner or building project without sacrificing the existing stringency.

Single copy price: $35.00

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

Order from: standards.section@ashrae.org

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

ASME (American Society of Mechanical Engineers)

Revision

BSR/ASME BPVC Section XI-202x, Section XI Rules for Inservice Inspection of Nuclear Power Plant Components (revision of ANSI/ASME BPVC Section XI-2019)

Division 1 provides requirements for in-service inspection and testing of light-water-cooled nuclear power plants. The requirements identify the areas subject to inspection; responsibilities; provisions for accessibility and inspectability; examination methods and procedures; personnel qualifications; frequency of inspection; record keeping and report requirements; procedures for evaluation of inspection results and subsequent disposition of results of evaluations; and repair/replacement activity requirements, including procurement, design, welding, brazing, defect removal, fabrication, installation, examination, and pressure testing. Division 2 provides the requirements for the creation of the Reliability and Integrity Management (RIM) Program for all types of nuclear power plants.

Single copy price: Free

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

Order from: https://cstools.asme.org/csconnect/PublicReviewPage.cfm

Send comments (with optional copy to psa@ansi.org) to: Kimberly Verderber, verderberk@asme.org

ASQ (American Society for Quality)

New Standard

BSR/ASQ ID1-202x, Inspection techniques and requirements - Guidelines (new standard)

Pertains to the inspections and tests necessary to substantiate conformity to drawings, specifications, and contractual requirements as well as all inspection and tests required by regulatory/statutory requirements.

Single copy price: $86.00

Obtain an electronic copy from: standards@asq.org

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

ATIS (Alliance for Telecommunications Industry Solutions)

Reaffirmation

BSR/ATIS 0900105-2015 (R202x), Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates, and Formats (reaffirmation of ANSI/ATIS 0900105-2015)

The purpose of this standard is to specify the multiplexing format and basic overhead definitions for the Synchronous Optical Network (SONET) signal. Other standards in the ATIS 0900105.2008 series build upon this base document by providing additional detailed information about other, specific aspects of SONET.

Single copy price: $330.00

Obtain an electronic copy from: akarditzas@atis.org

Order from: Anna Karditzas, (202) 434-8843, akarditzas@atis.org

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

AWC (American Wood Council)

Revision

BSR/AWC SDPWS-202x, Special Design Provisions for Wind and Seismic (revision and redesignation of ANSI/AWC SDPWS-2015)

Provides special design and construction requirements for wind and seismic design of wood structures.

Single copy price: $25.00

Obtain an electronic copy from: bdouglas@awc.org

Send comments (with optional copy to psa@ansi.org) to: bdouglas@awc.org

CEMA (Conveyor Equipment Manufacturers Association)

Reaffirmation

BSR/CEMA Standard No. 402-2003 (R202x), Belt Conveyors (reaffirmation and redesignation of ANSI/CEMA 402-2003 (R2015))

Second in a series of standards applying to Unit Handling Conveyors. It describes all the information related to Belt Conveyors: Definitions, Applications, Technical Data, and Examples.

Single copy price: Free

Obtain an electronic copy from: naylu@cemanet.org

Send comments (with optional copy to psa@ansi.org) to: naylu@cemanet.org

FCI (Fluid Controls Institute)

Revision

BSR/FCI 91-1-202x, Standard for Qualification of Control Valve Stem Seals (revision of ANSI/FCI 91-1-2010)

This standard classifies control valve stem seals by their ability to withstand mechanical and thermal cycles at a specified set of temperature and pressure conditions. Bellows, diaphragms, and tubular seals are not covered by this standard.

Single copy price: Free

Obtain an electronic copy from: fci@fluidcontrolsinstitute.org

Send comments (with optional copy to psa@ansi.org) to: Leslie Schraff, fci@fluidcontrolsinstitute.org

IIAR (International Institute of Ammonia Refrigeration)

Revision

BSR/IIAR 2-202X, Safety Standard for Design of Closed-Circuit Ammonia Refrigeration Systems (revision, redesignation and consolidation of ANSI/IIAR 2-2014 and ANSI/IIAR 2-2014 Addendum A-2019)

This safety standard provides the minimum requirements for the design of safe closed-circuit anhydrous ammonia refrigeration systems.

Single copy price: Free until public review process ends

Obtain an electronic copy from: eric.smith@iiar.org

Order from: Eric Smith, (703) 312-4200, eric.smith@iiar.org

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

BSR/IIAR 8-202x, Decommissioning of Closed-Circuit Ammonia Refrigeration Systems (revision of ANSI/IIAR 8-2015)

This standard specifies minimum criteria for the safe decommissioning of closed-circuit ammonia refrigeration systems.

Single copy price: Free until public review period ends

Obtain an electronic copy from: TONY_LUNDELL@IIAR.ORG

Order from: Tony Lundell, (703) 312-4200, tony_lundell@iiar.org

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

RESNET (Residential Energy Services Network, Inc.)

New Standard

BSR/RESNET/ACCA 310-202x, Standard for Grading the Installation of HVAC Systems (new standard)

Standard BSR/RESNET/ACCA 310-202x will provide a methodology for evaluating and grading the installation quality of Unitary HVAC systems. The standard is applicable to Unitary HVAC Systems including air conditioners and heat pumps in detached one- and two-family dwellings, townhouses, as well as in dwelling units and sleeping units that have their own HVAC system separate from other units.

Single copy price: $55.00

Obtain an electronic copy from: Follow the “STANDARDS AND AMENDMENTS CURRENTLY OUT FOR PUBLIC COMMENT” link at https://www.resnet.us/about/standards/resnet-ansi/

Order from: Rick Dixon, Standards Manager, RESNET, P.O. Box 4561, Oceanside, CA 92052

Send comments (with optional copy to psa@ansi.org) to: Comments are submitted via RESNET's online comment form. See the links from webpage: https://www.resnet.us/about/standards/resnet-ansi/ and link “STANDARDS AND AMENDMENTS CURRENTLY OUT FOR PUBLIC COMMENT” to comment on draft PDS-02.

SCTE (Society of Cable Telecommunications Engineers)

Revision

BSR/SCTE 215-1-202x, HEVC Video Constraints for Cable Television - Part 1: Coding (revision of ANSI/SCTE 215-1-2018)

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

Single copy price: $50.00

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

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

BSR/SCTE 215-1-1-202x, HEVC Video Constraints for Cable Television - Part 1-1: HDR10 Coding (revision of ANSI/SCTE 215-1-1-2018)

This document defines the additional coding constraints on SCTE 215-1 HDR video streams using an HDR10 format.

Single copy price: $50.00

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

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

UL (Underwriters Laboratories, Inc.)

New Standard

BSR/UL 62841-4-1000-202x, Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - UL 4-1000: Particular Requirements for Utility Machines (new standard)

This proposal for UL 62841-4-1000 covers: (1) Proposed first edition of the Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety, UL 4-1000: Particular Requirements for Utility Machines.

Single copy price: Free

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

Order from: http://www.shopulstandards.com

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

UL (Underwriters Laboratories, Inc.)

Reaffirmation

BSR/UL 696-2010 (R202x), Standard for Safety for Electric Toys (reaffirmation of ANSI/UL 696-2010 (R2015))

(1) Reaffirmation and continuance of the tenth edition of the Standard for Electric Toys, UL 696, as an American National Standard.

Single copy price: Free

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

Order from: http://www.shopulstandards.com

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

Comment Deadline: May 19, 2020

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

ASME (American Society of Mechanical Engineers)

New Standard

BSR/ASME BPVC Section XIII-202x, ASME Boiler and Pressure Vessel Code - Rules for Overpressure Protection (new standard)

The rules of this section provide the requirements for the overpressure protection of pressurized equipment such as boilers, pressure vessels, and piping systems. Overpressure protection methods include: (1) releasing excess pressure by use of pressure relief devices, (2) applying controls to prevent an increase in pressure (overpressure protection by system design), and (3) using a combination of (1) and (2).

Single copy price: Free

Obtain an electronic copy from: https://cstools.asme.org/csconnect/PublicReviewPage.cfm

Order from: https://cstools.asme.org/csconnect/PublicReviewPage.cfm

Send comments (with optional copy to psa@ansi.org) to: Colleen O'Brien, (212) 591-7881, obrienc@asme.org

ASME (American Society of Mechanical Engineers)

Reaffirmation

BSR/ASME PTC 47.4-2015 (R202x), Power Block of an Integrated Gasification Combined Cycle Power Plant (reaffirmation of ANSI/ASME PTC 47.4 -2015)

The object of this Code is to provide uniform test methods and procedures for the determination of the thermal performance and electrical output of an integrated gasification combined cycle (IGCC) power block.

Single copy price: $165.00

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

Order from: https://cstools.asme.org/csconnect/PublicReviewPage.cfm

Send comments (with optional copy to psa@ansi.org) to: Lawrence Chan, chanl4@asme.org

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 2127-202x, Standard for Inert Gas Clean Agent Extinguishing System Units (revision of ANSI/UL 2127-2015)

(1) Electronic pressure gauges.

Single copy price: Free

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

Order from: http://www.shopulstandards.com

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

BSR/UL 2166-202x, Standard for Halocarbon Clean Agent Extinguishing System Units (revision of ANSI/UL 2166-2015)

(1) Electronic pressure gauges.

Single copy price: Free

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

Order from: http://www.shopulstandards.com

Send comments (with optional copy to psa@ansi.org) to: Follow the instructions in the following website to enter comments into the CSDS Work Area: https://csds.ul.com/Home/ProposalsDefault.aspx

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.

APTech (ASC CGATS) (Association for Print Technologies)

ANSI IT8.7/3-2010, Graphic technology - Input data for characterization of 4-color process printing

Questions may be directed to: Jeff Linder, (703) 264-7220, jlinder@aptech.org

ANSI IT8.7/4-2005 (R2010), Graphic technology - Input data for characterization of 4-color process printing - Expanded data set

Questions may be directed to: Jeff Linder, (703) 264-7220, jlinder@aptech.org

Correction

Incorrect Designation

BSR/EIA 364-65B-2009 (R202x)

The Standards Action Public Review and the Call for Members notice published on: 3/6/2020 for BSR/EIA 364-61A (R202x) -- (reaffirmation of ANSI/EIA 364-61A (R2019) was incorrectly designated. This proposal is actually for BSR/EIA 364-65B-2009 (R202x) and is a (reaffirmation of ANSI/EIA 364-65B-2009). Both the title and scope were printed correctly.

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.

AGMA (American Gear Manufacturers Association)

Contact: Amir Aboutaleb
Phone (703) 684-0211
E-mail: tech@agma.org
Office: 1001 N Fairfax Street
5th Floor
Alexandria, VA 22314-1587

BSR/AGMA 6134-CXX-202x, Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors, Metric Edition (new standard)

ASA (ASC S1) (Acoustical Society of America)

Contact: Nancy Blair-DeLeon
Phone (516) 576-2341
E-mail: standards@acousticalsociety.org
Office: 1305 Walt Whitman Road
Suite 300
Melville, NY 11747

BSR/ASA S1.1-2013 (R202x), Acoustical Terminology (reaffirmation of ANSI/ASA S1.1-2013)

BSR/ASA S1.6-202x, Preferred Frequencies and Filter Band Center Frequencies for Acoustical Measurements (reaffirmation of ANSI ASA S1.6-2016)

BSR/ASA S1.8-2016 (R202x), Reference Values for Levels Used in Acoustics and Vibrations (reaffirmation of ANSI/ASA S1.8 -2016)

BSR/ASA S1.11-2016/Part 2/IEC 61260-2:2016 (R202x), Electroacoustics - Octave-Band and Fractional-Octave-Band Filters - Part 2: Pattern-Evaluation Tests (reaffirm a national adoption ANSI/ASA S1.11-2016/Part 2/IEC 61260-2:2016)

BSR/ASA S1.11-2016/Part 3/IEC 61260-3:2016 (R202x), Electroacoustics - Octave-Band and Fractional-Octave Band Filters, Part 3: Periodic Tests (reaffirm a national adoption ANSI/ASA S1.11-2016/Part 3/IEC 61260-3:2016)

BSR/ASA S1.13-201x, Standard Measurement of Sound Pressure Levels in Air (reaffirmation of ANSI/ASA S1.13-2005 (R2010))

BSR/ASA S1.13-202x, Measurement of Sound Pressure Levels in Air (new standard)

BSR/ASA S1.15-1997/Part 1 (R202x), Measurement Microphones - Part 1: Specifications for Laboratory Standard Microphones (reaffirmation of ANSI/ASA S1.15-1997/Part 1 (R2016))

BSR/ASA S1.15-2005/Part 2 (R202x), Measurement Microphones - Part 2: Primary Method for Pressure Calibration of Laboratory Standard Microphones by the Reciprocity Technique (reaffirmation of ANSI/ASA S1.15 -2005/Part 2 (R2015))

BSR/ASA S1.16-2000 (R202x), Method for Measuring the Performance of Noise Discriminating and Noise Canceling Microphones (reaffirmation of ANSI/ASA S1.16-2000 (R2015))

BSR/ASA S1.20-2012 (R202x), Procedures for Calibration of Underwater Electroacoustic Transducers (reaffirmation of ANSI/ASA S1.20-2012)

BSR/ASA S1.25-1991 (R202x), Specification for Personal Noise Dosimeters (reaffirmation of ANSI/ASA S1.25-1991 (R2017))

BSR/ASA S1.40-2006 (R202x), Specifications and Verification Procedures for Sound Calibrators (reaffirmation of ANSI/ASA S1.40-2006 (R2016))

ASQ (American Society for Quality)

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

BSR/ASQ ID1-202x, Inspection techniques and requirements - Guidelines (new standard)

FCI (Fluid Controls Institute)

Contact: Leslie Schraff
Phone (216) 241-7333
E-mail: fci@fluidcontrolsinstitute.org
Office: 1300 Sumner Avenue
Cleveland, OH 44115

BSR/FCI 91-1-202x, Standard for Qualification of Control Valve Stem Seals (revision of ANSI/FCI 91-1-2010)

LES (Licensing Executives Society (U.S. and Canada))

Contact: Brian O'Shaughnessy
Phone (202) 372-9115
E-mail: Brian.OShaughnessy@dinsmore.com
Office: 11130 Sunrise Valley Drive
Suite 350
Reston, VA 20191

BSR/LES IPSC.001.1-202x, Management System for the Protection of Intellectual Property in the Supply Chain - Requirements (new standard)

NSF (NSF International)

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

BSR/NSF 50-202x (i160r2), Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities (revision of ANSI/NSF 50-2019)

Contact: Monica Leslie
Phone (734) 827-5643
E-mail: mleslie@nsf.org
Office: 789 N. Dixboro Road
Ann Arbor, MI 48105-9723

BSR/NSF 223-202x (i6r1), Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI 60 Drinking Water Treatment Chemicals - Health Effects (revision of ANSI/NSF 223-2015)

BSR/NSF 223-202x (i7r1), Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects (revision of ANSI/NSF 223-2015)

BSR/NSF/CAN 61-202x (i155r1), Drinking Water System Components - Health Effects (revision of ANSI/NSF/CAN 61 -2019)

Contact: Rachel Brooker
Phone (734) 827-6866
E-mail: rbrooker@nsf.org
Office: 789 N. Dixboro Road
Ann Arbor, MI 48105-9723

BSR/NSF 173-202x (i90r2), Dietary Supplements (revision of ANSI/NSF 173-2019)

Call for Members (ANS Consensus Bodies)

Call for Members

GTESS

GTESS is forming a new Consensus Board for the standards development organization (SDO). The scope the GTESS SDO is “Standards and related documents relative to energy management systems”.

GTESS actively works with scheme owners and interested parties in the development of energy management related standards to promote energy efficiency, energy security, and sustainability practices such as management of greenhouse gas emissions. The Consensus Board serves as oversight for the standards developed to support U.S. standards such as ANSI/MSE 50028-1 on the Superior Energy Performance Program. It also works with the GTESS accredited Technical Advisory Group (TAG) to ISO TC 301 Energy management and energy savings in matters related to the adoption of National Standards from ISO TC 301. We invite those directly and materially interested in any interest category interest to enquire. Please contact deann.desai@gatech.edu to find out more about participating

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.

ALI (Automotive Lift Institute)

Revision

ANSI/ALI ALOIM-2020, Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance (revision of ANSI/ALI ALOIM -2008 (R2013)): 3/13/2020

ASME (American Society of Mechanical Engineers)

New Standard

ANSI/ASME TES-1-2020, Safety Standards for Thermal Energy Storage Systems; Molten Salt (new standard): 3/11/2020

CPA (Composite Panel Association)

Reaffirmation

ANSI A135.4-2012 (R2020), Basic Hardboard (reaffirmation of ANSI A135.4 -2012): 3/13/2020

ANSI A135.5-2012 (R2020), Prefinished Hardboard Paneling (reaffirmation of ANSI A135.5-2012): 3/13/2020

ANSI A135.6-2012 (R2020), Engineered Wood Siding (reaffirmation of ANSI A135.6-2012): 3/13/2020

ANSI A135.7-2010 (R2020), Engineered Wood Trim (reaffirmation of ANSI A135.7-2010): 3/13/2020

IES (Illuminating Engineering Society)

New Standard

ANSI/IES LS-4-2020, Lighting Science: Measurement of LIght: The Science of Photometry (new standard): 3/13/2020

ANSI/IES LP-8-2020, Lighting Practice: The Commissioning Process Applied to Lighting and Control Systems (new standard): 3/13/2020

ISEA (ASC Z87) (International Safety Equipment Association)

Revision

ANSI ISEA Z87.1-2020, Occupational and Education Personal Eye and Face Protection Devices (revision of ANSI ISEA Z87.1-2015): 3/11/2020

NEMA (ASC C136) (National Electrical Manufacturers Association)

Revision

ANSI C136.35-2020, Locking Type Power Taps (LTPT) (revision of ANSI C136.35-2009 (R2014)): 3/13/2020

NSF (NSF International)

Revision

ANSI/NSF 46-2020 (i32r1), Evaluation of Components and Devices Used in Wastewater Treatment Systems (revision of ANSI/NSF 46-2018): 3/10/2020

UL (Underwriters Laboratories, Inc.)

Reaffirmation

ANSI/UL 961-2014 (R2020), Standard for Safety for Electric Hobby and Sports Equipment (reaffirmation of ANSI/UL 961-2014): 3/11/2020

Revision

ANSI/UL 79A-2020, Standard for Safety for Power-Operated Pumps for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 - E85) (revision of ANSI/UL 79-2016): 3/12/2020

ANSI/UL 651-2020, Standard for Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings (revision of ANSI/UL 651-2018): 3/9/2020

ANSI/UL 651-2020a, Standard for Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings (revision of ANSI/UL 651-2018): 3/9/2020

ANSI/UL 1072-2020, Standard for Safety for Medium-Voltage Power Cables (revision of ANSI/UL 1072-2013 (R2018)): 3/12/2020

ANSI/UL 2580-2020, Standard for Safety for Batteries for Use in Electrical Vehicles (revision of ANSI/UL 2580-2016): 3/11/2020

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.

ACCA (Air Conditioning Contractors of America)

Contact: Danny Halel, (618) 213-7888, danny.halel@acca.org
2800 Shirlington Road, Suite 300, Arlington, VA 22206

Revision

BSR/ACCA 5 QI-202x, HVAC Quality Inspection Specification (revision of ANSI/ACCA 5 QI-2015)

Stakeholders: System manufacturers, installers, maintenance personnel.

Project Need: This standard is used by installers of residential and commercial HVAC Equipment. This includes unitary AC systems, furnaces, and boilers. It provides specific practices for installers to ensure quality installations providing energy efficient systems. There is a need to establish a performance bar to improve the core competencies of contractors to ensure that quality installations occur. This is beneficial not only as a process improvement for HVAC businesses, but, more importantly, for fulfilling the needs of building owners/operators in quality installations – comfortable, safe, energy-efficient indoor environments. This Standard provides a universally accepted definition for quality installation across a broad spectrum of the HVAC industry (e.g., manufacturers, distributors, contractors, user groups, customers, utilities, efficiency advocates, trade associations, professional societies, and governmental agencies). Additionally, adherence to the elements in this specification provides intangible societal benefits in the form of reduced power grid energy demand that aids in reducing pollution and dependence on foreign oil.

This Standard details the nationally recognized minimum criteria for the proper installation of HVAC systems in residential and commercial applications. This Standard applies to HVAC equipment/components being installed in new and existing residential and commercial buildings: EQUIPMENT TYPES: (1) Unitary air conditioners, air-source/water-source heat pumps, and geothermal heat pumps; (2) Furnaces (gas-fired, oil-fired, electric, and other); and (3) Boilers (gas-fired, oil-fired, electric, and other). EXCEPTIONS: Due to differing design aspects and control/operation situations, built-up systems (i.e., chillers, custom or specialty-built penthouse units, etc.) are not included in this Standard. Buildings employing built-up systems are generally designed by architects or professional engineers. Additionally, commercial buildings using built-up equipment are more likely to benefit from increased owner scrutiny via building commissioners, owner agents, and so on.

AGMA (American Gear Manufacturers Association)

Contact: Amir Aboutaleb, (703) 684-0211, tech@agma.org
1001 N Fairfax Street, 5th Floor, Alexandria, VA 22314-1587

New Standard

BSR/AGMA 6134-CXX-202x, Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors, Metric Edition (new standard)

Stakeholders: Users, manufacturers, and providers of wormgears and gearmotors.

Project Need: Provide metric version of wear and strength rating of wormgearing.

This standard covers the wear rating and strength rating of wormgearing. This standard applies to the rating and design of enclosed cylindrical wormgear speed reducers and gearmotors having either solid or hollow output shafts and single or multiple reductions that may include other types of gearing used in conjunction with cylindrical wormgearing. The rating and design considerations contained in this standard are valid for rotational speeds of the worm not greater than 3600 rpm and sliding velocities at the mesh of not more than 30 m/s.

ASABE (American Society of Agricultural and Biological Engineers)

Contact: Carla VanGilder, (269) 932-7015, vangilder@asabe.org
2950 Niles Road, Saint Joseph, MI 49085

Revision

BSR/ASAE S331.7 MONYEAR-202x, Implement Power Take-Off Drive Shaft Specifications (revision and redesignation of ANSI/ASAE S331.6-2015)

Stakeholders: Agricultural equipment manufacturers.

Project Need: Periodic review of the standards identified the need to update standard references, and to correct, clarify, and refine wording, acronyms, and abbreviations.

The purpose of this Standard is to establish multiple categories of universal joint drive shafts with two subsets of telescoping members each, one heavy duty, HD, and one regular duty, RD. The intended use of the drive shafts is between tractor power take-off (PTO) shafts and power input connections (PIC), or any universal joint application within the implement. The PTO drive shaft from the tractor PTO to the (PIC) is considered a part of the implement. This Standard does not provide for dimensional interchangeability from one implement to another.

CSA (CSA America Standards Inc.)

Contact: David Zimmerman, (216) 524-4990, ansi.contact@csagroup.org
8501 E. Pleasant Valley Road, Cleveland, OH 44131

Revision

BSR/CSA HGV 4.4-202x, Standard for breakaway devices for compressed hydrogen dispensing hoses and systems (revision of ANSI/CSA HGV 4.4-2013 (R2018))

Stakeholders: Consumers, manufacturers, gas suppliers, certification agencies.

Project Need: Revise the standard for safety and update for new technology.

This Standard specifies requirements for the design, manufacture, and testing of fueling-hose breakaway devices for use in compressed hydrogen gas fueling applications. This Standard applies only to new designs and existing designs made with new materials. When a vehicle is driven away with the nozzle attached to the vehicle's fueling receptacle, breakaways covered by this Standard are intended to (a) minimize the escape of hydrogen by automatically shutting off the flow of gas from the dispenser and controlling the depressurization of the hose; and (b) minimize damage. This Standard does not apply to breakaways (a) intended to be used in shear valves and (b) integral to vehicles.

BSR/CSA HGV 4.6-202x, Manually operated valves for use in gaseous hydrogen vehicle fueling stations (revision of ANSI/CSA HGV 4.6-2013 (R2018))

Stakeholders: Consumers, manufacturers, gas suppliers, certification agencies.

Project Need: Revise the standard for safety and update for new technology.

This Standard contains safety requirements for the material, design, manufacture, and testing of manually operated valves for gaseous hydrogen vehicle fueling stations. It applies to newly manufactured valves. This Standard does not apply to: (a) fuel storage container shut-off valves connected directly to the storage container as covered by the appropriate standards (e.g., UL 1769, CGA V-9); (b) fueling nozzle valves as covered by SAE J2600 or ISO 17268; and (c) pressure Class 150 hardware [under 2 MPa (300 psi)].

BSR/CSA HGV 4.7-202x, Automatic valves for use in gaseous hydrogen vehicle fueling stations (revision of ANSI/CSA HGV 4.7-2013 (R2018))

Stakeholders: Consumers, manufacturers, gas suppliers, certification agencies.

Project Need: Revise the standard for safety and update for new technology.

This Standard contains safety requirements for the material, design, manufacture, and testing of automatic valves used in gaseous hydrogen vehicle fueling stations. This Standard applies to newly manufactured (a) pneumatically actuated valves, (b) check valves, (c) excess Flow valves, and (d) electrically actuated valves. This standard does not apply to: (a) Hydraulically actuated valves, (b) Pressure-regulating valves, (c) Pressure relief valves, or (d) Fueling nozzle valves as covered by the Standards for Compressed Hydrogen Surface Vehicle Refueling Connection Device, SAE J2600, or ISO 17268. A valve that complies with the requirements for a Class A valve may be used for a Class B valve application; however, a Class B valve may not be substituted for a Class A valve.

BSR/CSA HGV 4.10-202x, Standard for fittings for compressed hydrogen gas and hydrogen rich gas mixtures (revision of ANSI/CSA HGV 4.10-2012 (R2019))

Stakeholders: Consumers, manufacturers, gas suppliers, certification agencies.

Project Need: Revise the standard for safety and update for new technology.

This Standard specifies methods for testing and evaluating fittings for use with compressed hydrogen gas and hydrogen-rich gas mixtures. This Standard applies only to new designs and existing designs made with new materials. This Standard was developed primarily for hydrogen fueling station applications. However, this does not preclude other industries from adopting this Standard for their own use. In this Standard, the term "fittings" includes fittings, connectors, and stud ends for ports. This Standard applies only to new designs and existing designs made with new materials. This Standard does not apply to stand-alone components, such as (a) quick action couplings, (i.e., quick connects), (b) flanges, or (c) weld fittings.

HL7 (Health Level Seven)

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

Revision

BSR/HL7 CDAR2IG HAIRPT, R3-202x, HL7 CDA® R2 Implementation Guide: Healthcare Associated Infection Reports, Release 3 - US Realm (revision and redesignation of ANSI/HL7 CDAR2IG HAIRPT, R2-2015)

Stakeholders: Quality reporting agencies, regulatory agencies, healthcare IT, Local and State Departments of Health, healthcare institutions (hospitals, long-term care, home care, mental health).

Project Need: The CDC's National Healthcare Safety Network (NHSN) is being used by the Centers for Medicare and Medicaid Services and 30 states plus the District of Columbia as the technical infrastructure by which they obtain healthcare-associated infection and quality measure data. Currently, more than 12,000 facilities are reporting data into NHSN. This project revises existing reports and adds new ones to collect data that are relevant to CDC's surveillance plan.

The implementation guide supports electronic submission of HAI data to the National Healthcare Safety Network. This release includes a new Antimicrobial Resistance form data element and moves most of the vocabulary from the existing spreadsheet to VSAC.

LES (Licensing Executives Society (U.S. and Canada))

Contact: Brian O'Shaughnessy, (202) 372-9115, Brian.OShaughnessy@dinsmore.com
11130 Sunrise Valley Drive, Suite 350, Reston, VA 20191

New Standard

BSR/LES IPSC.001.1-202x, Management System for the Protection of Intellectual Property in the Supply Chain - Requirements (new standard)

Stakeholders: The standard will benefit all enterprises engaged in product development and manufacturing along a vertical supply chain. The standard is not specific to any particular industry or technology; nor is it specific to retailers relative to wholesalers or contract manufacturers. Rather, it affects all industries in all disciplines, and regardless of where they are along the supply chain.

Project Need: Provide a common set of expectations for what organizations can and should do to protect their own intellectual property, as well as that of their suppliers, customers, and development partners. Enterprises engaged in vertical transactions often must share valuable and commercially sensitive proprietary information. Vertically engaged enterprises expedite transactions and produce more predictable outcomes when the parties have a common set of expectations as to their respective IP rights and remedies. This enhances vertical integration and specialization, and produces efficiencies benefiting both producers and consumers.

Developed by the LES Standards Development Organization, the Management System for the Protection of Intellectual Property in the Supply Chain – Requirements draft standard defines a common set of expectations for what organizations can and should do to protect all types of their own IP and the IP of customers, suppliers, and partners. The Committee's vision is to achieve standardization around how organizations develop and implement an intellectual property protection management system. This standard seeks to supplement legal and contractual IP protection methods through performance standards and business processes and practices that define the management systems required to protect all types of intellectual property (IP) in the global supply chain. The LES Standards Development Organization encourages IP thought leaders around the globe to participate in the public review and comment of LES draft standards as part of the standardization development process. As an Accredited Standards Developer of the American National Standards Institute (ANSI), LES provides the 60-day public review period to encourage manufacturers, distributors, and any interested stakeholder to represent each organization's best interests while helping to shape this field for the future.

NEMA (ASC C8) (National Electrical Manufacturers Association)

Contact: Khaled Masri, (703) 841-3278, Khaled.Masri@nema.org
1300 North 17th Street, Rosslyn, VA 22209

Revision

BSR C18.3M, Part 1-202x, Portable Lithium Primary Cells and Batteries -General and Specifications (revision of ANSI C18.3M, Part 1-2019)

Stakeholders: Manufacturers, users, and testing laboratories of portable rechargeable cells and batteries.

Project Need: Revision of current standard is needed to be maintained.

This Standard applies to portable lithium primary cells and batteries. This edition includes the following electrochemical systems: (a) Lithium/carbon monofluoride, (b) Lithium/manganese dioxide, and (c) Lithium/iron disulfide.

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 (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 “American National Standards Maintained Under Continuous Maintenance.” Questions? psa@ansi.org.

ANSI-Accredited Standards Developers Contact Information

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

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

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

ACCA
Air Conditioning Contractors of America
2800 Shirlington Road
Suite 300
Arlington, VA 22206
Phone: (618) 213-7888
Web: www.acca.org

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

ALI
Automotive Lift Institute
PO Box 85
3699 Luker Road
Cortland, NY 13045
Phone: (607) 756-7775
Web: www.autolift.org

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

APA
APA - The Engineered Wood Association
7011 South 19th Street
Tacoma, WA 98466
Phone: (253) 620-7467
Web: www.apawood.org

ASA (ASC S1)
Acoustical Society of America
1305 Walt Whitman Road
Suite 300
Melville, NY 11747
Phone: (516) 576-2341
Web: www.acousticalsociety.org

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

ASHRAE
American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329-2305
Phone: (404) 636-8400
Web: www.ashrae.org

ASME
American Society of Mechanical Engineers
Two Park Avenue
M/S 6-2B
New York, NY 10016-5990
Phone: (212) 591-8489
Web: www.asme.org

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

ATIS
Alliance for Telecommunications Industry Solutions
1200 G Street NW
Suite 500
Washington, DC 20005
Phone: (202) 434-8843
Web: www.atis.org

AWC
American Wood Council
222 Catoctin Circle
Suite 201
Leesburg, VA 20175
Phone: (202) 463-2770
Web: www.awc.org

CEMA
Conveyor Equipment Manufacturers Association
5672 Strand Court
Suite 2
Naples, FL 34110
Phone: (239) 260-8009
Web: www.cemanet.org

CPA
Composite Panel Association
19465 Deerfield Avenue
Suite 306
Leesburg, VA 20176
Phone: (703) 724-1128
Web: www.CompositePanel.org

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

FCI
Fluid Controls Institute
1300 Sumner Avenue
Cleveland, OH 44115
Phone: (216) 241-7333
Web: www.fluidcontrolsinstitute.org

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

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

IIAR
International Institute of Ammonia Refrigeration
1001 N. Fairfax Street
Suite 503
Alexandria, VA 22314-1797
Phone: (703) 312-4200
Web: www.iiar.org

ISEA
International Safety Equipment Association
1901 North Moore Street
Suite 808
Arlington, VA 22209
Phone: (703) 525-1695
Web: www.safetyequipment.org

LES
Licensing Executives Society (U.S. and Canada)
11130 Sunrise Valley Drive
Suite 350
Reston, VA 20191
Phone: (202) 372-9115
Web: www.les.org

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

NEMA (ASC C8)
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, VA 22209
Phone: (703) 841-3278
Web: www.nema.org

NSF
NSF International
789 N. Dixboro Road
Ann Arbor, MI 48105-9723
Phone: (734) 827-6866
Web: www.nsf.org

RESNET
Residential Energy Services Network, Inc.
4867 Patina Court
Oceanside, CA 92057
Phone: (760) 408-5860
Web: www.resnet.us.com

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

UL
Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062
Phone: (847) 664-3198
Web: www.ul.com

IEC Draft International Standards

This section lists proposed standards that the International Electrotechnical Commission (IEC) is considering for approval. The proposals have received substantial support within the technical committees or subcommittees that developed them and are now being circulated to 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 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

IEC Drafts can be made available by contacting ANSI's Customer Service department. Please e-mail your request for an 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.

JTC1-SC41/135/CDV, ISO/IEC 30161 ED1: Internet of Things (IoT) - Requirements of IoT data exchange platform for various IoT services, 020/6/5/

JTC1-SC41/148/NP, PNW JTC1-SC41-148: Internet of things (IoT) - IoT applications for electronic label system (ELS), 020/6/5/

JTC1-SC41/149/FDIS, ISO/IEC 30142 ED1: Internet of Things (IoT) - Underwater acoustic sensor network (UWASN) - Network management system overview and requirements, 020/5/8/

JTC1-SC41/150/FDIS, ISO/IEC 30143 ED1: Internet of Things (IoT) - Underwater acoustic sensor network (UWASN) - Application profiles, 020/5/8/

JTC1-SC25/2946/NP, PNW JTC1-SC25-2946: "Information technology - Home Electronic System (HES) application model - Protocol of Energy Management Agents for demand response energy management and interactions among these agents", 020/6/5/

18A/427/CD, IEC 60092-360 ED2: Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables, 020/5/8/

21A/727/NP, PNW 21A-727: Reuse of Secondary Lithium Cells and Batteries - General Guidance, 020/6/5/

32C/579A/CD, IEC 60691 ED5: Thermal-links - Requirements and application guide, 2020/5/22

32C/584/NP, PNW 32C-584: Future IEC 60127-9/Ed.1: Miniature fuses - Part 9: Miniature fuse-links for special applications with partial-range breaking capacity, 020/6/5/

34D/1537/CD, IEC 62722-2-1/AMD1/FRAG2 ED1: Fragment 2 - Amendment 1 - Luminaire performance - Part 2-1: Particular requirements for LED luminaires, 020/6/5/

34D/1538/CD, IEC 60598-1/FRAG1 ED10: Fragment 1 - Luminaires - Part 1: General requirements and tests, 020/6/5/

34D/1539/CD, IEC 60598-1/FRAG2 ED10: Fragment 2 - Luminaires - Part 1: General requirements and tests, 020/6/5/

45A/1305/CDV, IEC 60987 ED3: Nuclear power plants - Instrumentation and control systems important to safety - Hardware requirements, 020/6/5/

45A/1318/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, 020/6/5/

48D/720/FDIS, IEC 61969-1 ED3: Mechanical structures for electrical and electronic equipment - Outdoor enclosures - Part 1: Design guidelines, 2020/4/24

48D/721/FDIS, IEC 61969-3 ED3: Mechanical structures for electrical and electronic equipment - Outdoor enclosures - Part 3: Environmental requirements, tests and safety aspects, 2020/4/24

59A/229/FDIS, IEC 60436/AMD1 ED4: Amendment 1 - Electric dishwashers for household use - Methods for measuring the performance, 2020/4/24

62D/1752/CDV, ISO 80601-2-85 ED1: Medical electrical equipment - Part 2-85: Particular requirements for the basic safety and essential performance of cerebral tissue oximeter equipment (t-NIRS), 020/6/5/

62D/1756/NP, PNW 62D-1756: Medical electrical equipment - Part 2 -90: Particular requirements for basic safety and essential performance of respiratory high-flow therapy equipment, 020/6/5/

65C/1005/CD, IEC 62657-3 ED1: Industrial communication networks - Wireless communication networks - Formal description of the automated coexistence management and application guidance, 020/5/8/

86C/1647/CDV, IEC 62148-15 ED3: Fibre optic active components and devices - Package and interface standards - Part 15: Discrete vertical cavity surface emitting laser packages, 020/6/5/

88/759/FDIS, IEC 61400-5 ED1: Wind energy generation systems - Part 5: Wind turbine blades, 2020/4/24

90/449(F)/CDV, IEC 61788-17 ED2: Superconductivity - Part 17: Electronic characteristic measurements - Local critical current density and its distribution in large-area superconducting films, 2020/5/29

119/303/FDIS, IEC 62899-503-1 ED1: Printed electronics - Part 503-1: Quality assessment - Test method of displacement current measurement for printed thin-film transistor, 2020/4/24

35/1442/CDV, IEC 60086-1 ED13: Primary batteries - Part 1: General, 020/6/5/

35/1443/CDV, IEC 60086-2 ED14: Primary batteries - Part 2: Physical and electrical specifications, 020/6/5/

35/1444/CDV, IEC 60086-3 ED5: Primary batteries - Part 3: Watch batteries, 020/6/5/

49/1340/CD, IEC TS 61994-3 ED3: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection - Glossary - Part 3: Piezoelectric and dielectric oscillators, 020/6/5/

55/1836/NP, PNW 55-1836: Specifications for particular types of winding wires - Part 84: Polyesterimide enamelled round copper wire, class 200, 020/6/5/

110/1193A/CD, IEC TR 62977-5-2 ED1: Electronic displays - Part 5-2: Visual assessment - Visual assessment based on colour discrimination according to viewing direction, 020/5/8/

CIS/I/636/CDV, CISPR 35 ED2: Electromagnetic compatibility of multimedia equipment - Immunity requirements, 020/6/5/

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

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 16624:2020, Wheat flour and durum wheat semolina - Determination of colour by diffuse reflectance colorimetry, $68.00

BASES FOR DESIGN OF STRUCTURES (TC 98)

ISO 13824:2020, Bases for design of structures - General principles on risk assessment of systems involving structures, $209.00

BUILDING CONSTRUCTION (TC 59)

ISO 23386:2020, Building information modelling and other digital processes used in construction - Methodology to describe, author and maintain properties in interconnected data dictionaries, $185.00

CONCRETE, REINFORCED CONCRETE AND PRE-STRESSED CONCRETE (TC 71)

ISO 14484:2020, Performance guidelines for design of concrete structures using fibre-reinforced polymer (FRP) materials, $68.00

CRANES (TC 96)

ISO 7296-2:2020, Cranes - Graphical symbols - Part 2: Mobile cranes, $68.00

DENTISTRY (TC 106)

ISO 28399:2020, Dentistry - External tooth bleaching products, $138.00

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

ISO 22468:2020, Value stream management (VSM), $162.00

EQUIPMENT FOR FIRE PROTECTION AND FIRE FIGHTING (TC 21)

ISO 7240-3:2020, Fire detection and alarm systems - Part 3: Audible alarm devices, $185.00

ERGONOMICS (TC 159)

ISO 24552:2020, Ergonomics - Accessible design - Accessibility of information presented on visual displays of small consumer products, $68.00

GRAPHIC TECHNOLOGY (TC 130)

ISO 19301:2020, Graphic technology - Guidelines for schema writers - Template for colour quality management, $103.00

INTERNAL COMBUSTION ENGINES (TC 70)

ISO 4548-5:2020, Methods of test for full-flow lubricating oil filters for internal combustion engines - Part 5: Test for hydraulic pulse durability, $68.00

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

ISO 11961/Amd1:2020, Petroleum and natural gas industries - Steel drill pipe - Amendment 1, $19.00

ISO 21809-3/Amd1:2020, Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 3: Field joint coatings - Amendment 1: Introduction of mesh-backed coating systems, $19.00

ISO 20321:2020, Petroleum, petrochemical and natural gas industries - Safety of machineries - Powered elevators, $138.00

OTHER

ISO 24497-1:2020, Non-destructive testing - Metal magnetic memory - Part 1: Vocabulary and general requirements, $103.00

ISO 24497-2:2020, Non-destructive testing - Metal magnetic memory - Part 2: Inspection of welded joints, $103.00

PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO 16972:2020, Respiratory protective devices - Vocabulary and graphical symbols, $45.00

PETROLEUM PRODUCTS AND LUBRICANTS (TC 28)

ISO 2176/Amd1:2020, Petroleum products - Lubricating grease - Determination of dropping point - Amendment 1, $19.00

PLASTICS (TC 61)

ISO 22766:2020, Plastics - Determination of the degree of disintegration of plastic materials in marine habitats under real field conditions, $103.00

ISO 19064-2:2020, Plastics - Styrene-acrylonitrile (SAN) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties, $68.00

PROSTHETICS AND ORTHOTICS (TC 168)

ISO 8551:2020, Prosthetics and orthotics - Functional deficiencies - Description of the person to be treated with an orthosis, clinical objectives of treatment, and functional requirements of the orthosis, $68.00

ROAD VEHICLES (TC 22)

ISO 6469-3/Amd1:2020, Electrically propelled road vehicles - Safety specifications - Part 3: Electrical safety - Amendment 1: Withstand voltage test for electric power sources, $19.00

SMALL CRAFT (TC 188)

ISO 11105:2020, Small craft - Ventilation of petrol engine and/or petrol tank compartments, $68.00

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

ISO 129-1/Amd1:2020, Technical product documentation (TPD) - Presentation of dimensions and tolerances - Part 1: General principles - Amendment 1, $19.00

TEXTILES (TC 38)

ISO 18692-3:2020, Fibre ropes for offshore stationkeeping - Part 3: High modulus polyethylene (HMPE), $68.00

TOURISM AND RELATED SERVICES (TC 228)

ISO 21406:2020, Tourism and related services - Yacht harbours - Essential requirements for luxury harbours, $138.00

ISO Technical Specifications

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

ISO/TS 10993-19:2020, Biological evaluation of medical devices - Part 19: Physico-chemical, morphological and topographical characterization of materials, $103.00

FINE BUBBLE TECHNOLOGY (TC 281)

ISO/TS 21256-1:2020, Fine bubble technology - Cleaning applications - Part 1: Test method for cleaning salt (NaCl)-stained surfaces, $68.00

IRON ORES (TC 102)

ISO/TS 21826:2020, Iron ores - Determination of total iron content - EDTA photometric titration method, $138.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 29170-2/Amd1:2020, Information technology - Advanced image coding and evaluation - Part 2: Evaluation procedure for nearly lossless coding - Amendment 1: Evaluation procedure parameters for nearly lossless coding of high dynamic range media and image sequences, $19.00

ISO/IEC/IEEE 8802-1AC/Cor1:2020, Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Part 1AC: Media access control (MAC) service definition - Technical Corrigendum 1: Logical Link Control (LLC) Encpsulation EtherType, FREE

IEC Standards

CAPACITORS AND RESISTORS FOR ELECTRONIC EQUIPMENT (TC 40)

IEC 60115-1 Ed. 5.0 b:2020, Fixed resistors for use in electronic equipment - Part 1: Generic specification, $410.00

DEPENDABILITY (TC 56)

IEC 62960 Ed. 1.0 b:2020, Dependability reviews during the life cycle, $317.00

INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL (TC 65)

IEC 61511-1 Amd.1 Ed. 2.0 b:2017, Amendment 1 - Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and application programming requirements, $23.00

IEC 61511-1 Ed. 2.1 b:2017, Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and application programming requirements, $528.00

NUCLEAR INSTRUMENTATION (TC 45)

IEC 62327 Ed. 2.0 b:2017, Radiation protection instrumentation - Hand-held instruments for the detection and identification of radionuclides and for the estimation of ambient dose equivalent rate from photon radiation, $235.00

IEC 62401 Ed. 2.0 b:2017, Radiation protection instrumentation - Alarming personal radiation devices (PRDs) for the detection of illicit trafficking of radioactive material, $164.00

SOLAR PHOTOVOLTAIC ENERGY SYSTEMS (TC 82)

IEC 62446-2 Ed. 1.0 b:2020, Photovoltaic (PV) systems - Requirements for testing, documentation and maintenance - Part 2: Grid connected systems - Maintenance of PV systems, $317.00

Proposed Foreign Government Regulations

Call for Comment

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

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

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

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

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

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

Information Concerning

American National Standards

Call for Members

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

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

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

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

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

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

Society of Cable Telecommunications

ANSI Accredited Standards Developer

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

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

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

ANSI Accredited Standards Developers

Application for Accreditation

Custom Electronics Design and Installation Association (CEDIA)

Comment Deadline: April 20, 2020

The Custom Electronics Design and Installation Association (CEDIA), a new ANSI member in 2019, has submitted an application for accreditation as an ANSI Accredited Standards Developer (ASD) and proposed operating procedures for documenting consensus on CEDIA-sponsored American National Standards. DSI's proposed scope of standards activity is as follows:

> CEDIA recommends best practice and specifies standards for system design, installation, and integration of technology for people to support their lifestyles including, but not limited to, audio/video systems, data networking, communications, security, IoT, "smart home", automation, control of environment, lighting, wellness and any other supporting technologies.

To obtain a copy of CEDIA's application and proposed operating procedures or to offer comments, please contact: Mr. Walt Zerbe, Sr. Director of Technology & Standards, CEDIA, 8475 Nightfall Lane, Fishers, IN 46037; phone: 317.735.4017; email: wzerbe@cedia.org. Please submit any comments to CEDIA by April 20, 2020, with a copy to the ExSC Recording Secretary in ANSI's New York Office (E-mail: Jthompso@ANSI.org). As the proposed procedures are available electronically, the public review period is 30 days. You may view or download a copy of CEDIA's proposed operating procedures from ANSI Online during the public review period at the following URL: www.ansi.org/accredPR.

International Organization for Standardization (ISO)

Call for Members

New US TAG for ISO/TC 44/SC 15 on Underwater Welding

Scope of the TAG is standardization of all aspects of underwater welding including: procedure and performance qualification in wet and dry hyperbaric environments and classification of welding electrodes for underwater welding. The proposed TAG administrator is the American Welding Society (AWS).

Reply to the US TAG Secretary, Andrew Davis at adavis@aws.org.

Call for U.S. TAG Administrator

ISO/TC 17/SC 12 – Continuous mill flat rolled products

ANSI has been informed that ASTM International, the ANSI-accredited U.S. TAG Administrator for ISO/TC 17/SC 12, wishes to relinquish their role as U.S. TAG Administrator.

ISO/TC 17/SC 12 operate under the following scope:

Development and maintenance of specifications for hot-rolled and cold-reduced steel sheet and strip in coils and cut lengths and metallic coated steel sheet in coils and cut lengths. excluding:

- Tinplate and blackplate but including tin-coated sheets
- Stainless and heat resisting steels 3
- Plates.

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

ISO New Work Item Proposal

Consumer Incident Investigation Guideline

Comment Deadline: March 27, 2020

JISC, the ISO member body for Japan, has submitted to ISO a new work item proposal for the development of an ISO standard on Consumer incident investigation guideline, with the following scope statement:

An international standard (guideline) to provide a general guide for investigations of consumer incidents.

Consumer incidents are incidents where consumers suffer physical injury or death in the process of using products, services, facilities or the things related to them. Consumer incident investigation means an investigation aiming to prevent incident recurrence, and to contribute to the safety of consumers.

This document is intended to be beneficial to persons, groups, committees or organizations of all types, such as private, public, and non-profit bodies, regardless of the size of the organization which is investigating consumer incidents.

Anyone wishing to review the proposal can request a copy by contacting ANSI's ISO Team (isot@ansi.org), with a submission of comments to Steve Cornish (scornish@ansi.org) by close of business on Friday, March 27, 2020.

ISO Proposal for a New Field of ISO Technical Activity

Lithium

Comment Deadline: April 3, 2020

SAC, the ISO member body for China, has submitted to ISO a proposal for a new field of ISO technical activity on Lithium, with the following scope statement:

Standardization in the field of lithium mining, concentration, extraction, separation and conversion to useful lithium compounds/materials (including oxides, salts, metals, master alloys, lithium-ion battery materials, etc.). The work program includes terminology, technical conditions of delivery to overcome transport difficulties, unified testing and analysis methods to improve the general quality of lithium products.

Excluded: Batteries

Note: Battery is a component and not a material, which can be directly used in electric vehicles, digital cameras, electric motorcycles, etc.

Anyone wishing to review the proposal can request a copy by contacting ANSI's ISO Team (isot@ansi.org), with a submission of comments to Steve Cornish (scornish@ansi.org) by close of business on Friday, April 3, 2020.

Biodiversity

Comment Deadline: April 17, 2020

AFNOR, the ISO member body for France, has submitted to ISO a proposal for a new field of ISO technical activity on Biodiversity, with the following scope statement:

Standardization in the field of Biodiversity to develop requirements, principles, framework, guidance and supporting tools in a holistic and global approach for all relevant organizations, to enhance their contribution to Sustainable Development.

Excluded: standardization of test and measurement methods for ecological quality of water, air, soil and marine environment.

Anyone wishing to review the proposal can request a copy by contacting ANSI's ISO Team (isot@ansi.org), with a submission of comments to Steve Cornish (scornish@ansi.org) by close of business on Friday, April 17, 2020.

Security Equipment for Financial Institutions and Commercial Organizations

Comment Deadline: April 17, 2020

BSI, the ISO member body for India, has submitted to ISO a proposal for a new field of ISO technical activity on Security Equipment for Financial Institutions and Commercial Organizations, with the following scope statement:

Standardization in the field of safes, cash boxes, strong room doors and safe deposit locker cabinets, ventilation equipment for strong room used in banks, financial institutions and commercial organization etc.

The standards formulated by this technical committee deals with specification and test methods of physical security products used in banks, financial institutions, commercial organization and by jewellers.

Excluded are the fields covered by ISO/TC 68 (Financial services).

Anyone wishing to review the proposal can request a copy by contacting ANSI's ISO Team (isot@ansi.org), with a submission of comments to Steve Cornish (scornish@ansi.org) by close of business on Friday, April 17, 2020.

American National Standards (ANS) – Where to find Procedures, Guidance, Interpretations and More…

Please visit ANSI's website (www.ansi.org) for resources that will help you to understand, administer and participate in the American National Standards (ANS) process. Documents posted at these links are updated periodically as new documents and guidance are developed, whenever ANS-related procedures are revised, and routinely with respect to lists of proposed and approved ANS. The main ANS-related link is www.ansi.org/asd and here are some direct links as well as highlights of information that is available:

- *ANSI Essential Requirements: Due process requirements for American National Standards* (always current edition): www.ansi.org/essentialrequirements
- ANSI Standards Action (weekly public review announcements of proposed ANS and standards developer accreditation applications, listing of recently approved ANS, and proposed revisions to ANS-related procedures): www.ansi.org/standardsaction
- Accreditation information – for potential developers of American National Standards (ANS): www.ansi.org/sdoaccreditation
- ANS Procedures, ExSC Interpretations and Guidance (including a slide deck on how to participate in the ANS process and the BSR-9 form): www.ansi.org/asd
- Lists of ANSI-Accredited Standards Developers (ASDs), Proposed ANS and Approved ANS: www.ansi.org/asd
- American National Standards Key Steps: www.ansi.org/anskeysteps
- American National Standards Value: www.ansi.org/ansvalue
- ANS Web Forms for ANSI-Accredited Standards Developers - PINS, BSR8|108, BSR11, Technical Report: www.ansi.org/PSAWebForms
- Information about standards Incorporated by Reference (IBR): www.ansi.org/ibr
- ANSI - Education and Training: www.standardslearn.org

If you have a question about the ANS process and cannot find the answer quickly, please send an email to psa@ansi.org .

Please also visit Standards Boost Business at www.standardsboostbusiness.org for resources about why standards matter, testimonials, case studies, FAQs and more.

If you are interested in purchasing an American National Standard, please visit https://webstore.ansi.org/

BSR/ASHRAE Addendum a
to ANSI/ASHRAE Standard 90.4-2019

Public Review Draft

Proposed Addendum a to Standard 90.4-2019, *Energy Standard for Data Centers*

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, www.ashrae.org.
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ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305

BSR/ASHRAE Addendum a to ANSI/ASHRAE Standard 90.4-2019, *Energy Standard for Data Centers* First Public Review Draft**.**

(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

Data centers are always rejecting heat. It very common for a data center to be rejecting heat from the data halls to the atmosphere while heating the loading dock and the office with gas or electric resistance heat. This addendum will encourage recovery of waste heat from data centers for use in space heating and industrial applications and would result in net energy savings on a societal level. This addendum will also encourage siting of data centers in proximity to heat consuming commercial and industrial processes (e.g. food production facilities) in order to take advantage of heat transfer, minimize waste, and reduce overall energy use.

This addendum also improves and clarifies some of the ambiguous and obsolete language in 6.5. For example, 6.5 currently says "In the case of cooling provided by a source other than electricity, the energy consumption shall be converted to kilowatt-hours," but does not say how to perform this conversion. This addendum clarifies how to perform the conversion. Currently 6.5 also says to include chiller and AHU fan energy serving a UPS room, but does not say to include cooling tower or pump energy serving the UPS room, which was clearly the intent. This addendum clarifies that the energy of all mechanical equipment serving UPS rooms is also included.

The other substantive change from the current 6.5 is removal of the language which states, in part:: ". . . . if the data center utilizes mechanical cooling, the calculated rack inlet temperature and dew point must be within Thermal Guidelines for Data Processing Environments recommended thermal envelope for more than 8460 of the hours per year." Many data centers operate outside the ASHRAE Thermal Guidelines for more than 300 hours per year and do not have the capacity to stay within them for 8460 hours. This addendum allows designers to model their data centers as they are truly intended to operate.

[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 a to 90.4-2019

Replace existing Section 6.5 with the following. Note that Table 6.5, Maximum Annualized Mechanical Load Component (not shown below) remains unchanged.

6.5 Maximum *Annualized Mechanical Load Component (Annualized MLC)*. *Annualized MLC* shall be calculated using Equation 6.5. The resulting value shall be less than or equal to the value in Table 6.5, "Maximum *Annualized Mechanical Load Component (Annualized MLC)*".

Equation 6.5:

$$\text{Annualized MLC} = \frac{\sum_{N=25,50,75,100}(MechE_N - HeatRec_N)}{\sum_{N=25,50,75,100} DataCenterITE_N}$$

where

$MechE_N$ (kWh) = total annual *energy* consumed by all mechanical *equipment* (e.g. fans, pumps, motors, drives, compressors, humidifiers, dehumidifiers, water filtration or treatment equipment) at a constant *ITE* load of *N%* of the design *ITE* load. This includes mechanical *equipment* serving *data center* electrical *equipment* (e.g. *UPS systems* and *transformers*). *Energy* use of shared *systems* that serve both *data center spaces* and non-*data center spaces* must be prorated on an hourly capacity-weighted basis. For example, if 62% of the load on a chiller plant in a given hour comes from *data center spaces*, with the remaining 38% from non-*data center spaces*, then only 62% of the total chiller plant *energy* for that hour can be included in the MechE.

Mechanical *equipment energy* for *equipment* dedicated to *data center spaces* shall be calculated with Typical Meteorological Year Version 3 (TMY3) data with 8760 hourly bins or that is binned by drybulb and wetbulb (or dewpoint) with a resolution $\leq 2^{o}F$ ($1^{o}C$).

$HeatRec_N$ (kWh) = The net increase in *data center* mechanical *equipment energy* caused by transferring waste heat from the *data center*, when the *data center* is operating at a constant *ITE* load of *N%* of the design *ITE* load, to a non-*data center* mechanical *system* (e.g. *space* heating or industrial process *energy*). The net offset is quantified by simulating the *data center* with and without *data center* heat transfer.

Informative Note: The purpose of the HeatRec term is to ensure that, by encouraging the transfer of otherwise wasted heat to a useful purpose, the design is not penalized in the *MLC* calculation by any net *energy* increases incurred by adding heat transfer *equipment* (e.g. transfer fans) or operating *data center* cooling *equipment* at lower *efficiency* in order to facilitate heat recovery (e.g. operating a heat recovery chiller at high lift).

Annual *energy* for shared *systems* and for heat recovery must be calculated using an 8760 hour TMY3 file and accurate heating/cooling load profiles.

Data $CenterITE_N$ (kWh) = total annual *energy* consumed by the *ITE* at a constant *ITE* load of *N%* of the design *ITE* load. For example, $DataCenterITE_{50}$ for a design ITE load of 1,000 *kW* = 1,000 *kW* * 8760 hrs * 0.5 = 4,380,000 kWh. *ITE energy* does not include *UPS energy*, but does include server fan *energy*.

Calculations/simulations must be made using the *control* sequences and setpoints in the Compliance Documentation. For example, if a *data center* includes redundant air handlers but all air handlers will operate at partial speed when the *ITE* load is 100% then calculations shall be made accordingly, and the *design conditions* so noted on the design documents.

Mechanical *equipment energy* not provided by electricity shall be converted to kWh using either actual utility rates for that site or state average *energy* prices published by USDOE's Energy Information Administration (EIA) for commercial *building* customers, but rates from different sources may not be mixed in the same project.

BSR/ASHRAE Addendum a to ANSI/ASHRAE Standard 90.4-2019, *Energy Standard for Data Centers* First Public Review Draft.

Informative Note: An annual *energy* credit may be taken for on-site renewable generation included in the *data center* design.

BSR/ASHRAE Addendum b
to ANSI/ASHRAE Standard 90.4-2019

Public Review Draft

Proposed Addendum b to Standard 90.4-2019, *Energy Standard for Data Centers*

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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Foreword

This addendum clarifies exactly how credit can be taken for renewables. The renewables credit is limited to 5% of the IT load in order to encourage renewable energy while still requiring energy efficient mechanical and electrical systems.

[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 b to 90.4-2019

Revise Section 11 as follows:

11. ALTERNATIVE COMPLIANCE METHOD

…

11.2 Compliance. Compliance with Section 11 shall be demonstrated by complying with all of the following conditions: …

d. The sum of the calculated values of the *annualized MLC* value and the *design ELC* minus the OR-Credit shall be equal to or less than the maximum overall *systems* design value. (The sum of the *annualized MLC* value and the *design ELC* value create an overall *systems* design value.)

OR-Credit = lesser of 0.05 or

$$\frac{\sum_{N=25,50,75,100} OnsiteRenewables_N}{\sum_{N=25,50,75,100} DataCenterITE_N}$$

$OnsiteRenewables_N$ (kWh) = total annual *energy* that is produced onsite by renewable *energy systems* and that is consumed onsite, at a constant *ITE* load of *N*% of the design *ITE* load. Onsite renewables can only be included in the *Annualized MLC* calculation if the *data center* owner owns the onsite renewable *energy system* or has signed a contractual agreement to purchase *energy* generated by the onsite renewable *energy system* for at least 10 years. Onsite renewable credit shall be limited to incremental addition of renewable capacity concurrent with *data center* approval/*construction*. It shall not be permissible to assign existing renewable capacity to this credit.

Data $CenterITE_N$ (kWh) = total annual *energy* consumed by the *ITE* at a constant *ITE* load of *N*% of the design *ITE* load. For example, $DataCenterITE_{50}$ for a design *ITE* load of 1,000 *kW* = 1,000 *kW* * 8760 hrs * 0.5 = 4,380,000 kWh. *ITE. energy* does not include *UPS energy*, but does include server fan *energy*.

BSR/ASHRAE Addendum d
to ANSI/ASHRAE Standard 90.4-2019

Public Review Draft

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BSR/ASHRAE Addendum d to ANSI/ASHRAE Standard 90.4-2019, *Energy Standard for Data Centers* First Public Review Draft.

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Foreword

Interpretation IC 90.4-2016-1-OF of ANSI/ASHRAE Standard 90.4-2016 Energy Standard for Data Centers was approved on 1/8/2020. This IC was a response to a Request for Interpretation on the 90.4 consideration of Diesel-Rotary UPS Systems (DRUPS) and the corresponding accounting of these systems in the Electrical Loss Component (ELC). In crafting the IC, the committee also identified several marginal changes to 90.4 definitions and passages in Section 8 that would add further clarity to the issue. This addendum contains the proposed changes for that aim as well as other minor changes to correct spelling or text errors, incorporating the latest ELC values into Section 11, and to refresh information in the Normative Reference section of the Standard.

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Addendum d to 90.4-2019

Modify the definition of Uninterruptable Power Supply (UPS) as follows:

Uninterruptable Power Supply (UPS): (also referred to as Uninterruptible Power *System*) a *system* intended to deliver continuous, stable power to the critical load. . . . . and (b) "rotary", in which incoming AC power drives a propulsion unit that turns a generating device, with a heavy flywheel storing kinetic *energy* that continues to turn the generating portion when incoming power fails or anomalies occur. It may also include a driven engine for emergency backup (commonly referred to as a Diesel Rotary *UPS* or "DRUPS", regardless of *fuel* type), which is decoupled from the rotary *UPS* components during normal operation and is not included in *efficiency* calculations. Either type can be made up of one or more modules . . . .

Modify the language in sub-sections 8.4.1.4 and 8.4.1.8 as follows:

> **Exception to 8.4.1.4 Incoming Electrical Service Segment**: Emergency or stand-by power *systems* are not considered a part of the *incoming electrical service segment,* with the exception of individual elements such as associated transfer switches, *transformers*, or other devices that are also included between the *design ELC demarcation* and the *UPS*. DRUPS *systems* shall be calculated as part of the *UPS Segment* with the engine element decoupled.

8.4.1.8 Alternate Designs. In the event that a conventional *UPS* is not used in the design, the incoming and distribution segments shall meet at the point(s) where a *UPS* would logically be inserted under normal operating conditions. Where another device, such as a rectifier, voltage regulator or harmonic neutralizing *transformer*, is used in place of ~~the~~ a conventional *UPS*, or where a DRUPS *system* is used, the *efficiency* and *loss* for that device shall be used in the *efficiency* calculation in the same manner as that defined for a *UPS*. In the case of a DRUPS *system*, this shall be with the engine decoupled. DRUPS operation under engine-generator power shall be considered a short-term emergency condition and is excluded from the requirements of this Standard in the same manner as are other generators. (See Exception under 8.4.1.4.)"

Correct all instances of "Uninterruptible Power Supply" to the commonly accepted spelling.

Uninterrupt~~a~~ible Power Supply (UPS)

Update the Normative References as shown below; Standard 169 was updated in 2016 and includes the necessary climate information and the Thermal Guidelines reference is already made in Appendix A.

NORMATIVE REFERENCES

Reference	Title
ASHRAE **1791 Tullie Circle NE** **Atlanta, GA 30329-2305, United States** **1-404-636-8400; www.ashrae.org**	
…	**…**
ANSI/ASHRAE Standard 169 (201~~3~~6)	Climatic Data for Building Design Standards
~~R.S. Briggs, R.G. Lucas, and Z.T. Taylor (paper)~~	~~Climate Classification for Building Energy Codes and Standards Part 1—Thermal Guidelines for Data Processing Environments~~

Update the Examples portion of 11.2 to incorporate the current ELC values:

Examples

For a ~~particular design~~ *data center* in Climate Zone 1A with a single-feed *UPS* at 100% load and *Data Center ITE Design Power >300 kW*, the maximum MLC = 0.260 from Table 6.5, and the maximum ELC = ~~0.297~~0.245 from Table 8.5. Adding the two values together provides a maximum overall *systems* design value of ~~0.557~~0.505.

Maximum MLC Value [0.260] + Maximum ELC Value [~~0.297~~0.245] =Maximum Overall *Systems* Value [~~0.557~~0.505]

If the electrical *system* design produces a *design ELC* of ~~0.328~~0.276, which exceeds the maximum ELC value, a more efficient mechanical *system* can be used to offset this. If the mechanical *system* had an *annualized MLC* of 0.190 then the overall *systems* design value would be less than the maximum overall *systems* design value and would demonstrate compliance with the standard.

Annualized MLC Value [0.190] + *Design ELC* Value [~~0.327~~0.276] = Overall *Systems* Design Value [~~0.517~~0.466]

Public Review Draft

Proposed Addendum bc to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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Foreword

Building energy simulation has been identified as a key method for improving the design of energy efficient buildings[1,2] and ANSI/ASHRAE Standard 209-2018 was created to help better define and facilitate this process. The standard defines reliable and consistent procedures that advance the use of timely energy modeling to quantify the impact of design decisions as they are being made.

The building design industry recognizes that energy simulation has untapped potential, as it has often been limited to serving as a code compliance tool or a scorecard for beyond-code programs[3]. Standard 209 was created to improve the use of energy modeling to assist with design decisions.

ASHRAE Standard 209 is gaining popularity in the green building community. The standard is now part of the LEED Version 4.1 Reference Guide for the Integrative Process credit[2] and is referenced extensively in the new 2019 Architect's Guide for Building Performance[4] and the IBPSA-USA Project StaSIO[5].

This addendum establishes a pathway for using building energy modeling to support decision-making during the process of designing a high-performance building.

References:

1. The American Institute of Architects. 2030 by the Numbers: The 2018 Summary of the AIA 2030 Commitment.
2. United States Green Building Council, LEED Version 4.1 Building Design and Construction Guide, Integrative Process credit.
3. Tupper, K., E. Franconi, C. Chan, C. Fluhrer, M. Jenkins, and S. Hodgin. 2011. Building Energy Modeling: Industry-Wide Issues and Potential Solutions, Proceedings of Building Simulation 2011, Sydney, Australia.
4. United States Green Building Council, LEED Version 4.1 Building Design and Construction Guide, Integrative Process credit.
5. AIA. 2019. Architect's Guide to Building Performance: Integrating Performance Simulation in the Design Process. The American Institute of Architects.
6. International Building Performance Simulation Association, USA, Project StaSIO
https://www.ibpsa.us/news/project-stasio-architectural-simulations-research-subcommittee

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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 bc to 189.1-2017

Modify Table 4.2, Section 7.5, and Normative References as follows:

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

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
…	…	____ No
7.5.4	Energy Simulation Aided Design	____ No

7. ENERGY EFFICIENCY

…

7.5 Performance Option

…

7.5.4 [JO] Energy Simulation Aided Design. For *building projects* that exceed 10,000 ft^2 of gross floor area, the *building project* shall comply with the requirements of Section 4.2.1 of ANSI/ASHRAE Standard 209.

11. NORMATIVE REFERENCES

Reference	Title	Section
ASHRAE **1791 Tullie Circle, NE** **Atlanta, GA 30329, United States** **1-404-636-8400; www.ashrae.org**		
…		
ANSI/ASHRAE Standard 209-2018	**Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings**	**4.2.1**

Public Review Draft

Proposed Addendum bf to Standard 189.1-2017

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Foreword

In ASHRAE 189.1-2014, Preoccupancy Ventilation Control was section number 8.3.1.7, and it contained a reference to its own section number within the text. Three intermediate sections were then added in 2017 and Preoccupancy Ventilation Control was renumbered to 8.3.1.10, however, the text was not revised accordingly. This proposal removes the inaccurate reference to Section 8.3.1.7 and provides additional clarification that the provisions of Section 8.3.1.10 supersede any conflicting ASHRAE 90.1 requirements (such as preoccupancy start time for optimal start controls). This clarification was deemed necessary based on 2019 additions to ASHRAE 90.1, which allow for reductions in ventilation based on sensed changes in occupancy and other environmental conditions, but are not appropriate during preoccupancy ventilation. The stringency and original intent of Section 8.3.1.10 has not been changed.

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Addendum bf to 189.1-2017

Revise Section 8.3.1.10 as follows:

8.3.1.10 Preoccupancy Ventilation Control. Ventilation systems ~~serving zones that are not continuously occupied~~ shall have controls designed to ~~automatically~~ provide *outdoor air* to the zones, prior to their scheduled occupancy, where the zones served by the ventilation system have been unoccupied for 24 hours or longer. For zones without scheduled occupancy, the preoccupancy ventilation controls shall provide *outdoor air* to the zone within 24 hours of the last time *outdoor air* was provided to the zone. This preoccupancy ventilation shall be provided continuously at the ~~system~~ zone design *minimum outdoor airflow* for a period of one hour prior to the expected occupancy, or at an *outdoor air* rate and for a time period that provides the same number of air changes as the design *minimum outdoor airflow* for one hour. ~~If the preoccupancy ventilation period requires ventilation earlier than as required by ANSI/ASHRAE/IES Standard 90.1, Section 6.4.3, the preoccupancy ventilation start time of Section 8.3.1.7 shall take precedence.~~ The requirements for preoccupancy ventilation control duration and *outdoor air* rate supersede any conflicting requirement in ANSI/ASHRAE/IES Standard 90.1. The required combination of ventilation duration and airflow to the zone to accomplish preoccupancy ventilation shall not be modified in response to: sensed occupancy, *demand control ventilation (DCV)* controls, or preoccupancy building warm-up, cooldown or setback.

Exceptions to 8.3.1.10:

1. Zones that are continuously occupied
2. Hotel and motel guest rooms subject to *automatic* control of HVAC and lighting as required in Sections 7 and 8.

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Foreword

This addendum reflects changes to Chapters 7 and 8 necessary to align with updates that occurred in the referenced standard ASHRAE 62.1-2019. Specific changes include additional clarity regarding spaces covered by both Standards 62.1 and 170, the addition of ISO filter standards as an alternative to MERV ratings, and added clarification of the outdoor ozone air cleaning requirements.

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Addendum bg to 189.1-2017

Revise Section 7.4.3.2 as follows:

7.4.3.2 Ventilation Controls for Densely Occupied Spaces. The requirements in this section supersede those in ANSI/ASHRAE/IES Standard 90.1, Section 6.4.3.8. *Demand control ventilation* (*DCV*) shall be provided for *densely occupied spaces* served by systems with one or more of the following

The *DCV* system shall be designed to ~~be in compliance~~ comply with ASHRAE Standard 62.1, Section 6.2.~~7~~6.1. Occupancy assumptions shall be shown in the design documents for *spaces* provided with *DCV*. All CO2 sensors used as part of a *DCV* system or any other system that dynamically controls *outdoor air* shall meet the following requirements:

a. *Spaces* with CO2 sensors or air-sampling probes leading to a central CO2 monitoring station shall be provided with at least one sensor or probe for each 10,000 ft^2 (1000 m^2) of floor *space*. Sensors or probes shall be installed between 3 and 6 ft (1 and 2 m) above the floor.

~~b. CO2 sensors shall have a rated accuracy of ±50 ppm at 1000 ppm.~~

Revise Section 8 and Table 4.2 as follows:

8.3.1 Indoor Air Quality. Buildings shall comply with the design requirements of ANSI/ASHRAE Standard 62.1, Sections 4 through 6, including applicable normative appendices, with the modifications and additions indicated herein.

BSR/ASHRAE/ICC/USGBC/IES Addendum bg to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings* First Public Review Draft**.**

Health care facilities shall comply with the design requirements of ANSI/ASHRAE/ASHE Standard 170, including applicable normative appendices, with the modifications and additions indicated herein. *Residential dwelling units* shall comply with the design requirements of ANSI/ASHRAE Standard 62.2, Sections 4 through 8, with the modifications and additions indicated herein.
Requirements provided in Sections 8.3.1.1 through 8.3.1.7 supersede such requirements in ASHRAE Standard 62.1, ASHRAE Standard 62.2, and ASHRAE/ASHE Standard 170. Where a *space* type in a health care facility is listed in both Standard 62.1 and Standard 170, the requirement in Standard 170 shall be used.

8.3.1.1 Minimum Ventilation Rates. In health care facilities, the ventilation requirements of ASHRAE/ASHE Standard 170 shall apply. In *residential dwelling units*, the *dwelling unit* ventilation rates and local exhaust airflow rates as required by ASHRAE Standard 62.2 shall apply. ASHRAE Standard 62.2, Section 4.1.2, shall not apply. In all other cases, ASHRAE Standard 62.1, Sections 6.1.1 and 6.2, shall be used to determine minimum zone and intake outdoor airflow rates. ASHRAE Standard 62.1, Sections 6.1.2 and 6.1.3, shall not apply.
Informative Note: ASHRAE Standard 62.1, Sections 6.1.1 and 6.2, define the Ventilation Rate Procedure for determining ventilation rates.

8.3.1.2 Outdoor Air Delivery Monitoring
This section is unchanged.

8.3.1.3 Filtration and Air Cleaner Requirements

a. **Particulate Matter.** The following requirements shall apply in all buildings.

Exception to 8.3.1.3(a): In health care facilities, the particulate filter requirements of ASHRAE/ASHE Standard 170 shall apply.

1. **Wetted Surfaces.** Particulate matter filters or air cleaners having a minimum efficiency reporting value (MERV) of not less than 8 ~~when~~ where rated in accordance with ANSI/ASHRAE Standard 52.2 or not less than Coarse-90% where rated in accordance with ISO 16890, shall be provided upstream of all cooling coils or other devices with wetted surfaces through which air is supplied to an *occupiable space*. These requirements supersede the requirements in ASHRAE Standard 62.1, Section 5.~~8~~9.
2. **Particulate Matter Smaller than 10 Micrometers (PM10).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section ~~6.2.1.1~~ 6.1.4.1, with the following modification. Such filters or air cleaners shall have a MERV of not less than ~~8~~11 where ~~when~~ rated in accordance with ASHRAE Standard 52.2, or not less than ePM2.5-50% where rated in accordance with ISO 16890.
3. **Particulate Matter Smaller than 2.5 Micrometers (PM2.5).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section ~~6.2.1.2~~ 6.1.4.2, with the following modification. Such filters or air cleaners shall have a MERV of not less than 13 ~~when~~ where rated in accordance with ASHRAE Standard 52.2, or not less than ePM1-50% where rated in accordance with ISO 16890.

b. **[JO]** ~~**Ozone**~~ **Outdoor air ozone removal**. Air cleaning devices for ozone shall be provided for buildings located in an area that is designated "non-attainment" ~~in an area that exceeds the National Ambient Air Quality Standards (NAAQS)~~ for ozone by the US EPA, or located in an area that does not comply with applicable ambient air quality standards for ozone as determined by the *authority having jurisdiction* (*AHJ*). Such air cleaning devices shall have an ozone removal efficiency of not less than 40% where installed, operated, and maintained in accordance with the manufacturer's recommendations, and shall be installed in all *outdoor air* intakes. This requirement supersedes the requirements of ASHRAE Standard 62.1, Section ~~6.2.1.3~~ 6.1.4.3. This requirement applies to all buildings, including health care facilities covered by ASHRAE/ASHE Standard 170.

c. **Exceptions to 8.3.1.3b:**

1. The system design *outdoor air* intake flow is 1.5 air changes per hour or less.
2. Controls are provided that sense outdoor ozone level and reduce intake airflow to 1.5 air changes per hour or less while complying with the outdoor airflow requirements of Section 8.3.1.1.

3. *Outdoor air* is brought into the building and heated by direct-fired makeup air units.

c. Sealing.
This section is unchanged.

Revise Table 4.2 as follows:

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement
8.3.1.3.(b)	~~Ozone~~ *Outdoor Air* Ozone Removal	No

Revise Section 8.3.1.4 and 8.3.1.5 as follows:

8.3.1.4 Building Pressure. The requirements in Section 8.3.1.4 supersede the requirements in ASHRAE Standard 62.1, Section 5.~~9.2~~11. *Building projects* shall be designed in accordance with the following subsections.

No changes to sections 8.3.1.4.1 or 8.3.1.4.2

8.3.1.5 Humidity Control. The requirements in this section supersede the requirements in ASHRAE Standard 62.1, Section ~~5.9.1~~ 5.10. Mechanical air-conditioning and evaporative cooling systems shall be designed in accordance with Sections 8.3.1.4.1 and 8.3.1.4.2, as applicable.

Add a new Section 10.3.2.1.4.5 as follows:

Note to reviewers, addendum 189.1ax will reorganize Section 10, but has not yet been published. If it is published, then this new section will become 10.9.4.5.

10.3.2.1.4.5 **Outdoor Air Ozone Air Cleaners.** Ozone air cleaning devices required under Section 8.3.1.3 shall be operated whenever outdoor ozone concentrations are forecasted to exceed applicable regulatory limits.

Modify Section 11 by inserting the following references under ISO and UL, respectively:

ISO 16890 (2016) Air Filters for General Ventilation Section 8.3.1.3

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Foreword

This addendum clarifies the relationship between Standard 90.1 Appendix G and Standard 189.1 Appendix C and verifies that these modeling rules apply to Sections 7.5.1, 7.5.2, and 7.5.3. The addendum also adds language to Normative Appendix C that clarifies how on-site non-renewable energy generation and combined heat and power systems are modeled for performance calculations.

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Addendum bl to 189.1-2017

Modify Section 7.5 as follows. Text that is not shown is unchanged.

7.5 Performance Option

Buildings shall comply with 7.5.1, 7.5.2 and 7.5.3 using the baseline definition and modeling procedures as defined in Standard 90.1 Appendix G, as modified by Appendix C.

7.5.1 Annual Energy Cost. The *proposed building performance* cost index (PCI) shall be equal to or less than the target performance cost index ~~target~~, as determined from the following equation:

$$PCI_{target} = \frac{[BBUEC + (BBREC \times BPF)] \times (1 - RF)}{BBUEC + BBREC}$$

. . .

Modify Appendix C as follows:

C1.5 Modeling Non-Renewable On-site Generation and *Combined Heat and Power Systems*. Non-renewable on-site generation and *combined heat and power systems* shall be simulated as follows:

a. *Baseline Building Performance*. The baseline building shall not include non-renewable on-site generation or non-renewable *combined heat and power systems*.

b. *Proposed Building Performance*. For proposed building designs that include non-renewable on-site generation or non-renewable *combined heat and power systems*, the system shall be modeled as designed including consumption of all pumps and auxiliary equipment required for operation of the system, in accordance with the requirements of C1.4.

Public Review Draft

Proposed Addendum bn to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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BSR/ASHRAE/ICC/USGBC/IES Addendum bn to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings* First Public Review Draft**.**

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Foreword

This addendum adds a requirement that air cleaning devices not emit ozone. Standard 62.1 added a requirement with the same intent in 2019, but this addendum provides improved wording.

[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 bn to 189.1-2017

Add a new item d. to Section 8.3.1.3 as follows:

d. Ozone Emissions. The requirements in this section supersede the requirements in ASHRAE Standard 62.1, Sections 5.7.1 and 5.7.2. Air cleaning devices with electronic filter elements shall be *listed* and *labeled* in accordance with UL 2998. Ultraviolet generating devices in supply air devices, ducts and plenums shall not emit 185 nm wavelengths.

Add the following reference to Section 11, under the Underwriters Laboratories Inc. heading

UL 2998 (2019)	Environmental Claim Validation Procedure (ECVP) for Zero Ozone Emissions from Air Cleaners	8.3.1.3

Public Review Draft

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Foreword

This addendum modifies Sections 8.3.4; 10.3.1.9; and 10.3.2.1.4.4 to improve soil-gas control requirements and to reflect current industry practices that incorporate ANSI/AARST mandated soil-gas control measures in new building construction projects. This addendum replaces existing soil-gas control requirements in Section 8.3.4 with requirements from ANSI/AARST Standard CC-1000-2018, and adds new requirements associated with soil-gas testing and mitigation standards for multifamily buildings to Sections 10.3.1.9 and 10.3.2.1.4.4.

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Addendum bo to 189.1-2017

Modify Section 8.3.4 as follows:

8.3.4 Soil-Gas Control. *Building projects* shall be designed to control soil-gas entry in accordance with Sections 8.3.4.1 or 8.3.4.2.

Exceptions to 8.3.4:

1. Buildings or portions thereof that are not routinely occupied, such as warehouses and open parking garages ~~structures~~.
2. Ventilated garages that comply with ANSI/ASHRAE Standard 62.1, Sections 5.15 and 6.5.

8.3.4.1 Soil-Gas Control Systems. *Building projects* shall comply with the design requirements of ANSI/AARST CC-1000, Sections 2 through 13, as modified by Section 8.3.4.1.1.

8.3.4.1.1 Soil-Gas Retarders ~~Barriers~~. Soil-gas retarder membranes shall comply with ASTM E1745, and shall be installed in accordance with ASTM E1643. ~~systems shall be provided and shall comply with all of the following:~~

a. Earthen floors in basements and enclosed crawlspaces shall be covered with a soil-gas retarder membrane. Such membrane shall be sealed to the foundation at the edges. Soil- gas retarder membranes or systems shall be placed between slab floors and the base course gas-permeable layer required by Section 8.3.4.1.2. Soil-gas retarder materials shall meet or exceed the durability requirements of ASTM E1745, and the installation shall comply with ASTM E1643. Damp-proofing or waterproofing materials shall be installed on the exterior surface of foundation *walls* and shall extend from the top of the footing to above grade.

b. Joints in concrete around the perimeter of each poured slab section shall be permanently sealed with closed-cell gasket materials or equivalent methods that retain closure after the slab has cured.

c. Openings in slab floors; below-grade masonry *walls*; and membranes, such as those for plumbing, ground water control systems, soil vent pipes, electrical, mechanical piping, and structural supports, shall be sealed at the penetration with caulk that complies with ASTM C920 class 25 or higher equivalent closed-cell gasket materials or other equivalent method.

d. Sumps shall be covered with a rigid lid that is mechanically fastened and sealed with a gasket or caulk that will allow removal of the lid for maintenance.

e. Hollow masonry unit *walls* shall be designed and constructed as follows:

1. The first course of masonry units bearing on a footing shall be laid with a full mortar bedding and shall be solid units or fully grouted masonry units.

2. Where portions of masonry units are below grade and in contact with earth, the course of masonry units that is at or partially below grade shall be made of solid masonry units or fully grouted masonry units. Such course of masonry units need not change elevation to compensate for lower-grade elevations along the building perimeter. Openings in *walls* that are below such course of solid or fully grouted masonry units, such as window and door openings, shall be surrounded by solid or fully grouted masonry units.

8.3.4.1.2 Gas-Permeable Layer and Soil-Gas Conveyance. There shall be a continuous gas-permeable layer under each slab-on-grade and basement slab for the entire area of the slab and under each membrane installed over earth for the entire area of the membrane. Perforated pipe, geotextile matting, or soil-gas collection pits shall be installed below the slab or membrane and shall be connected to exhaust vent pipe as specified in Section 8.3.4.1.3. The gas-permeable layer and soil-gas conveyance pipe shall comply with Table 8.3.4.1.2 and (a), (b), or (c) as applicable.

a. **Stone Aggregate Layer.** The gas-permeable layer shall be a uniform layer not less than 4 in. (0.1 m) in depth and shall consist of gravel or crushed stone that meets ASTM C33 requirements for size numbers 5, 56, 57, or 6. Vent pipe openings to unobstructed interstices between stones within the gas-permeable layer shall not be less than the equivalent values indicated in Table 8.3.4.1.2.

b. **Small Stone, Sand, and Soil.** The gas-permeable layer shall be a uniform layer not less than 4 in. (0.10 m) in depth that consists of any of the following:

1. Small stone aggregates classified in ASTM C33 as size numbers 467,67,7, or 8.

2. Sand classified in ASTM C33 as size number 9.

3. Soil that contains less than 35% sand, rock fragment fines, clay, and silt. Such clay and silt shall consist of not more than 10% high-plasticity clay or silt.

Perforated pipe or geotextile drainage matting shall be placed at distances not farther than 20 ft (6 m) apart and not farther than 10 ft (3 m) away from foundation *walls* or other surfaces that surround the gas-permeable layer. Perforated pipe shall be surrounded by not less than 4 in. (0.10 m) of gas-permeable

aggregates that meet ASTM C33 requirements for size numbers 5, 56, 57, or 6. The minimum length and soil-gas inlet openings in the perforated pipe and geotextile matting shall not be less than equivalent values indicated in Table 8.3.4.1.2.

c. **Crawlspace Membranes.** Perforated pipe or equivalent material not less than 10 ft (3 m) in length and 3 in. (0.08 m) in nominal diameter shall be provided under the membrane. The configuration shall allow air movement under the entire area of the membrane.

8.3.4.1.2.1 Soil-Gas Conveyance Clearance and Dimension. Geotextile mats and perforated pipe shall not be less than 12 in. (0.3 m) and not farther than 10 ft (3 m) from foundation *walls* or other surfaces that surround the gas-permeable layer. Soil-gas inlet openings into the geotextile mats and perforated pipe shall have an area of not less than 1.0 in.^{2}/ft (21 cm^2/m) of length. The airway path within geotextile mats and perforated pipe shall not be less than the nominal equivalent area of 3 in. (0.08 cm) pipe inner diameter. Pipe materials below slabs and membranes shall be configured to drain collected water within piping.

8.3.4.1.2.2 Connections to Exhaust Vent Pipes. Exhaust vent piping, as specified in Section 8.3.4.1.3, shall connect to soil-gas inlet configurations within the gas-permeable layer and extend not less than 2 ft (0.6 m) above the top of the slab or membrane. Such pipes shall be temporarily capped or otherwise closed during construction to prevent debris from entering the pipes. The pipe that extends above the slab or membrane shall be labeled with the words "radon vent" or "soil-gas vent" in the prevailing language at the location.

8.3.4.1.1 Soil-Gas Exhaust Vent Pipe. Soil-gas exhaust vent piping shall be provided as follows:

a. **Pipe Placement.** Nonperforated Schedule 40 pipe, as defined by ASTM D1785, shall extend from within the gas-permeable layers to the point of exhaust above the *roof*. The vent pipe size shall not be reduced at any point between its connection to the gas permeable layers and the exhaust terminal above the *roof*. Such piping shall be labeled on each floor level of the building with the words "radon vent" or "soil-gas vent" in the prevailing language at the location.

b. **Multiple Vented Areas.** Where interior footings divide a gas-permeable layer into two or more unconnected areas, such areas shall be interconnected by piping below the slab or membrane or above the slab or membrane. Such piping shall be nonperforated and of a size indicated in Table 8.3.4.1.3.

c. **Provision for Fan.** Soil-gas venting systems shall include a fan or a dedicated *space* for the future installation of a fan. The fan and soil-gas vent piping on the discharge side of the fan shall not be installed within or under occupied *spaces*. A dedicated *space* having a vertical height of not less than 48 in. (1.2 m) and a diameter of not less than 21 in. (0.53 m) shall be provided in the *attic* or other interior area to accommodate the installation of a fan. The fan inlet and outlet vent pipes shall be centered in such dedicated *space*. An electrical supply for the fan shall be provided within 6 ft (1.8 m) of the fan location.

d. **Vented Area.** The maximum foundation area served by a soil-gas exhaust vent pipe shall be determined in accordance with Table 8.3.4.1.3.

Exception to 8.3.4.1.3.(d): Where inspections verify compliance with Sections 8.3.4.1.1 through 8.3.4.1.3, the maximum vented area per vent pipe indicated in Table 8.3.4.1 shall be increased by 40%. Where the soil-gas barrier consists of a spray-applied vapor barrier or a geomembrane that provides a homogeneous closure, the maximum vented area per vent pipe shall be increased by an additional 20%.

8.3.4.2 Alternative Methods of Soil-Gas Control. A soil-gas control system shall be provided, and such system shall be clearly identified or otherwise noted on *construction documents* and shall be *approved* by a qualified soil-gas professional and the *building project FPT provider*.

~~**Table 8.3.4.1.2 Soil-Gas Conveyance Components**~~

~~System Vent Pipe Nominal Diameter~~	~~Minimum Diameter of Pits [a]~~	~~Minimum Length of Perforated Pipe or Geotextile Matting [b]~~
~~3 in. (0.08 m)~~	~~12 in. (0.30 m) diameter pit~~	~~18 ft (5.4 m)~~
~~4 in. (0.10 m)~~	~~16 in. (0.40) diameter pit~~	~~32 ft (10 m)~~
~~6 in. (0.15 m)~~	~~24 in. (0.60 m) diameter pit~~	~~71 ft (22 m)~~

~~a. Pits shall not be less than 4 in. (0.10 m) in depth.~~

~~b. Openings in perforated pipe and geotextile matting shall not be less than 1.0 in.^{2}/ft (21 cm^2/m) of pipe or matting length.~~

~~**Table 8.3.4.1.3 Vent Pipe Diameter per Vented Area**~~

~~Vent Pipe Diameter~~	~~Maximum Vented Area per Vent Pipe~~
~~3 in. (0.08 m)~~	~~2500 ft^2 (230 m^2)~~
~~4 in. (0.10 m)~~	~~4500 ft^2 (420 m^2)~~
~~6 in. (0.15 m)~~	~~10,000 ft^2 (1000 m^2)~~

Modify Section 10.3.1.9 as follows:

10.3.1.9 Soil-Gas Control. The building shall be tested, postconstruction, for radon in accordance with ANSI/AARST MALB, or ANSI/AARST MAMF, as applicable. The indoor radon concentration shall be below 2.7 pCi/L (100 Bq/m3). Where radon testing indicates that the indoor radon concentration is 2.7 pCi/L (100 Bq/m3) or greater, radon mitigation shall be conducted in accordance with ANSI/ AARST RMS-LB, or ANSI/AARST RMS-MF, as applicable, and the building shall be retested to verify that the radon concentration is below 2.7 pCi/L (100 Bq/m^3).

10.3.1.9.1 Documentation. The radon test reports shall be provided to the *owner* and shall be retained with the project records.

Modify Section 10.3.2.1.4.4 (Indoor Air Quality), part d as follows:

d. For buildings where radon mitigation is required under Section 10.3.1.9, operation, maintenance, and monitoring procedures shall include all of the following:

1. Quarterly inspection to verify operation of fans and other mechanical components.

2. Biennial radon testing in accordance with ANSI/AARST MALB, or ANSI/AARST MAMF, as applicable, to verify that radon concentrations remain below 2.7 pCi/L (100 Bq/m^3). Where radon testing indicates that the indoor radon concentration is 2.7 pCi/L (100 Bq/m^3) or greater, mitigation shall be conducted in accordance with ANSI/AARST RMS-LB, or ANSI/AARST RMS-MF, as applicable, and the building shall be retested to verify that the radon concentration is below 2.7 pCi/L (100 Bq/m^3).

   Where the required effectiveness of mitigation systems is consistently demonstrated for a period of not less than eight years, and such systems are inspected quarterly to verify fan operation, radon testing shall be repeated at intervals of not less than every five years.

3. Biennial inspection and repair as needed for mitigation system performance indicators, fans, and visible mitigation system components, including piping, fasteners, supports, labels, and soil-gas barrier closures at exposed membranes, sumps, and other openings between soil and interior *space*.

4. Documentation and retention of inspection and repair records and testing reports prepared in accordance with ANSI/AARST MALB, ANSI/AARST MAMF, ANSI AARST RMS-LB, or ANSI/AARST RMS-MF, as applicable.

Create/modify the following entries in the Section 11 Normative References:

Reference	Title	Section
American Association of Radon Scientists and Technologists (AARST) **527 N. Justice Street** **Hendersonville, NC 28739** **(800) 269-4174; https://standards.aarst.org**		
ANSI/AARST CC-1000-2018	Soil Gas Control Systems In New Construction of Buildings	8.3.4.1
ANSI/AARST MALB-2014	Protocols for Conducting Measurements of ~~Measuring~~ Radon and Radon Decay Products in Schools and Large Buildings	10.3.1.9, 10.3.2.1.4.4
ANSI/AARST RMS-MF-2018	Radon Mitigation Standards for Multifamily Buildings	10.3.1.9, 10.3.2.1.4.4
ANSI/AARST MAMF-2017	Protocol for Conducting Measurements of Radon and Radon and Radon Decay Products in Multifamily Buildings	10.3.1.9, 10.3.2.1.4.4

Public Review Draft

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Foreword

This addendum modifies Section 4.2 to remove language that was considered problematic in the context of an ASHRAE standard. The changes seen here do not alter the intent of Section 4.2, which addresses the jurisdictional options added to the standard to facilitate local adoption of the Standard or the IgCC.

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Addendum bp to 189.1-2017

Modify informative Section 4.2 and the title of Table 4.2:

4. ADMINISTRATION AND ENFORCEMENT

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

a. Prescriptive Option (x.4) or

b. Performance Option (x.5).

~~***Informative Note – to become normative in IgCC:***~~

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

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

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

~~***Informative Notes:***~~ **4.2 Jurisdictional Options.** ~~1. Section 4.2 is informative to Standard 189.1 and normative to the IgCC. 2.~~ The jurisdictional options ~~requirements~~ listed in Table 4.2 ~~are formatted~~ provide ~~to afford~~ jurisdictions the flexibility to ~~adapt~~ adopt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. ~~Enforcement of these jurisdictional requirements will result in higher performing buildings, but may go beyond the needs of specific jurisdictions. Jurisdictional option provisions are indicated in the body of the standard with the~~ The informative symbol [JO] after the section number indicates jurisdictional option provisions.

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Table 4.2 may be used for the code adoption ordinance:

1. Where "No" boxes are provided, the jurisdiction checks the box to indicate where that section is not to be enforced as a requirement in the jurisdiction. Where the "No" box is not checked, that section is adopted.
2. Where a numerical value is listed to specify the level of performance, the jurisdiction shall indicate the required value to be adopted. Where a numerical value is not indicated, the value in the text is adopted without change.

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

SECTION	SECTION TITLE OR DESCRIPTION AND DIRECTIVES	Jurisdictional Requirement

[Note: Body of the table remains unchanged.]

BSR/ASHRAE/IES Addendum d
to ANSI/ASHRAE/IES Standard 90.1-2019

Public Review Draft

Proposed Addendum d to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

The current requirements for garage ventilation are fairly lax:

- *Fan systems are only required to reduce exhaust rates down to 50%. Thus a large garage could meet the requirement with two fans, on one 2-speed fan. Currently Standard 62.1 (and model codes based on this Standard) require 0.75 cfm/ft^2 which is much higher than is needed to meet ventilation requirements even under peak conditions for modern garages with a typical mix of gasoline, hybrid, and electric vehicles. Moreover these peak conditions seldom if ever occur, generally only when many vehicles simultaneously experience cold starts, e.g. at around 6pm for an office building garage. So improved low capacity operation is readily justified.*
- *Provided the system does not have mechanical cooling or heating capability, the exceptions exempt garages smaller than 30000 ft^2, which would require a 22,500 cfm exhaust system, a relatively large system to run constant volume for the long periods a garage may be open and operational.*
- *Similarly, systems with more than 1500 ft^2/HP is exempted. This roughly equates to a static pressure of 2.5" which is very high for garage exhaust systems. This exception exempts also all garage exhaust systems.*

This addendum proposes the following changes:

- *Garages that have separate sections separated by solid walls must have separate exhaust systems and controls. This is so that vehicle activity in one section does not result in unnecessary exhaust is other sections, and it improves safety by ensuring controls are provided in each section. There is no limit to the size of a section; many very large garages have only one section, e.g. all floors of a multi-story garage are often open to one another. Mandating separate systems and controls for each floor or for a certain maximum floor area may not be justified depending on the ventilation system design. For example unducted "Sweep Garage Exhaust Systems" per Taylor, ASHRAE Journal July 2016 can very efficiently serve a large garage. With "sweep" systems, ventilation in one section also ventilates the upstream sections at no added cost. Requiring small sections would disallow the system and essentially mandate much less efficient ducted systems.*
- *Controls must be able to reduce airflow down to 20% or less, reduced from 50% in the current standard. This minimum is readily provided by multiple stages fans or fans with variable speed drives. The 20% value matches the requirements of California's Title 24 requirement of 0.15 cfm/ft^2 (20% of the 0.75 cfm/ft^2 design airflow requirement).*
- *The system must include variable speed drives or equivalent to reduce power as airflow is reduced. The language "30% of design wattage at 50% of the design airflow" is used throughout the standard to infer this performance. The 50% value may appear to conflict with the 20% value in the previous bullet but it does not; it is simply a rating point. Note that systems that include some low power constant volume destratification (aka "jet") fans can still meet this requirement provided the main*

exhaust fans are variable speed. These fans can also be readily made to be variable speed, e.g. with electronically commutated motors.

- *The first exception is revised to address motor size, not garage size, since the cost of variable speed drives is directly a function of motor size. The size of the garage is indirectly addressed because motor size is tied to airflow rate which in turn is tied to garage size. The 5 HP limit is the same as that used for fan power in other sections and previously shown to be life cycle cost effective.*
- *The second exception is eliminated because, as noted above, it exempts too many systems and not relevant given the 5 HP limit is included.*
- *The last exception is eliminated because safety codes and authorities having jurisdiction always supercede Standard 90.1 requirements per Section 2.4 and need not be repeated here.*

Note that, consistent with the current Standard 90.1 requirements for demand-control ventilation in garages (as well as densely occupied spaces and kitchen exhaust hoods), the contaminants required to be monitored and their setpoints are not addressed. These must be addressed by the designer based on their application (e.g. vehicle engine type) and health codes and standards.

Cost Impact: Costs will increase for pollutant sensors and fan variable speed drives. Cost effectiveness is assured by the LCCA done for VAV systems, variable flow chilled water pumps, and cooling tower fans which have the same 5 hp threshold yet operate fewer hours and/or much less turndown than garage ventilation fans.

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Addendum d to 90.1-2019

Modify the standard as follows (IP and SI Units)

6.4.3.4.5 Enclosed Parking Garage Ventilation

Enclosed parking garage *ventilation systems* shall meet all of the following:

a. Separate *ventilation systems* and *control systems* shall be provided for each garage section that is separated from other sections by solid walls effectively restricting airflow from one section to another.

b. *Control systems* for each garage section shall *automatically* detect contaminant levels ~~and stage fans or modulate~~ reduce fan airflow rates to ~~50%~~ 20% or less of *design capacity*, provided acceptable contaminant levels are maintained.

c. The *ventilation system* for each garage section shall have *controls* and/or devices, such as variable speed drives, that result in fan motor *demand* of no more than 30% of design wattage at 50% of the design airflow.

Exceptions to 6.4.3.4.5

~~1.~~ Garages ~~*ventilation systems* serving a single garage section having a total *ventilation system motor nameplate horsepower [kilowatt rating]* not exceeding 5 hp [3.7 kW] at *fan system design conditions* less than 30,000 ft^2 with *ventilation systems*~~ and that do not utilize *mechanical cooling* or *mechanical heating*.

~~2. Garages that have a garage area to *ventilation system motor nameplate horsepower* ratio that exceeds 1500 ft^2/hp and do not utilize *mechanical cooling* or mechanical heating.~~

~~3. Where not permitted by the authority having jurisdiction.~~

BSR/ASHRAE/IES Addendum e
to ANSI/ASHRAE/IES Standard 90.1-2019

Public Review Draft

Proposed Addendum e to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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

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FOREWORD

This addendum is intended to:

1. Create requirements for the insulation of hot gas refrigerant piping used for space heating or service water heating.
2. Clarify that service water piping insulation requirements apply only to piping not supplied by the manufacturer of the service water heating equipment.
3. Update the title of Table 6.8.3-1 to reflect current definitions.

Hot gas refrigerant piping

Hot gas refrigerant is widely used as a fluid for space heating systems and gaining popularity as a fluid for service water heating systems. But unlike other the other fluids used for heating – water and steam – there are no requirements for piping insulation. This addendum introduces requirements.

SSPC 90.1 reviewed the insulation requirements in Table 6.8.3-1 during the 2010 cycle and updates were published in that version of the standard. The Mechanical Subcommittee believes that the analysis is still applicable and hot gas refrigerant piping insulation should meet the same requirements as other fluids used for heating. Users should be aware of note c to the table, which allows a reduction of up to 1 inch of insulation thickness for piping of diameter 1.5 inches or less that is located within partitions of conditioned spaces. For reference, the definitions for space types are shown below:

> ***space:*** an *enclosed space* within a *building*. The classifications of *spaces* are as follows for the purpose of determining *building envelope* requirements:
>
> > ***conditioned space:*** a *cooled space*, *heated space*, or *indirectly conditioned space* defined as follows:
> >
> > a. ***cooled space:*** an *enclosed space* within a *building* that is cooled by a cooling *system* whose sensible output capacity is 3.4 Btu/h·ft^2 of floor area.
> >
> > b. ***heated space:*** an *enclosed space* within a *building* that is heated by a heating *system* whose output capacity relative to the floor area is greater than or equal to the criteria in Table 3.2.
> >
> > c. ***indirectly conditioned space:*** an *enclosed space* within a *building* that is not a *heated space* or a *cooled space*, which is heated or cooled indirectly by being connected to adjacent *spaces*, provided:
> >
> > 1. the product of the *U-factors* and surface areas of the *space* adjacent to connected *spaces* exceeds the combined sum of the product of the *U-factors* and surface areas of the *space* adjoining the outdoors, *unconditioned spaces*, and to or from *semiheated spaces* (e.g., corridors) or
> > 2. that air from heated or *cooled spaces* is intentionally transferred (naturally or mechanically) into the *space* at a rate exceeding 3 ach (e.g., atria).
>
> ***semiheated space:*** an *enclosed space* within a *building* that is heated by a heating *system* whose output

capacity is greater than or equal to 3.4 Btu/h·ft^2 of floor area but is not a *conditioned space*.

unconditioned space: an *enclosed space* within a *building* that is not a *conditioned space* or a *semiheated space*. Crawlspaces, attics, and parking garages with natural or mechanical *ventilation* are not considered *enclosed spaces*.

For hot gas refrigerant used for space heating, users shall use the insulation thickness required for fluids in the temperature range of 141 °F to 200 °F (61°C to 93°C). For service hot water heating, users shall use the insulation thickness required for fluids in the temperature range of 201 °F to 250 °F (94°C to 121°C). The difference is driven by the fact that space heating is only used during cooler weather, while service water heating is year-round. It is understood that some refrigerants, particularly CO_2, may have higher compressor discharge temperatures than others, but it was decided to that the value of simplified compliance and enforcement outweighs the value of requiring users to determine discharge temperatures.

It is important to note that the term "hot gas refrigerant" does not include refrigerant in liquid state after passing through the indoor heat exchanger, and these requirements do not apply to liquid lines in which refrigerant is returning to the compressor.

Insulation requirements apply to piping not supplied by the manufacturer
Section 6, which applies to HVAC equipment, exempts piping inside equipment supplied by an equipment manufacturer from the insulation requirements in 6.8.3, as the performance of the equipment is rated as the equipment is built. The same should apply to service water heating equipment.

Reviewers may note that the language specifies "…piping not supplied by the manufacturer," which is slightly broader than the HVAC exemption. This language was chosen because it is not uncommon for service hot water heating equipment to include piping outside of a casing and be rated for performance with that configuration. The committee considered language that would require that the piping be part of the rated unit but decided that such a distinction would be difficult for an Authority Having Jurisdiction to verify.

Title Updates

- The phrase "hot water heating" in the title changed to "service water heating" to match the defined term used in this standard.
- The word space is added to define heating.
- The redundant subtitle is deleted.

[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 e to 90.1-2019

Change Table 6.8.3-1 and Section 7.4.3 as shown [I-P]:

6.8.3 Piping Insulation Tables

Table 6.8.3-1 Minimum *Piping* Insulation Thickness for Space Heating and ~~Hot~~ Service Water Heating *Systems*[a,b,c,d,e,f,g]
~~(Steam, Steam Condensate, Hot-Water Heating and Domestic Water *Systems*)~~

Fluid Operating Temperature Range (°F) and Usage	Insulation Conductivity		≥Nominal Pipe or Tube Size, in.				
	Conductivity, Btu·in/h·ft²·°F	Mean Rating Temperature, °F	<1	1 to <1-1/2	1-1/2 to <4	4 to <8	≥8
			Insulation Thickness, in.				
>350	0.32 to 0.34	250	4.5	5.0	5.0	5.0	5.0
251 to 350	0.29 to 0.32	200	3.0	4.0	4.5	4.5	4.5
201 to 250	0.27 to 0.30	150	2.5	2.5	2.5	3.0	3.0
141 to 200	0.25 to 0.29	125	1.5	1.5	2.0	2.0	2.0
105 to 140	0.22 to 0.28	100	1.0	1.0	1.5	1.5	1.5

a. For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows: $T = r\{(1+t/r)^{K/k} - 1\}$, where T = minimum insulation thickness (in.), r = actual outside radius of pipe (in.), t = insulation thickness listed in this table for applicable fluid temperature and pipe size, K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature [Btu·in/h·ft²·°F], and k = the upper value of the conductivity range listed in this table for the applicable fluid temperature.
b. These thicknesses are based on *energy efficiency* considerations only. Additional insulation is sometimes required relative to safety issues/surface temperature.
c. For *piping* smaller than 1.5 in. and located in partitions within *conditioned spaces*, reduction of these thicknesses by 1 in. shall be permitted (before thickness adjustment required in footnote [a]) but not to thicknesses below 1 in.
d. For direct-buried heating and service ~~hot-~~water heating *system piping*, reduction of these thicknesses by 1.5 in. shall be permitted (before thickness adjustment required in footnote [a]) but not to thicknesses below 1 in.
e. The table is based on steel pipe. Nonmetallic pipes schedule 80 thickness or less shall use the table values. For other nonmetallic pipes having *thermal resistance* greater than that of steel pipe, reduced insulation thicknesses are permitted if documentation is provided showing that the pipe with the proposed insulation has no more heat transfer per foot than a steel pipe of the same size with the insulation thickness shown in the table.
f. For *systems* providing hot gas refrigerant intended for *space* heating, the fluid operating temperature range used to determine insulation thickness shall be 141°F to 200°F.
g. For *systems* providing hot gas refrigerant intended for *service water heating*, the fluid operating temperature range used to determine insulation thickness shall be 201°F to 250°F.

7.4.3 Service ~~Hot-~~Water Heating ~~Piping~~ and Refrigerant Hot Gas Piping Insulation

The following *piping* shall be insulated to levels shown in Section 6, Table 6.8.3-1~~:~~.

…

f. Refrigerant hot gas *piping* for heat pump *service water heating systems*.

Exceptions to 7.4.3

1. *Piping* inside the *equipment* cabinet supplied by the *manufacturer*.
2. *Service water heating piping* supplied as part of the *equipment* by the *manufacturer*.

Change Table 6.8.3-1 and Section 7.4.3 as shown [SI]:

6.8.3 Piping Insulation Tables

Table 6.8.3-1 Minimum *Piping* Insulation Thickness for *Space* Heating and ~~Hot~~ *Service Water Heating Systems*[a,b,c,d,e,f,g]
~~(Steam, Steam Condensate, Hot-Water Heating and Domestic Water *Systems*)~~

Fluid Operating Temperature Range (°C) and Usage	Insulation Conductivity		≥Nominal Pipe or Tube Size, mm				
	Conductivity, W/(m·°C)	Mean Rating Temperature, °C	<25	25 to <40	40 to <100	100 to <200	≥200
			Insulation Thickness, mm				
>177	0.046 to 0.049	121	115	125	125	125	125
122 to 177	0.042 to 0.046	93	80	100	115	115	115
94 to 121	0.039 to 0.043	66	65	65	80	80	80
61 to 93	0.036 to 0.042	52	40	40	50	50	50
41 to 60	0.032 to 0.040	38	25	25	40	40	40

a. For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows: $T = r\{(1 + t/r)K/k - 1\}$, where T =minimum insulation thickness (mm), r = actual outside radius of pipe (mm), t = insulation thickness listed in this table for applicable fluid temperature and pipe size, K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature [W/(m°C)]; and k = the upper value of the conductivity range listed in this table for the applicable fluid temperature.
b. These thicknesses are based on energy efficiency considerations only. Issues such as water vapor permeability or surface condensation sometimes require vapor retarders or additional insulation.
c. For piping smaller than 40 mm and located in partitions within conditioned spaces, reduction of these thicknesses by 25 mm shall be permitted (before thickness adjustment required in footnote [a]) but not to thicknesses below 25 mm.
d. For direct-buried heating and hot-water system piping, reduction of these thicknesses by 40 mm shall be permitted (before thickness adjustment required in footnote[a]) but not to thicknesses below 25 mm.
e. The table is based on steel pipe. Nonmetallic pipes schedule 80 thickness or less shall use the table values. For other nonmetallic pipes having thermal resistance greater than that of steel pipe, reduced insulation thicknesses are permitted if documentation is provided showing that the pipe with the proposed insulation has no more heat transfer per foot than a steel pipe of the same size with the insulation thickness shown in the table.
f. For *systems* providing hot gas refrigerant intended for *space* heating, the fluid operating temperature range used to determine insulation thickness shall be 61°C to 93°C.
g. For *systems* providing hot gas refrigerant intended for *service water heating*, the fluid operating temperature range used to determine insulation thickness shall be 94°C to 121°C.

7.4.3 Service ~~Hot~~ Water Heating ~~Piping~~ and Refrigerant Hot Gas Piping Insulation

The following *piping* shall be insulated to levels shown in Section 6, Table 6.8.3-1~~:~~.

…

f. Refrigerant hot gas *piping* for heat pump *service water heating systems*.

Exceptions to 7.4.3

1. *Piping* inside the *equipment* cabinet supplied by the *manufacturer*.
2. *Service water heating piping* supplied as part of the *equipment* by the *manufacturer*.

BSR/ASHRAE/IES Addendum f
to ANSI/ASHRAE/IES Standard 90.1-2019

Public Review Draft

Proposed Addendum f to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

First Public Review (March 2020)
(Draft Shows Proposed Changes to Current Standard)

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FOREWORD

Historically, the required efficiency increases to eliminate economizer has been a point of confusion for the industry. The confusion stems from whether you need to increase both the full load efficiency and part load efficiency or just the part load efficiency of the equipment. Additionally, if the metric is not in the format of work out divided by energy in (ex. IPLV), then you could get different efficiency levels required based on how you do the math. This change should address both issues. (Note: the values in the table are not underlined and not up for public review/comment.). The language was also changed to allow for a broader range of rating metrics that are being utilized in different rating standards.

There is no cost impact to this revision as it just clarifies the use of the standard.

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

Addendum f to 90.1-2019

Modify the standard as follows (IP Units)

Table 6.5.1-2 Eliminate Required Economizer for Comfort Cooling by Increasing Cooling *Efficiency*

Climate Zone	*Efficiency* Improvement[a]
2A	17%
2B	21%
3A	27%
3B	32%
3C	65%
4A	42%
4B	49%
4C	64%
5A	49%
5B	59%
5C	74%
6A	56%
6B	65%
7	72%
8	77%

a. If a unit is rated with an annualized or part-load metric~~IPLV, IEER, or SEER~~, then to eliminate the required economizer, only the annualized or part-load minimum cooling efficiency of the ~~HVAC~~ unit must be increased by the percentage shown. If the ~~HVAC~~ unit is only rated with a full-load metric like EER cooling, then these must be increased by the percentage shown. To determine the efficiency required to eliminate economizer, when the unit *equipment efficiency* is rated with an energy-input divided by work-output metric, the metric shall first be converted to COP prior to multiplying by the *efficiency* improvement percentage and then converted back to the rated metric.

Informative note: Some examples of annualized or part-load metrics are: IPLV.IP, IEER, and SEER.

Modify the standard as follows (SI Units)

Table same as I-P version

a. If a unit is rated with an annualized or part-load metric~~IPLV, ICOP, or SEER~~, then to eliminate the required economizer, only the annualized or part-load minimum cooling efficiency of the ~~HVAC~~unit must be increased by the percentage shown. If the ~~HVAC~~unit is only rated with a full-load metric like COP cooling, then these must be increased by the percentage shown.

Informative note: Some examples of annualized or part-load metrics are: IPLV.SI, $ISCOP_C$, and $SCOP_C$.

BSR/ASHRAE/IES Addendum g
to ANSI/ASHRAE/IES Standard 90.1-2019

Public Review Draft

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FOREWORD

The current language in 6.5.1.1.5 is: “Systems shall provide a means to relieve excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet shall be located so as to avoid recirculation into the building.”

This is vague and unenforceable. Consequently, it is often ignored and violated. The proposed language is specific and enforceable and will achieve the desired intent of the current language.

When the relief path has a high static resistance and the relief is not fan powered, economizer use can result in over pressurization of the building. Requiring return/relief fans or properly sized barometric relief will prevent over pressurization and thus save energy by allowing 100% economizing and eliminating the need for building operators to disable economizers.

This adds more clarity on how to comply with the current requirement, and therefore does not affect cost effectiveness.

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Addendum g to 90.1-2019

Modify 6.5.1.1.5 as follows (I-P and SI):

6.5.1.1.5 Relief of Excess Outdoor Air

A. *Systems* shall provide ~~a~~ one of the following means to relieve excess *outdoor air* during *air economizer* operation to prevent over pressurizing the *building*~~.~~:

1. Return or relief fan(s) meeting the requirements of section 6.5.3.2.4.
2. Barometric or motorized damper relief path with a total pressure drop at design relief airflow rate less than 0.10 inches water column (25 Pa) from the occupied *space* to outdoors. Design relief airflow rate shall be the design supply airflow rate minus any continuous exhaust flows, such as toilet exhaust fans, whose makeup is provided by the economizer system.

B. The relief air outlet shall be located so as to avoid recirculation into the *building*.

BSR/ASHRAE/IES Addendum h
to ANSI/ASHRAE/IES Standard 90.1-2019

Public Review Draft

Proposed Addendum h to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

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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Section 4.2.1.1 requires calculating the area-weighted average BPF for mixed use buildings that have several building area types. However, there are several different types of areas defined in the standard - gross floor area, gross conditioned floor area, gross lighted floor area, etc., and it is unclear which area applies in this case. The proposed addendum clarifies that the gross floor area should be used when calculating the area-weighted BPF. Based on the definition in Section 3, this includes area of conditioned, semi-heated and unconditioned spaces, but excludes the area of un-enclosed spaces such as crawlspaces, attics, and parking garages with natural or mechanical ventilation.

Addendum h to 90.1-2019

Revise the Standard as follows (IP Units)

4.2 Compliance

4.2.1 Compliance Paths

4.2.1.1 New Buildings

…

BPF = *building* performance factor from Table 4.2.1.1. For *building* area types not listed in Table 4.2.1.1 use "All others." Where a *building* has multiple *building* area types, the required BPF shall be equal to the area-weighted average of the *building* area types based on their *gross floor area*.

…

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Revision to NSF/ANSI 173-2019
Issue 90 Revision 2 (March 2020)

[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 gray highlighting. Rationale statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard
for Dietary Supplements –

Dietary Supplements

-
-
-

3 Definitions

-
-
-

3.X artificial compounds: compounds whose molecular structure is not found in nature.

3.X dry weight basis: a basis for expressing the measurement results for a substance in a material after subtracting the moisture content from the mass of the material, e.g. 1 gram of a material that has a moisture content of 10% would have a dry weight of 0.9 grams as determined using the equation:

$$C_{dry} = C_{wet} \times 100 / (100 - \text{moisture})$$

3.X nature-identical compounds: compounds identical to those found in nature with respect to structure and stereochemistry, regardless of their means of production.

3.X synthesized compounds: For purposes of this standard, compounds synthesized in the laboratory or by industry. They may be nature identical or artificial since this definition refers only to the process of their creation.

-
-
-

Rationale: Adding definitions to the standard.

[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 gray highlighting. Rationale statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard
for Drinking Water Additives –

Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI/CAN 60: Drinking Water Treatment Chemicals – Health Effects

1 General

1.1 Purpose

This Standard establishes minimum requirements for certification bodies to be used when certifying products to NSF/ANSI/CAN 60: Drinking Water Treatment Chemicals – Health Effects. These requirements are supplemental to those contained in ISO/IEC 17065 or ISO/IEC 17020 and do not replace the requirements of either ISO Standard. By specifying this Standard, users of product certifications can communicate their expectation that certification activities addressed herein are performed in the particular manner described.

1.2 Scope

This Standard establishes requirements for activities to be performed when certification bodies certify products to NSF/ANSI/CAN 60, including documentation reviews, product testing, and facility audits conducted during surveillance.

1.3 Normative references

The following documents contain provisions that, through reference, constitute provisions of this Standard. At the time this Standard was balloted, the editions listed below were valid. All documents are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below. The most recent published edition of the document shall be used for undated references.

ISO/IEC 17020:~~1998~~2012 *General Criteria for the Operation of Various Types of Bodies Performing Inspection*[1]

[1] International Standardization Organization. 1 ch. De la Voie-Creuse, Case postale 56, CH 1211 Geneva 20, Switzerland. <www.iso.org>

ISO/IEC 17065: *Conformity Assessment – Requirements for Bodies Certifying Products, Processes and Services*[3]

NSF/ANSI/CAN 60 - *Drinking Water Treatment Chemicals – Health Effects*

Transparency International, *Corruption Perception Index*, ~~2012~~2018

2 Definitions

2.1 audit: An on-site, systematic and documented process that identifies any variances from the established requirements of NSF/ANSI/CAN 60 and this Standard.

2.2 authorized registered formulation: A copy of the formulation of the certified product registered by the certification organization.

2.3 blender: A company that produces a product comprised of a physical mixture of two or more ingredients. The mixture may be further diluted with treated water or another nonreactive substance.

NOTE — The definition of blender pertains to physical mixtures of ingredients, and not to chemical products that are produced by a chemical reaction in blended processes.

2.4 certification system: The rules, policies, operations, and procedures of a certification body (CB) used for the purpose of ensuring certification of products to which the scope of NSF/ANSI/CAN 60 applies.

2.5 certified product: A single product or trade designation that appears in the public listings of an NSF/ANSI/CAN 60 certification body (CB) as an NSF/ANSI/CAN 60 certified product.

2.6 chemical stock: A store or supply of a chemical, accumulated or available for manufacturing a product.

2.7 diluter: A company that produces a product composed of a single source product, diluted with treated water to a specific concentration.

2.8 dissolver: A company that produces a liquid product composed of a single source product, dissolved with treated water to a specific concentration.

2.9 facility: A place (building, room, etc.) that is used to serve a specific manufacturing function related to the production of a certified product including a blended, diluted, dissolved, relabeled, or repackaged certified product.

2.10 original product: A NSF/ANSI/CAN 60 certified product prior to being blended, dissolved, diluted, repackaged, or relabeled.

2.11 product family: A group of products, under the same chemical category, for which a NSF/ANSI/CAN 60 certification body (CB) has designated a single product (one of the products in the group) as being representative of the group of products for the purposes of NSF/ANSI/CAN 60 certification testing for that group of products.

2.12 product manufacturer: The original chemical manufacturer of a product used as a drinking water treatment chemical.

2.13 relabeler: A company that places a new product label over the original label or replaces the original label on a product without opening the original packaging, provided that the new product label provides the

same information on the product's chemical nature and characteristics.

2.14 repackager: A company that opens the packaging of a product, places it into another container or package, seals the container or package, and labels the product.

2.15 storage: A space or a place for storing a water treatment product.

2.16 transfer facility: A location that is used by the NSF/ANSI/CAN 60 certified product supplier or manufacturer to transfer their bulk NSF/ANSI/CAN 60 certified products or materials from storage or initial transport vessels directly into other shipping vessels or packagings without further adjustments except for dilution with treated water.

2.17 treated water: Deionized water, distilled water, recirculated water within a plant originating from a potable water source, water treated on-site to potable water quality with the exception of disinfection, potable well water, well water treated on-site to potable water quality or a higher purity grade, demineralized water, condensate water originating from a potable water source.

2.18 unannounced facility audit: A site audit of a facility as part of surveillance of a product manufacturer, a blender, a diluter, a dissolver, a relabeler, a repackager or a transfer facility without prior notice, that includes a written record of the determination of compliance with NSF/ANSI/CAN 60 in conjunction with this Standard.

3 General requirements

ISO/IEC 17065 and ISO/IEC 17020 have no detailed requirements for certification systems, schemes or programs – only for certification bodies. This Standard is setting requirements for certification programs in which products shall be certified to NSF/ANSI/CAN 60.

Formal certification documents (ISO/IEC 17065, Section 7.8, and ISO/IEC 17020) shall indicate that the certification system utilized fulfills this Standard, by noting:

"*Products certified via a product certification program in accordance with NSF/ANSI 223."*

4 Product testing (during initial certification and on-going surveillance)

As part of initial certification and on-going surveillance (ISO/IEC 17065, Section 7.9, and ISO/IEC 17020), except as noted below, a product shall be sampled and tested at least once per calendar year for the chemistry-specific analytes contained in Tables 4.1, 5.1, 6.1 & 7.1 of NSF/ANSI/CAN 60 and other parameters identified in the product analytical summary from the formulation review. The product with the highest concentration may be tested as the representative of a series of analogous lower concentration products. For a blended, diluted, dissolved, repackaged or transferred certified product, a minimum of one product sample per facility shall be tested annually. If a certification body (CB) has been unable to sample and test a product for three years since the last test date, it shall delist the product.

5 Facility audits

5.1 Facility audit requirements

Facility audits shall include, but not be limited to the:

— on-site review of a facility's Quality Management or Product Stewardship Program;

- visual inspection of production, process and equipment;
- collection of samples pursuant to Section 4;
- ~~validation~~ verification of formulations from ingredient entry to the facility to final product;
- ~~validation~~ verification of approved suppliers from ingredient purchase to final product;
- review of analytical procedures and methods (if applicable);
- review of records related to formulation control; and
- review of chemical stock control records.

NOTE — Audit items noted above shall be conducted on-site at the facility; desk or remote audits shall not be allowed.

5.2 Facility audits during surveillance

5.2.1 Except as allowed pursuant to Section 5.2.2 or required pursuant to Sections 5.2.3 and 5.2.4, an organization certifying a facility's product(s) shall audit the facility at least once per calendar year.

NOTE — Examples of a facility includes a product manufacturer, blender, diluter, dissolver, repackager, relabeler, or transfer facility.

5.2.2 If a facility has one or more of the deficiencies listed below, upon knowledge of such a deficiency(ies), a certifying organization shall begin auditing the facility at a frequency of at least four times per calendar year and shall not revert to the audit frequency in Section 5.2.1 for at least 36 months after all deficiencies have been resolved. Administrative deficiencies (e.g., supplier name changes due to mergers and acquisitions, editorial corrections of procedures and policies) or other minor changes that do not impact a product's ability to meet the NSF/ANSI/CAN 60 single product allowable concentration limits for contaminants, shall not require the increased frequency of audits specified above, unless the administrative deficiencies have the potential to adversely affect a product's ability to meet NSF/ANSI/CAN 60:

— the facility has significantly or repeatedly deviated from its authorized registered formulation (including changes to approved constituent chemicals, or blending with products from unauthorized suppliers);

— the facility's / company's manufacturing processes, materials storage and handling systems and/or shipment processes are in such state – that assurance of efficacy or purity of the certified product are negatively compromised or in a condition that product compliance with NSF/ANSI/CAN 60 is likely to be negatively affected;

— the facility has demonstrated a sustained lack of willingness or ability to meet administrative requirements for compliance with NSF/ANSI/CAN 60 under Section 3 General Requirements, including specifically and particularly failure to meet the Product Labeling provisions of Subsection 3.5, the Formulation Control requirements of Subsection 3.6, or the Product Traceability requirements of Subsection 3.7; or

— the certifying organization has received and verified information indicating that the facility's ability to produce a product meeting NSF/ANSI/CAN 60 is in question; including, but not limited to, complaints related to certified products, a product recall, or information from regulatory authorities.

5.2.3 If the country in which the manufacturing, blending, diluting, dissolving, repackaging, relabeling, or product transferring facility is located has a score less than 50 or lacks a Corruption Perceptions Index (CPI) on Transparency International's most recent CPI, then the audit frequency for a facility shall be increased to at least twice per calendar year. The facility shall, however, attain the audit frequency in Section 5.2.1, if:

— the facility engages in the audit regimen of Section 5.1 and if the facility demonstrates and maintains 36 months of continuous freedom from the deficiencies listed in Section 5.2.2, or

— the facility is part of a wholly owned global business entity, or joint venture where all parties are operating under a quality management plan as described as in c) below.

— the facility's Quality or Environmental Management or Product Stewardship program includes one or more of the programs listed below and is capable of supporting and demonstrating the consistent fulfillment of the product requirements in NSF/ANSI/CAN 60. Registration by an external certification authority shall be the means to demonstrate the implementation of the quality or Environmental Management systems or Product Stewardship program. For programs 1, 2, and 3, the external certification authority shall be accredited by an International Accreditation Forum signatory. The CB shall assess whether the facility's Quality or Environmental Management or Product Stewardship program is capable of supporting and demonstrating the consistent fulfillment of the product requirements in NSF/ANSI/CAN 60.

Rationale: Updated reference to NSF/ANSI/CAN 60 and two other normative references to reflect most recent editions. Revised section 5.1 to clarify the scope of the formulation audit requirements per 2019 DWA-TC JC meeting discussion (December 2, 2019).

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Issue 7 Revision 1 (March 2020)

[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 gray highlighting. Rationale statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard
for Drinking Water Additives –

Conformity Assessment Requirements for Certification Bodies that Certify Products Pursuant to NSF/ANSI/CAN 60: Drinking Water Treatment Chemicals – Health Effects

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5.2 Facility audits during surveillance

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5.2.4 Facilities that ~~blend~~, dilute, dissolve, relabel, repackage, or transfer noncertified products that are supplied by a facility that is located in a country with a TI CPI < 50 shall have an audit frequency of twice per calendar year. The CB has the option to reduce the inspection frequency to once every 12 months if the supplying facility meets one of the following criteria:

— the supplier to the facility also receives audits from a CB that is accredited by an International Accreditation Forum signatory, according to the requirements of this Standard; or

— the ~~blender~~, diluter, dissolver, relabeler, repackager, or transfer facility has an alternate method that is acceptable to the CB, which provides a mechanism to verify that no changes have been made to the supplied product and continues to be provided identical product.

Rationale: Removed the word "blend" from distributers with TI < CPI 50 score to reflect the original intention of the JC that only the facilities that are located in a country with the lower TI CPI score would be subject to increased audits. Blenders of those products receive a technical formulation review. (2019 DWA-TC JC meeting discussion, Dec. 4, 2019).

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NSF/ANSI/CAN Standard
for Recreational Water Facilities –

Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and other Recreational Water Facilities

Evaluation criteria for materials, components, products, equipment, and systems for use at recreational water facilities

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7 Centrifugal pumps

This section contains requirements for centrifugal pumps used to circulate swimming pool or spa / hot tub water in commercial and residential applications. The requirements for strainers shall apply to strainers that are integral with the pump and to strainers supplied as separate equipment for use in conjunction with a centrifugal pump.

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7.6 Pump performance curve

7.6.1 For each pump model or model series, the manufacturer shall provide a pump performance curve that plots the pump's total dynamic head versus the discharge flow rate. The manufacturer shall also have a curve available that plots the net positive suction head (NPSH) or total dynamic suction lift (TDSL), brake horsepower, and pump efficiency in relation to the performance curve. Pumps with a rating of 5 HP (3.7 kW) or less are not required to have a NPSH curve.

For pumps utilizing motors rated for multiple voltages, if the pump performance curve varies between rated voltages, such as may occur between 230 V and 208 V, the manufacturer shall provide a pump performance curve for each rated motor voltage.

7.6.2 The actual pump curve, as determined in accordance with Section N-3.1, shall be within a range of - 3% to + 5% of the total dynamic head or - 5% to + 5% of the flow, whichever is greater, indicated by the performance curve. Data taken above 90% full flow shall not be judged to the acceptance criteria.

Pumps with more than one operating speed shall be tested as documented below:

— fixed multispeed pump or motor assemblies, test at each speed; or
— variable speed pump or motor assemblies, test at 100%, 50%, and the lowest speed.

7.6.3 For pumps that provide a flow rate output (such as a visual flow rate in LPM / GPM or other manner), the pump shall be tested in accordance with the following flow meter requirements of Section 24:

— Section 24.8 Flow rate measurement accuracy,
— Section 24.9 Flow rate metering device testing and accuracy levels,and
— Section 24.12 Life testing

7.7 Operation and installation instructions

7.7.1 The manufacturer shall provide a manual with each pump. The manual shall include written instructions for the proper installation, operation, and maintenance of the pump. Instructions shall include a parts list and diagrams to facilitate the identification and ordering of replacement parts. If the parts list does not uniquely identify each part for ordering, the manufacturer shall also supply the appropriate specification numbers and serial numbers, and the impeller diameter.

7.7.2 A pump manufactured without an integral strainer shall state in its installation instructions, on a data plate, or on an attached label that the pump is to be installed with a strainer conforming to the requirements in this Standard.

7.8 Self-priming pumps

A pump designated as self-priming shall be capable of repriming itself when operated under a suction lift without the addition of more liquid. Self-priming capability shall be verified in accordance with Section N-3.3.

7.9 Data plate

7.9.1 A pump shall have a data plate that is permanent; easy to read; and securely attached, cast, or stamped into the pump at a location readily accessible after installation. The data plate shall contain the following information:

— manufacturer's name and contact information (address, phone number, website, or prime supplier);

— pump model number;

— pump serial number, date code, or specification number;

— whether the unit has been evaluated for swimming pools or spas / hot tubs, if not evaluated for both applications; and

— designation as a self-priming or non-self-priming pump. If the pump is self-priming, the maximum vertical lift height shall be specified.

7.9.2 For pumps that provide a flow rate display, the data plate shall contain the following information:

— working flow rate range (i.e., 20 – 100 US GPM / 76 – 379 LPM) if not visible elsewhere on the product; and

— accuracy level (i.e., Level 1 or L1) if not visible elsewhere on the product.

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NSF/ANSI/CAN Standard
for Drinking Water Additives –

Drinking Water System Components – Health Effects

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Normative Annex 1
(formerly Annex B)

Product / material evaluation

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N-1.3.2.5 Fluxes

Fluxes shall be prepared by applying a thin film to a copper sheet of the appropriate size as described in N-1.3.1. The copper sheet shall then be placed ~~in a muffle furnace~~ on a hot plate that has been ~~set~~ heated to 300 °C (572 °F) ± 15 °C. The copper sheet (with flux) shall be allowed to heat ~~until the flux flows (approximately 30 to 60 s)~~ for 90 ± 5 s. The copper sheet shall be allowed to cool prior to exposure.

NOTE — Placement of aluminum foil over the hot plate is recommended to minimize the potential for contamination during sample preparation. The foil should be placed carefully to not create creases or folds that might interfere with the heat transfer.

Rationale: Revised per 2019 DWA-SC JC meeting discussion (Dec. 5, 2019). This revision provides a method of sample preparation that can be visually monitored. The additional 30 seconds in time heated is to account for the time taken to raise the temperature of the copper slide to the target temperature.

BSR/UL 13 *Standard for Power-Limited Circuit Cables*

Topic 1. Add a continuity test to Section 23 Impact Test for Type PLTC Cable Marked "-ER"

PROPOSAL

23.10 The test sample of the cable is to be advanced to and impacted at each of the successive marks for a total of ten strikes. After each strike, continuity of the circuit conductors is to be checked (see Continuity Test of Conductors, Section 16). When any lamp lights this is considered a failure and the impacted mark(s) should be removed from the cable before continuing with the impact test. If ~~at~~ more than two of the ten impact points on any test length causes a lamp to light, the cable does not meet the impact-test requirement. Additionally, any failure of the continuity test is considered a failure of the impact test requirement.

16.2 To determine whether or not the finished cable complies with the requirement in 5.3, 10.1, or in 23.10 for cable marked "-ER", each conductor or shield taken separately is to be connected in series with a light-emitting diode (LED), lamp, buzzer, bell, or other indicator, and an appropriate low-voltage a-c or d-c power supply less than 30 V.

BSR/UL 79, Standard for Safety for Power-Operated Pumps for Petroleum Dispensing Products

1. Addition of reference to UL 61800-5-1 as a replacement to UL 508C

30.5 Variable speed motor drives shall be evaluated in accordance with the requirements of the ~~Standard for Power Conversion Equipment, UL 508C~~ Standard for Adjustable Speed Electrical Power Drive Systems – Part 5-1: Safety Requirements – Electrical, Thermal, and Energy, UL 61800-5-1.

BSR/UL 79A, Standard for Safety for Power-Operated Pumps for Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 – E85)

1. Addition of reference to UL 61800-5-1 as a replacement to UL 508C

30.5 Variable speed motor drives shall be evaluated in accordance with the requirements of the ~~Standard for Power Conversion Equipment, UL 508C~~ Standard for Adjustable Speed Electrical Power Drive Systems – Part 5-1: Safety Requirements – Electrical, Thermal, and Energy, UL 61800-5-1.

BSR/UL 79B, Standard for Safety for Power-Operated Pumps for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil

1. Addition of reference to UL 61800-5-1 as a replacement to UL 508C

30.5 Variable speed motor drives shall be evaluated in accordance with the requirements of the ~~Standard for Power Conversion Equipment, UL 508C~~ Standard for Adjustable Speed Electrical Power Drive Systems – Part 5-1: Safety Requirements – Electrical, Thermal, and Energy, UL 61800-5-1.

BSR/UL 1247-202X, Standard for Safety for Diesel Engines for Driving Stationary Fire Pumps

1. Time Delay for High Temperature Signal

PROPOSAL

6.1 The following instrumentation and control devices shall be securely mounted on the engine or its integral fire pump controller (see the Exception to 6.5):

a) A tachometer to indicate engine rpm, including zero, at all times. Tachometers with digital display shall be permitted to be blank when the engine is not running. If the tachometer is not of the totalizing type, an hour meter shall be provided to indicate total time of operation.

b) An oil pressure display to indicate engine lubricant pressure;

c) A temperature display with numerical indication of the primary coolant loop temperature;

d) A means to activate a common supervisory signal to a fire pump controller at a high coolant temperature specified by the manufacturer. This signal shall incorporate a time delay ~~if the~~ as specified by the manufacturer to avoid the potential for a nuisance alarm upon engine restart, but in no case shall ~~engine is restarted within (30) minutes, and delay~~ the signal be delayed for more than 30~~(30)~~ seconds after starting.

d1) Deleted;

e) An ammeter or voltmeter(s) to indicate the direction of alternator or generator charge;

f) For pneumatic or hydraulic starting, a display to indicate reservoir pressure and a means to activate a signal to a fire pump controller at a low pressure specified by the manufacturer;

g) A means to activate a common supervisory signal to a fire pump controller at a low engine lubricant pressure specified by the manufacturer;

h) An adjustable speed controller (governor) that is lockable at the required setting;

i) A means to monitor engine speed and shut down the engine (with manual resetting) when the speed is between 110 and 120 percent of its rated speed and activate a signal to a fire pump controller when the engine is shutdown;

j) A speed-sensitive means to signal engine running and crank termination conditions;

k) For an engine equipped with electronic fuel management control, an automatically and manually operated selector switch, which has no off position, shall be provided;

l) For an engine equipped with electronic fuel management control, a visual indicator on the engine and common supervisory signal to a fire pump controller shall be provided when the engine is being operated by the alternate ECM;

m) For an engine equipped with electronic fuel management control, a common supervisory signal shall be provided to a fire pump controller for any condition of fuel injection malfunction, low fuel pressure, or primary sensor malfunction;

n) For an engine equipped with electronic fuel management control, a common supervisory signal to a fire pump controller shall be provided when a failure occurs of the Primary or Alternate ECM, when selected;

o) For an engine equipped with electronic fuel management control, a signal shall be provided when a failure occurs of both the primary and alternate ECMs; and.

p) For an engine equipped with electronic fuel management control, a means shall be provided to prevent cranking motor damage during automatic switching while the engine is rotating. See 20.6.4 (g).

q) A means to activate a common supervisory signal to a fire pump controller at a minimum engine temperature specified by the manufacturer when the engine is in standby condition; and

r) A means to activate a common supervisory signal to a fire pump controller at a high raw water temperature specified by the manufacturer when the engine is running.

~~20.1.2.4 During the tests performed in 20.1.2.2, verify that the high engine temperature alarm described in 6.1(d) is not active.~~

21.4 Tests shall be conducted to verify the proper functioning of each:

a) Visual indicator on the engine, and

b) Supervisory signal provided to a fire pump controller as required in 6.1 including a verification of a delay in sending a high temperature signal after restarting as referenced in 6.1 d).

2. Energizing the Water Solenoid Valve During Manual Starting

PROPOSAL

6.5 An engine and its instrumentation shall be capable of operation when the fire pump controller is not connected or operational, including the capability to energize a solenoid valve supplying water to cool the engine (if required) when in the manual run mode. Engines provided with a normally open (energize to stop) fuel solenoid shall energize a

solenoid valve supplying water to cool the engine in both the manual and automatic modes.

Exception: The instrumentation for an engine factory equipped with a fire pump controller for driving centrifugal fire pumps and investigated as a complete package is not required to be operational without the controller connected, but the engine is required to be operational.

20.1.1.3 In addition to the testing specified in 20.1.1.1 and 20.1.1.2, tests shall be conducted on a representative sample engine(s) to verify compliance with the engine operation requirements described in 6.5.

BSR/UL 1839, Standard for Automotive Battery Booster Cables

1. Provisions for nonmetallic clamp designs

PROPOSAL

6 Cable and Clamps

6.6 Clamps shall be constructed using a metallic substrate with integral insulation coating or using a complete nonmetallic construction. For nonmetallic constructions, the material shall have a minimum flame rating of HB. The insulating coating or the nonmetallic material shall comply with the applicable tests as outlined in Section 8.

8.1.3 The acceptability of integrally coated metal clamps shall be determined by subjecting samples of the clamp assemblies to each of the conditions described in Sections 8.2 - 8.8. The acceptability of nonmetallic clamps shall be determined by subjecting samples of the clamp assemblies to each of the conditions described in Sections 8.2 - 8.8, with the exception of the abrasion test in Section 8.6 which is not required.

8.2.1 Three samples of the ~~insulated~~ clamp are to be subjected to a low-temperature exposure consisting of minus 40°C ±2°C (minus 40°F ±4°F) for one hour. The samples are then dropped 1500 mm (5 ft) onto a concrete surface. The low temperature exposure shall be minus 40°C ±2°C (minus 40°F ±4°F) for a rating of minus 40°C. Following this exposure, the samples are to be subjected to the Dielectric voltage-withstand test in Section 8.8.

Exception: A low temperature exposure of minus 25°C ±2°C (minus 13°F ±4°F) used for a temperature rating of minus 25°C (minus 13°F) is an alternate temperature to minus 40°C (minus 40°F) when the clamps are marked as specified in 12.1(d).

8.2.2 Following exposure to this condition,: ~~there shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.~~

a) There shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.

b) There shall not be significant deterioration of physical properties of the nonmetallic clamp material as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing conductive parts. Additionally, the clamp shall continue to comply with 8.1.2.

8.3.1 Three samples of the ~~insulated~~ clamp are to be subjected to an elevated temperature exposure for seven days at 100°C ±2°C (212°F ±4°F). Following this exposure, the samples are to be subjected to the Dielectric voltage-withstand test in Section 8.8.

8.3.2 Following exposure to this condition~~,~~: ~~there shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.~~

a) There shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.

b) There shall not be significant deterioration of physical properties of the nonmetallic clamp material as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing conductive parts. Additionally, the clamp shall continue to comply with 8.1.2.

8.4.1 Three samples of the ~~insulated~~ clamp are to be subjected to the conditions described in the Standard Test Method for Water Absorption of Plastics, ASTM D570 (ISO 2896). The maximum absorption of moisture is not to exceed 1 percent.

8.4.3 Following exposure to this condition~~,~~: ~~there shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.~~

a) There shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.

b) There shall not be significant deterioration of physical properties of the nonmetallic clamp material as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing conductive parts. Additionally, the clamp shall continue to comply with 8.1.2.

8.5.1 Three samples of the ~~insulated~~ clamp are to be subjected to a seven-day vapor exposure of a solution of dilute sulfuric acid having a specific gravity of 1.2 at 38°C (100°F). The samples and solution are to be placed in a 38°C ±2°C (100°F ±4°F) ambient. Following this exposure, the samples are to be subjected to the Dielectric voltage-withstand test in Section 8.8.

8.5.2 Following exposure to this condition~~,~~: ~~there shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.~~

a) There shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.

b) There shall not be significant deterioration of physical properties of the nonmetallic clamp material as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing conductive parts. Additionally, the clamp shall continue to comply with 8.1.2.

8.6.1 Six specially prepared samples of the integrally coated insulated clamp are to be subjected to the test conditions described in 8.6.2 - 8.6.5. These samples are to be constructed using a metal substrate of the same material used for the cable clamps and coated with the same insulation as provided on the cable clamps, in the minimum thickness used. The samples of the substrate material are to be 200 mm (8 in) long by 25 mm (1 in) wide; the thickness is not specified.

8.7.1 Three samples of the ~~insulated~~ clamp are to be immersed in water at 23°C ±2°C (73.4°F ±4°F) for 1 minute. Following this exposure, the samples are to be subjected to the Dielectric voltage-withstand test in Section 8.8.

8.7.2 Following exposure to this condition~~,~~: ~~there shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.~~

a) There shall not be significant deterioration of physical properties of the integrally coated insulation as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing the surface of the metal clamp.

b) There shall not be significant deterioration of physical properties of the nonmetallic clamp material as determined by a visual examination for the presence of cracks, peeling, deformation, eroding, excessive wear, or other imperfections of the insulating material that result in exposing conductive parts. Additionally, the clamp shall continue to comply with 8.1.2.

8.8.1 Samples of the ~~insulated~~ clamp are to be subjected to this test after the Cold drop, Section 8.2, Aging, Section 8.3, Acid exposure, Section 8.5 and Water exposure, Section 8.7. A 500-volt, 60 Hz potential is to be applied between:

a) The connector and foil wrapped around the handle of the clamp;

b) The connector and the assembly rivet; and

c) The connector and the clamp spring.

Exception No. 1: The test potential of 500 V ac specified may be replaced by a dc voltage of 707 V.

Exception No. 2: Assembly rivets or coil springs recessed against contact in accordance with 8.1.6 are not required to be tested.

8.9.1.1 The ~~insulated~~ clamp assembly is to be capable of providing a sound mechanical and electrical connection to the point of attachment, such as a battery terminal or a metallic ground. Compliance with this requirement shall be determined by 8.9.1.2 and 8.9.1.3.

8.9.1.2 The ~~insulated~~ clamp is to be subjected to 1,000 cycles of opening the jaws to the maximum opening position, followed by releasing the handles to the at-rest position. Following completion of this test, the sample is to be subjected to the test described in 8.9.1.3.

8.9.1.3 The ~~insulated~~ clamp is to be oriented parallel to a vertical plane and attached to an automotive battery terminal consisting of a 16 ±3 mm (5/8 ±1/8 in) diameter lead post. After the clamp is attached, it is to be twisted back and forth 45 degrees about an axis parallel to that of the terminal post. The clamp is not to become dislodged from the battery terminal when the tensile force of 44.5 N (10 lbs) is applied to the cable in any direction parallel to a horizontal plane located above the top of the battery terminal posts at a distance equal to the overall length of the clamp assembly.

BSR/UL 2250 *Standard for Instrumentation Tray Cable*

Topic 1. Add a continuity test to Section 32 Impact Test for Type ITC Cable Marked "-ER"

PROPOSAL

32.10 The test sample of the cable is to be advanced to and impacted at each of the successive marks for a total of ten strikes. After each strike, continuity of the circuit conductors is to be checked (see Continuity Test of Conductors, Section 19). When any lamp lights this is considered a failure and the impacted mark(s) should be removed from the cable before continuing with the impact test. If ~~at~~ more than two of the ten impact points on any test length causes a lamp to light, the cable does not meet the impact-test requirement. Additionally, any failure of the continuity test is considered a failure of the impact test requirement.

19.2 To determine whether or not the finished cable complies with the requirement in 5.2 or in 32.10 for cable marked “-ER”, each conductor taken separately is to be connected in series with a light-emitting diode (LED), lamp, buzzer, bell, or other indicator, and an appropriate low-voltage a-c or d-c power supply.