

Invitation to Submit a Proposal

ASHRAE Project

BSR/ASHRAE Standard 235P

Standard for Indoor Environmental Quality (IEQ) in Buildings

Seed Document (First Draft Standard)

Project Information

Budget range: approximately \$40,000 to \$55,000. The final amount may vary with proposal value and competition.

Extended proposal due date: 5:00 p.m. EST, Monday, July 27th, 2026.

Projected start date: August 1, 2026.

Projected completion: four months from contract award.

Submit proposals to: lwalker@ashrae.org.

Questions: Chair, ASHRAE Standards Committee on IEQ, or the Manager of Standards.

Attached is a Request for Proposal (RFP) for a seed document (first draft) of BSR/ASHRAE Standard 235P, Standard for Indoor Environmental Quality (IEQ) in Buildings. We reached out because you or your institution came recommended, or you expressed interest. If you decide not to bid, please pass this along to a colleague with relevant expertise.

If you plan to submit a proposal, email standards@ashrae.org at least ten days before the due date. That gives us time to share any clarifications before you bid.

Submit proposals as a single PDF to lwalker@ashrae.org. Include signed copies of the ASHRAE Application for Grant of Funds and the Additional Information for Contractors form. ASHRAE may reject any or all bids or cancel the project if needed.

Work Statement

BSR/ASHRAE Standard 235P, Standard for Indoor Environmental Quality (IEQ) in Buildings

1. Background and Vision

Indoor Environmental Quality (IEQ) shapes the health, comfort, and productivity of building occupants. Yet no single ASHRAE standard treats IEQ as a whole across all the environmental domains that matter at the building or space level.

Existing ASHRAE standards go deep on individual domains. ASHRAE 62.1 covers acceptable indoor air quality. ASHRAE 55 covers thermal comfort. ASHRAE 90.1 covers energy. Standard 189.1 covers energy and sustainability, and includes a full section dedicated to Indoor Environmental Quality. This section is important, but it is focused primarily on design considerations and requirements. What practitioners and building owners do not have is a single framework that weighs how these domains interact and together affect people.

BSR/ASHRAE Standard 235P will set requirements for evaluating and supporting acceptable IEQ in buildings. It will look at the environmental domains that shape occupant health, well-being, and functional performance.

The goal is a coherent, integrated framework. It should complement existing ASHRAE standards, not conflict with them. It should help guide design and operation decisions. The framework should also not conflict with standards from other cognizant organizations that may be relevant. It should inform policy and guidance. It should not regulate health outcomes or repeat requirements that already live in other standards (though references to other standards are appropriate).

To move this work forward, ASHRAE is hiring a contractor to develop a seed document. A seed document is a substantive first draft. It serves as the working document for the newly formed Standard Project Committee. It is not the final standard. It is a strong starting point so the committee can focus its expertise on refining a concrete draft, which shortens the time to publication.

2. Objective

The contractor will produce a seed document (first draft) for BSR/ASHRAE Standard 235P. The document should:

- Use a clear structure and format that matches ASHRAE mandatory language standards.
- Provide requirements level (normative) language across every IEQ domain in scope.
- Identify and build on existing ASHRAE and relevant international standards without duplicating them.
Identify potential conflicts between identified standards
- Be technically sound, practical to achieve, and usable around the world.
- Include a thorough, annotated list of key definitions.
- Provide informative background, rationale, and references to support committee work.

3. Scope

3.1 Target Audience

The standard is meant for building owners, operators, architects, mechanical and electrical engineers, lighting designers, acoustical consultants, commissioning authorities, code officials, rating system administrators, industrial hygienists, and other building industry professionals. It should work globally. Where relevant, it should acknowledge differences in climate, regulation, and regional standards.

3.2 IEQ Domains Covered

The seed document must cover IEQ across the primary environmental domains listed below. Each domain section should include normative requirements or evaluation criteria suitable for a mandatory language (code-enforceable) standard.

- Indoor Air Quality (IAQ). Builds on ASHRAE 62.1, ASHRAE 62.2, ASHRAE 241, ASHRAE 189.1, and relevant ISO standards. Covers pollutant concentrations, ventilation rates, and source control.
- Thermal Comfort. Builds on ASHRAE 55, ASHRAE 189.1, and ISO 7730. Covers operative temperature, humidity, air movement, and radiant asymmetry.

- **Acoustic Environment.** Builds on ASHRAE 189.1 and A Practical Guide to Noise and Vibration Control for HVAC Systems , and relevant ISO/ANSI acoustic standards. Covers background noise levels, sound isolation/speech privacy, speech intelligibility/clarity, reverberation, noise control, and vibration where it applies.
- **Visual Comfort and Lighting.** Builds on IES, ASHRAE, and ISO standards. Covers illuminance, daylight, glare control, and circadian considerations.
- **Water Quality.** Builds on ASHRAE 188, ASHRAE 514, ASPE, and ISO standards. Covers potable, drain, condenser, and other water systems that impact occupant health.
- **Integrated Multi Domain Assessment.** A framework for evaluating combined IEQ performance at the space or building level, including how to handle tradeoffs among domains.

Other building or system characteristics that influence performance (such as building envelope, HVAC system type, and controls) may be covered where they relate to meeting IEQ requirements.

3.3 What This Standard Will Not Cover

The seed document should set clear boundaries. The standard will not:

- Prescribe specific design solutions or construction methods.
- Replicate or supersede the technical requirements of existing ASHRAE standards such as 62.1, 55, 90.1, 170, 241, 188, 189.1, and 514. Instead, it will reference them and note any exceptions or supplements.
- Set medical or clinical diagnostic criteria or regulatory compliance thresholds.
- Include detailed calculation methods for harm indices or multi pollutant health burden analysis. The framework may mention these methods for context only.
- Address food service, laboratory, healthcare, or other specialty building types unless cross referenced to domain specific standards.

4. Proposed Standard Structure

The outline below is a starting point. The contractor will propose and justify a final structure in the annotated outline deliverable. Normative sections must use ASHRAE mandatory language. Informative sections and annexes may use explanatory or guidance language.

- **Foreword** (informative).
- **Purpose and Scope.**
- **Definitions and Abbreviations.** Include an initial list of key terms such as IEQ, IAQ, thermal comfort, acoustic environment, visual comfort, acceptable IEQ, building space, and occupied zone. Cross reference definitions used in existing ASHRAE standards, so everything stays consistent.
- **References.** Normative references to existing ASHRAE, ISO, ANSI, IES, and other applicable standards. See Section 8 for the minimum expected list.
- **IEQ Evaluation Framework.** Overall approach, compliance levels, applicability to new and existing buildings, and guidance on assessing multi domain IEQ at the space or building level.

- Indoor Air Quality Requirements. Normative language that references ASHRAE 62.1 and 62.2, with minimum ventilation, contaminant thresholds, and source control requirements.
- Thermal Comfort Requirements. Normative language referencing ASHRAE 55 and applicable ISO standards.
- Acoustic and Vibration Requirements. Normative language for background noise, sound isolation/speech privacy, speech intelligibility, reverberation, and noise control across space types.
- Visual Comfort and Lighting Requirements. Normative language for illuminance, daylight, glare, and relevant circadian metrics.
- Water Quality Requirements. Normative language referencing ASHRAE Standards 188 and 514, and applicable ASPE and ISO standards.
- Integrated IEQ Compliance and Verification. Methods for showing compliance, plus documentation and reporting requirements.
- Informative Annexes. Background material, example checklists, rationale notes, and case references.

Note: the definitions section and the compliance and verification section are the ones the Standards Committee will scrutinize most. Contractors should provide initial drafts of both. Please flag anything uncertain or where significant committee input is likely.

5. Deliverables

5.1 Interim Deliverables

The contractor will submit monthly progress and financial reports to ASHRAE through the Manager of Standards or designee. Each deliverable must be approved by the Project Monitoring Subcommittee (PMS) before the next phase begins.

- Annotated Outline (Month 1). A detailed outline of the seed document covering every section. Include a short description of each subsection, a preliminary list of definitions, and an initial list of standards and references. This deliverable lets the PMS judge how well the contractor understands scope and approach.
- 50 percent Draft (Month 2). A working draft covering all normative sections in preliminary mandatory language. Mark which sections are complete and which need more committee guidance.
- 75 percent Draft (Month 3). An updated draft that responds to PMS comments on the 50 percent draft. Most sections should be substantially complete. Include definitions, references, and informative annexes in draft form.
- 90 percent Draft (Month 4). A near final draft that folds in all PMS comments from the 75 percent review. The document should be ready to present to the committee.

Deliver all interim drafts electronically to the PMS Chair and the Manager of Standards in both Microsoft Word and Adobe PDF formats. Each file should clearly mark changes from the prior draft.

5.2 Final Deliverable: Seed Document

The final seed document should be a complete, well-organized draft standard ready for the Standards Project Committee. It should include:

- Appropriate front matter (title page, table of contents with page numbers, and a list of figures and tables if relevant).
- All normative sections in ASHRAE mandatory language (shall / shall not).
- All informative annexes in explanatory language, clearly labeled as informative.
- A thorough definitions section.
- A complete normative references section.
- An annotated bibliography or informative resources section listing key standards and literature behind the draft.
- All text in dual units, both IP and SI.
- Tables and figures numbered consecutively with descriptive titles. Tables in Word or Excel format, not images. Figures as high resolution TIF or EPS files at 600 dpi minimum and 4 inch minimum size.
- A summary of major open issues and areas the committee should deliberate.

Format: all text must follow the ASHRAE Standard and Guideline template. The Word files must be free of conditional text, line numbers, track changes, and cross references at final submission. Works cited should use the ASHRAE author date citation method.

6. Contractor Requirements

Because IEQ spans multiple domains, this project needs a team with proven expertise across every domain covered. A single discipline contractor is unlikely to meet the requirements without building a multi-disciplinary team. The contractor must demonstrate:

- Deep familiarity with ASHRAE standards development and mandatory language standard writing.
- Subject matter expertise in at least four of the five primary IEQ domains (IAQ, thermal comfort, acoustics and vibration, lighting and visual comfort, and water). The team together must cover all five.
- Experience developing or making substantive contributions to ASHRAE standards, ISO standards, or equivalent technical standards documents.
- The ability to synthesize requirements across multiple existing standards without duplication or conflict.
- Familiarity with the relevant ASHRAE and ISO standards landscape (see Section 8).
- An understanding of global applicability, meaning how the standard will work across different climates, regulations, and geographies.
- Experience producing peer reviewed technical publications, standards, or guidance documents.

The proposal should describe every proposed team member, note which IEQ domain they cover, and list their relevant publications and standards work.

7. Level of Effort

The seed document is expected to run 60 to 100 pages. That includes normative sections, definitions, references, and informative annexes. The contractor will complete the project within four months of contract award. The anticipated budget range is roughly \$40,000 to \$55,000. The awarded total may be more or less, depending on proposal value and competing bids.

The proposal should give an estimated page count and level of effort for each deliverable phase. It should also flag anything that could affect the timeline, such as access to reference materials or availability of key personnel.

8. Standards and References to be Considered

Proposals will be judged partly on the breadth and appropriateness of the standards and literature the contractor plans to consult. Proposals that address only one IEQ domain (for example, IAQ only) will be considered too narrow. The list below is not exhaustive. These are the standards expected to be referenced or considered in Standard 235P.

ASHRAE Standards and Guidelines

- ANSI/ASHRAE Standard 15: Safety Standard for Refrigeration Systems.
- ANSI/ASHRAE Standard 55: Thermal Environmental Conditions for Human Occupancy.
- ANSI/ASHRAE Standard 62.1: Ventilation and Acceptable Indoor Air Quality in Commercial Buildings.
- ANSI/ASHRAE Standard 62.2: Ventilation and Acceptable Indoor Air Quality in Residential Buildings.
- ANSI/ASHRAE/IES Standard 90.1: Energy Standard for Sites and Buildings Except Low Rise Residential Buildings.
- ANSI/ASHRAE Standard 160: Criteria for Moisture-Control Design Analysis in Buildings.
- ANSI/ASHRAE Standard 188: Legionellosis: Risk Management for Building Water Systems.
- ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1: Standard for the Design of High Performance Green Buildings.
- ANSI/ASHRAE Standard 170: Ventilation of Health Care Facilities.
- ANSI/ASHRAE Standard 514: Risk Management for Building Water Systems: Physical, Chemical, and Microbial Hazards.
- ASHRAE Guideline 10: Interactions Affecting the Achievement of Acceptable Indoor Environments.
- ASHRAE Terminology Database maintained by Technical Committee 1.6 (for definitional consistency).
- ASHRAE Standard 241: Control of Infectious Aerosols.

ISO Standards

- ISO 7730: Ergonomics of the Thermal Environment. Analytical Determination and Interpretation of Thermal Comfort.
- ISO 16798 (EN 16798): Indoor Environmental Input Parameters for Design and Assessment of Energy Performance.
- ISO 15251: Indoor Environmental Parameters for Design and Assessment of Energy Performance of Buildings.
- ISO 3382 Part 1 and ISO 3382 Part 2: Acoustics. Measurement of Room Acoustic Parameters.
- ISO 8996: Ergonomics of the Thermal Environment. Determination of Metabolic Rate.
- ISO 9920: Ergonomics of the Thermal Environment. Estimation of Thermal Insulation.

- ISO 5667 Series: Water Quality – Sampling Guidance.

ANSI, IES, and Other Standards

- IES Lighting Handbook and applicable IES standards for illuminance and visual comfort.
- ANSI/ASA S12.2: Criteria for Evaluating Room Noise (NC and RC curves).
- USGBC LEED v5 Indoor Environmental Quality criteria (for reference and comparison).
- WELL Building Standard IEQ criteria (for reference and comparison).
- WHO Guidelines for Indoor Air Quality, Noise, and other relevant environmental exposures.
- RESET Air Standard (for sensor based IEQ monitoring reference).
- ACGIH TLVs and BEIs, Industrial Ventilation, Control of Audible Sound Hazards, Control of Heat Stress and Strain, Bioaerosols: Assessment and Control, and other relevant publications.

The contractor will include a full reference list in the annotated outline deliverable. It should identify every standard and key piece of literature to be consulted, organized by IEQ domain. The PMS will review this list as part of evaluating the annotated outline.

9. Suggested Approach

- Prepare and submit an annotated outline for PMS review. Include every anticipated section, a preliminary definitions list, and the full list of standards to be referenced.
- Review the outline with the PMS and agree on structure, scope, and standards approach before starting to draft.
- For each IEQ domain, systematically review and map existing ASHRAE and ISO requirements. Identify gaps, conflicts, and places where Standard 235P needs new normative language.
- Draft normative requirements in ASHRAE mandatory language. Clearly separate requirements that reference existing standards from requirements that are new.
- For definitions, compile every term used across the relevant standards. Note where definitions differ and flag those for the committee.
- Write informative annexes that provide rationale for normative requirements, illustrative examples, and references to supporting research.
- Join monthly conference calls with the PMS to report progress and work through open questions.
- Fold PMS review comments into each draft stage and keep a comment response log.
- Submit the final seed document in the required formats for presentation to the Standards Project Committee.

10. Additional Information for Contractors

10.1 General Proposal Requirements

- Include a project timeline with milestones that match each deliverable. Account for PMS review periods, with at least two review cycles per draft. Give the PMS enough time to review documents and send written feedback.

- Provide an estimated page count and organization for the seed document, in line with the scope above.
- Include a preliminary list of every ASHRAE, ISO, and other standard the contractor plans to reference, organized by IEQ domain. This list is a key evaluation criterion.
- Describe how you will keep the seed document from duplicating requirements already in referenced standards. Explain how the framework will integrate and complement them.
- Describe your approach to global applicability. Explain how the draft will account for different regional climates, practices, and regulatory frameworks.
- Plan for monthly conference calls with the PMS throughout the project.
- Describe relevant experience. Cover (a) developing mandatory language standards or equivalent documents, (b) multi domain IEQ expertise, and (c) writing for global audiences.
- Include a list of previously published works (standards, papers, guides, and so on) relevant to IEQ and the domains in this project.
- If you helped prepare this work statement, or had prior knowledge of its contents, identify yourself in the proposal.

Materials attached to this RFP:

- ASHRAE Application for Grant of Funds (required, signed).
- Additional Information for Contractors (required, signed).

Materials available on request:

- Electronic copy of the Standards and Guideline template.
- ASHRAE Publications style guide.

10.2 Proposal Evaluation Criteria

Proposals will be evaluated against the criteria below.

- Understanding of the Work Statement and the quality of the proposed approach, including the annotated outline structure and preliminary standards reference list. Weight: 30 percent.
- Breadth and depth of multi domain IEQ expertise across the project team (IAQ, thermal comfort, acoustics and vibration, lighting and visual comfort, and water). Weight: 30 percent.
- Demonstrated experience in mandatory language standards development (ASHRAE, ISO, or equivalent). Weight: 20 percent.
- Relevant publications and past performance producing technical standards or guidance documents. Weight: 10 percent.
- Qualifications of key personnel and the proposed project management approach. Weight: 10 percent.

Price also matters. Selection will be based on best value to ASHRAE. ASHRAE may negotiate scope and budget with the top ranked proposer.

11. Copyright

This is a Work for Hire. ASHRAE will hold exclusive copyright to Standard 235P and every material developed under this contract. The contractor may not reproduce, distribute, or disclose anything developed under the contract without written permission from ASHRAE.

Reprint permission from the copyright owner must accompany any material, illustration, graphic, or photograph pulled from outside sources. The contractor is responsible for securing those permissions.

All materials developed for this project are confidential and must not be shared with third parties without written permission from ASHRAE.

12. Informative References

These resources are for background context. They are not a full list of materials to be referenced or considered in Standard 235P.

- ASHRAE Position Document on Indoor Air Quality (most recent edition).
- ASHRAE Position Document on Thermal Comfort in the Built Environment.
- WHO Global Air Quality Guidelines (2021).
- WHO Environmental Noise Guidelines for the European Region (2018).
- CDC and NIOSH guidelines on occupational IEQ.
- USGBC LEED v5 Indoor Environmental Quality credit categories.
- International WELL Building Institute, WELL Building Standard v2 (Air, Water, Light, Sound, and Thermal Comfort features).
- European Committee for Standardization (CEN) EN 16798 series (Energy performance of buildings. Ventilation for buildings).
- BREEAM International Technical Standards, Health and Wellbeing categories.
- NIBS Whole Building Design Guide, Indoor Environmental Quality.
- TAIL, a new scheme for rating indoor environmental quality in offices and hotels undergoing deep energy renovation

End of Work Statement