

FACE TO FACE & VIRTUAL MEETING
FEBRUARY 8 - FEBRUARY 12, 2025
ANNUAL ASHRAE CONFERENCE & BUSINESS MEETING
ORLANDO, FLORIDA
ASHRAE STANDARD SSPC 90.1 MEETING SUMMARY

GENERAL

The primary focus of the meeting this time was to focus on various open energy saving topics as well as a new focus on developing new proposals for buildings and sites requirements to mandate reduction of carbon emissions affecting global warming.

The Project Committee Chair is Richard Lord and the Project Committee CO-Chair is Leonard Sciarra. In all, there were 40 motions with minimal impact on BOMA commercial office buildings.

ACTIONS BY THE SSPC 90.1 Project committee:

- Motion #1 - Motion to approve June 2024 meeting minutes. Hand vote - BOMA - yes - vote - 34-0-1, passes.
- Motion #2 - Motion to approve new addendum "CA" modification to Section 3 definitions and table 1 I.5.1-1 energy credits by climate zone including credits for on-site renewable energy sources. This proposal generated a lengthy discussion including a motion (#3) to table the motion. DOE (PNNL) presented an in-depth analysis in a

tabulation format intended to illustrate the cost effectiveness of the proposal. The motion passed by letter ballot. The BOMA vote was **NO** with the reason being the analysis attempted by PNNL was incomplete and did not address "cost effectiveness". Fortunately, this new addendum provides an exemption for buildings and sites using programs of on-site renewables for energy production. Vote - 26-10-1-3-7 passes

- Motion #4 - MSC (Mechanical Subcommittee) Proposed motion to accept responses to addendum "AQ" comments by commenters. Hand vote - BMA vote -yes - vote - 29-0-1 -passes.
- Motion #5 - MSC Proposal to approve new addendum "AQ" ISC (independent substantial change) for publication with knowledge of unresolved commenters. Letter ballot - BOMA vote -yes - passes
- Motion #6 - Proposed motion to accept responses to addendum "BA" water source heat pumps requirements publication public review comments by commenters. Hand vote - BOMA vote -yes - vote - 29-0-1 - passes
- Motion #7 - Proposal to approve new addendum "BA" water source heat pumps updated efficiency requirements for publication with knowledge of unresolved commenters. Letter ballot - BOMA vote -yes - passes.
- Motion #8 - Proposed motion to accept responses to addendum "BY" economizer exception in Section 6.5.1 for hospitals requirements publication public review comments by commenters. Hand vote - BOMA vote -yes - vote - 29-0-1 - passes
- Motion #9 - Proposal to approve new addendum "BY" economizer requirement exception in Section 6.5.1 for hospitals for publication with knowledge of unresolved commenters. Letter ballot - BOMA vote -yes - passes.
- Motion #10 - LSC (lighting subcommittee) - discussion to reduce lighting used 24/7 requirements based on new industry LED lighting improvements efficiencies.
- Motion #11 - LSC proposed motion to approve new addendum "BE" to reduce unoccupied lighting 24/7 use from .02W/sqft down to .01W/sqft. Letter ballot - BOMA vote - yes - vote passes.
- Motion #12 - LSC proposed motion to accept responses to addendum "**BR**" energy monitoring requirements comments by commenters. Hand vote - BOMA vote - yes - vote - passes.

- Motion #13 - LSC proposal to approve addendum "BR" energy monitoring requirements for publication with knowledge of unresolved commenters. Letter ballot - BOMA vote - yes - vote - passes
- Motion #14-F&C (Format & Compliance subcommittee) motion to approve Section 10 compliance diagrams new addendum "CD" for publication public review. Letter ballot - BOMA vote -yes - vote - passes
- Motion #15 - F&C motion to approve updated Normative References Appendices addendum "CC" for 2025 ASHRAE STANDARD 90.1 edition. Letter ballot - BOMA vote - yes - vote - passes.
- Motion #16 - F&C motion to approve addendum "BD" updated acronyms throughout the body of Standard 90.1 for 2025 for publication public review. Letter ballot - BOMA vote - yes - vote - 37-0-0-4-6 passes
- Motion #17 - LSC - motion to approve new addendum "BZ" for publication public review to add new energy efficiency requirements for horticultural lighting systems. Letter ballot - BOMA vote -yes - vote - passes
- Motion #18 - ECB (Apndx "G") - motion to approve new addendum "CE" for publication public review proposal to clean up calculations for analyzing methods of various building orientations. Letter ballot. BOMA vote -yes -vote- 38-0-0-2-7 passes.
- Motion #19 - ECB - motion to approve new addendum "BK" for publication public review to require analysis of likely options of building configurations. Note: straw poll taken to assess motion value - hand vote - 29-0-1 - passes. Letter ballot - BOMA vote - yes - vote - passes.
- Motion #20 - ECB - motion to approve addendum "CG" for publication public review for added requirements to compare calculation methods of proposed improvement performance compared to previous calculation methods. Letter ballot. BOMA vote -yes vote - passes.
- Motion #21 - ECB - proposal to accept responses to commenters comments to addendum "BI" consent agenda - Hand vote - BOMA vote - yes - vote - 24-11-6 - passes.
- Motion #22 - ECB - proposal to accept rejection of proposed CMP by others. Hand vote - BOMA vote - yes, vote - 24-0-1 - passes.

- Motion #23 - ECB - proposal to accept rejection of CMP requirement to compute part load data. Hand vote - BOMA vote - yes - vote - 24-0-1 - passes
- Motion #24 - ECB - motion to accept responses to commenters comments to appendix "G" use of "site energy" vs. "source energy" consent agenda Hand vote - BOMA vote - yes -vote-14-16-2-1- vote fails.
- Motion #25 - ECB - previous CMP proposal recalled, and Subcommittee Chair directed ECB subcommittee to "go back" and reconsider the prior CMP proposal.
- Motion #26 - MSC - motion to delete appendix "F" and revise table 6.4.1.1 to reflect industry energy improvements to HVAC equipment and create new addendum "CH" listing "U" factors (thermal insulation values). Letter ballot. BOMA vote - yes - vote - passes.
- Motion #27 - ECB-proposal to accept responses to commenters comments to addendum "BI" consent agenda. hand vote - BOMA yes - vote - 24-11-6 - passes.
- Motion #28 - ECB-proposal reject proposed CMP proposal by others for appendix "G". Hand vote - BOMA vote to reject - yes - vote - 24-0-1 - passes.
- Motion #29 - ECB - proposed addendum for "performance factors" [very large table of data] by climate zone. Motion #30 - Straw vote -hand vote - BOMA -yes - vote - 24-7-2 - passes.
- Motion #31 - ECB - proposed addendum revised previous addendum "BK" ISC and new addendum "CI" (motion #32") table of performance factors update publication public review. Letter ballot. BOMA- vote - yes - vote passes.
- Motion #33 - MSC - motion to approve new addendum "BX" for laboratory exhaust air heat recovery requirements by updating table 6.5.7.3.4 contents. Letter ballot. BOMA vote -yes - vote - passes.
- Motion #34- MSC-motion to approve new addendum "CJ" updating HVAC equipment energy efficiency tables for publication public review. Letter ballot. BOMA- vote -yes - vote -passes.
- Motion #35 - LSC -proposal to accept responses to commenters comments to addendum "BD". Hand vote - BOMA vote -yes vote - passes

- Motion #36 - LSC - motion to approve response to McErwin official interpretation requests (3 issues) defining "common area" in energy monitoring addendum exception. Hand vote. BOMA vote -yes - vote - passes.
- Motion #37 - LSC - motion to approve addendum "AB" exterior lighting requirements for buildings and sites for publication public review with knowledge of unresolved commenters, to reflect improvements in LED lighting technologies. Letter ballot. BOMA vote - yes - vote - passes.
- Motion #38 -LSC-motion to approve new addendum "CK" new Section 9.1.4 interior and exterior industry lighting wattage improvements terminology by changing the word "power" to be "wattage". Letter ballot. BOMA VOTE-yes - vote yes - passes.
- Motion #39- MSC -motion to modify informative appendix "N" table N4.2.4 renewable energy procurement factors and off-site procurement. Also propose to add liquified natural gas emissions factors CO2e and GWP-emissions factors. Hand vote - BOMA vote - yes -vote - 24-0-1 passes.
- Motion #40 - MSC - proposal to modify Informative Appendix Table 4.2.6.2.2 mechanical equipment tables update to reflect improvements to mechanical equipment. Hand vote - BOMA vote - yes - vote 24-0-1. - passes

FACE TO FACE & VIRTUAL MEETING
APRIL 1 - 4, 2025
ANNUAL ASHRAE SPRING BUSINESS MEETING
ATLANTA, GEORGIA

GENERAL

The ASHRAE STANDARD 90.1 Project Committee meeting met as a combination face-to-face meeting and as a "Webex" virtual internet meeting. The full committee meeting was divided into three separate meeting days. The primary focus of the meeting was to implement new energy saving measures with a focus on developing new proposals for buildings and sites requirements to mandate reduction of carbon emissions affecting global warming. This meeting in Phoenix in June 2025, will complete development of the year 2025 STANDARD 90.1 for final publication.

The Project Committee Chair is Richard Lord, and the Project Committee CO-Chair is Leonard Sciarra. In all, there were 28 motions with most having minimal impact on BOMA commercial office buildings except for proposed Motion #28. This motion proposed changing energy savings calculations to be based on "source" energy rather than "site" energy. BOMA opposed the motion based on the STANDARD's previously established methodology for energy saving calculations to be the use of the approved Work Plans' scalar system using "site" energy for calculations. (use of source energy includes a penalty of the power generating facilities' operations' inefficiency.)

ACTIONS BY THE SSPC 90.1 Project committee:

- Motion #1 - Motion to approve February 2025 Orlando meeting minutes. Hand vote - BOMA - yes - vote - passes.
- Motion #2- MSC 07 (mechanical subcommittee) - motion to approve addendum "BK" Air-to-Air HP's (heat pumps) responses to commenters comments and add new exception

for warmer climate zones (0, 1, and 2) and exception for HP's using on site renewables, second publication public review (PPR) new Section 6.1.4.6 ISC (internal substantial change). Letter ballot vote - BOMA - yes - vote - passes.

- Motion #3 - MSC-01 - motion to approve responses to commenters comments to addendum "AE" via "consent agenda". Hand vote -BOMA-yes -vote - passes.
- Motion #4 - MSC-02- ISC - motion to approve error correction to addendum "AE" table 6.8.1-2 HP's table. Letter ballot vote-BOMA-yes-vote-passes.
- Motion #5 - MSC-03 - motion to approve rejection of commenters comments to addendum "AK" DX heat pumps and approve addendum "AK" for publication with knowledge of unresolved commenters. Letter ballot vote - BOMA - yes - vote - passes.
- Motion #6 - MSC-05 - motion to approve new addendum "CM" publication public review (PPR) requirements for adiabatic cooling of pad mounted cooling towers to "CTI-ATC-105 (propeller axial fans)-table 6.8.1-7. Letter ballot vote -BOMA-yes - vote - passes.
- Motion #7 - MSC - 06 - motion to approve new addendum "CN" publication public review (PPR) requirements for thermal storage cooling "energy credits". Letter ballot vote - BOMA -yes - vote - passes.
- Motion #8 - MSC -04 - motion to approve editorial change to Section 6.1 requirements for alterations of existing buildings affecting installed HVAC units must also upgrade the existing HVAC units as newly required and must meet the newest STANDARD 90.1 requirements. Hand vote - BOMA-yes - vote - passes.
- Motion #9 - MSC -08 - motion to approve responses to commenters comments to addendum "BT" requirements for insulation on hot water and steam piping. Hand vote - BOMA -yes - vote - passes.
- Motion #10 - MSC - 09 - motion to approve new addendum "BT" for process piping exception for new Section 10.4.9 new table for non metallic piping insulation thickness and editorial change to move text to new Section 10.4.9. Hand vote - BOMA-yes - vote - passes. Addendum vote Letter ballot - BOMA - yes - passes.
- Motion #11 - LSC - motion to approve new addendum "BW" for public review - new requirement to monitor power use on a graphical display with knowledge of unresolved commenters comments. Letter ballot - BOMA - yes - vote - passes.

- Motion #12 - renumber #10 - LSC - motion to approve new addendum "CO" requirements for side lighting area reduction by 10% (power reduction from 150 Watts to 75 Watts). Letter ballot- BOMA-yes - vote - passes.
- Motion #11 - LSC - motion to approve new addendum "CP" for publication public review - to modify table 9.5.1 and table 10.4-1 in Section 8.4.3.2 recording requirements to use 15-minute time intervals with exceptions for buildings less than 25,000 sqft and tenant spaces less than 10,000 sqft and residential spaces less than 10,000 sqft. Letter ballot - BOMA-yes - vote - passes.
- Motion #12 - ECB - motion to approve official interpretation request for linear thermal bridges such as corners insulation values. Hand vote - BOMA-yes - vote - passes.
- Motion # 13 - ESC - (envelop subcommittee) - motion to approve new addendum "BF" for PPR with knowledge of unresolved commenters comments to reduce wall "U" factors for opaque glazing based on manufacturers product improvements. Letter ballot- BOMA - yes - vote passes (40-3-0-3-1)
- Motion #14 - ESC - motion to approve new addendum "CQ" for PPR to require shading improvements for glazing to improve "cool walls" energy efficiency. Letter ballot - BOMA-yes - vote - passes.
- Motion #15 - ECB - motion to approve new addendum "CR" for new requirements for spaces combining into thermal blocks. Letter ballot - BOMA-yes - vote - passes.
- Motion #16 - ECB - motion to approve Appendix "G" informative reference Building Performance Factors (BPF's) tables improved description of their requirements update. Hand vote - BOMA- yes - vote - passes.
- Motion #17 - ECB - motion to approve rejection of comments from commenters related to BPF's. Hand vote - BOMA-yes -vote- passes.
- Motion #18 -ECB-motion to approve rejection of comments from commenters related to addendum "CF". Hand vote - BOMA-yes -vote -passes
- Motion #19 - ECB - motion to approve new addendum "CT" new requirements for calculating system efficiency (Section 12 addendum "BK" alignment). Lett ballot - BOMA -yes - vote - passes.
- Motion #20 - motion to propose new addendum to revise Section 10 requirements for residential lighting power reduction. Hand vote - BOMA -yes - vote - passes

- Motion #21 - LSC - motion to propose new ISC addendum "CU" for minimum requirements for EV (electric vehicle) parking spaces to harmonize with addendum "AZ" and add new definition for "electrical vehicle space". Letter ballot- BOMA-yes -vote - passes.
- Motion #22 - MSC -10 - motion to approve rejection of CMP proposal to increase outdoor air ventilation during infection management times. Hand vote - BOMA - yes - vote - passes.
- Motion #23 - MSC 11 - motion to approve Addendum "CY" for PPR to improve efficiency of dehumidification systems to prevent room dew point below 60 F with exceptions for dry climate zones Section 6.5.2.3. Also add new definition for DDC acronym- "direct digital control". Letter ballot-BOMA-yes-vote - passes.
- Motion #24 - MSC - propose new addendum "CZ" for PPR requirements for air circulating fans. Add new definition for "FEI" - "Fan Energy Index" . Add new exceptions for specialty fans including ceiling propeller fans. Letter ballot - BOMA-yes - vote - passes
- Motion# 25 - MSC - motion to approve new addendum "DA" for PPR to requirements for alterations in existing buildings must meet current building standards codes. Exception for existing HVAC equipment installed not requiring changes. Letter ballot - BOMA - yes - vote - passes.
- Motion #26-MSC-13-motion to approve new addendum "DB" for PPR Section 10.4.6 compressed air to require trim compressors next to primary compressors. Letter ballot - BOMA - yes - vote - passes
- Motion #27 - ECB -motion to approve new ISC for addendum "BU" table G.3.2.3.17 in addendum "BU" calculation for elevator energy consumption calculations based on their projected usage. This would apply to buildings over 3 stories high. Letter ballot- BOMA - yes - vote - passes
- Motion #28 - ECB - motion to propose new ISC to addendum "BI" to require use of "source" energy instead of "site" energy in modeling building designs appendix "G". Revise BPF's table accordingly. (Significant discussion from voting members objecting to this proposal including BOMA. (see BOMA reasons in "GENERAL" section). Letter ballot - **BOMA NO** - vote - passes??

FACE TO FACE & VIRTUAL MEETING JUNE 19 - 24, 2025
ANNUAL ASHRAE SUMMER BUSINESS MEETINGS
PHOENIX, ARIZONA

ASHRAE STANDARD SSPC 90.1 MEETING SUMMARY

GENERAL

The ASHRAE STANDARD 90.1 Project Committee meeting met as a combination face-to-face meeting and as a "Webex" virtual internet meeting. The full 90.1 committee meeting portion was divided into four separate meeting days. The primary focus of the meeting was to continue to implement new energy saving measures with a focus on developing energy saving measures as well as the new emphasis proposals for buildings and sites requirements to mandate reduction of carbon emissions affecting global warming. This meeting, was scheduled to be the last face-to-face meeting with a final web-based meeting, if necessary, in the fall of 2025 to complete will complete development of the year 2025 STANDARD 90.1 for final publication.

The Project Committee Chair is Richard Lord, and the Project Committee CO-Chair is Leonard Sciarra. In all, there were 28 motions with most having minimal impact on BOMA commercial office buildings except for several proposed motions targeting "energy credits" based on energy storage and recovery procedures.

ACTIONS BY THE SSPC 90.1 Project committee:

- Motion#1 - Motion to approve April 2025 Atlanta meeting minutes. Hand vote - BOMA - yes - vote - passes.
- Motion #2 - LSC (lighting subcommittee) - motion to approve an ISC (independent substantial change) to addendum "CA" to modify section 11.5.1 "energy credits" to improve the language of the tables in section 11.5.2.7.2-3. The motion created numerous

comments by commenters and was challenged by several "floor" motions to modify the proposal. In all, there were 4 floor motions, all of which passed by hand vote. 35-2-2-4-4-passes.

- Motion #3 (main motion)- floor motion to modify wording definition of "direct current" and an exception for dwelling unit credit for lighting controls sensors in kitchens & bathrooms
 - Motion #4 - motion to change minimum energy credits in section 5.2 requirement to be a minimum of "20" credits.
 - Motion #5 -motion to provide exception for building types (other) credit for to be "10" credits. Hand vote - BOMA-yes - passes
 - Motion #6 - ECB (Energy Cost Budget subcommittee) motion to approve responses to reject comments by commenters. Hand vote - BOMA - yes - vote - passes.
 - Motion #7 - LSC - motion to propose automatic receptacle controls combined with light switches to allow them to function together. Letter ballot.
 - Motion #8 - MSC-motion to withdraw addendum "E"hot gas refrigerant pipe insulation. Hand vote - BOMA - yes - vote - passes.
- " Motion #9- MSC- propose new ISC to addendum "CZ" for cooling tower fan procedures in order to harmonize with the "DOE" requirements. Letter Ballot - BOMA - yes.
- Motion #10 - motion to accept responses by commenters - Hand vote - BOMA -yes - vote - passes
 - Motion #11 - MSC 04- CMP (continuous maintenance proposal) to establish an "energy credit" for cooling tower efficiency. Letter Ballot- BOMA- vote -yes
 - Motion #12 - LSC 005 - motion to propose new addendum "DG" revisions to ARC automatic receptacle controls. Letter ballot - BOMA -yes - vote - passes- 42-1-0-3-1
 - Motion #13 - MSC 06 - motion to propose new addendum "DC" to modify section 11.5.2.3.1 heat pump water heater energy credits limit to value of "2". Letter ballot - BOMA-yes
- " Motion #14-ECB 001 -motion to propose new addendum "DD" for on-site renewable energy "budget" building design requirements in section 12. Letter ballot - BOMA -yes

- Motion #15 - ECB 003 - motion to approve new addendum "DE" to allow section G3.2.3.1 8 dehumidification systems to provide "humidistatic" humidification systems. Letter ballot - BOMA - yes
- Motion #16-ECB 004 - motion to approve new addendum "DF" to require new modeling of envelop daylighting controls in section 12. Letter ballot- BOMA -yes
- Motion #17 - LSC - motion to approve new addendum "DH" to modify section 9.5.7.2 exit stairways minimum light level of 10fc when stair is in use to harmonize with the ICC requirements. Letter ballot - BOMA-yes - vote 41-0-0-1-5.
- Motion #18 - LSC - motion to approve a mix of automatic receptacle controls to be auto or manual or by occupancy sensors and shut off after 20 minutes of no room occupancy in accordance with section 8.4.2.1. Letter ballot - vote - ??
- Motion #19- Motion to accept responses to commenters comments to modified energy credits. Hand vote - BOMA-yes - vote - passes
- " Motion #20-motion to approve rejection of proposed CMP with intention to introduce improved topic in next ASHRAE STANDARD 90.1 revision cycle. Hand vote - BOMA -yes - passes
- Motion #21 - MSC- motion to approve rejection of proposed new CMP for high-speed doors to align with ASHRAE STANDARD SSPC189.1. No energy savings provided. Hand vote - BOMA - yes - vote - passes. 40-0-0-1
- " Motion #22 - LSC-004 - motion to approve new addendum "CU" editorial changes to EV systems to align with the NEC Code. Letter ballot- BOMA -yes - vote - passes
- Motion #23 - motion to approve new addendum "DI" for "R" Value requirements for insulation for slab on grade floors. Letter ballot - BOMA -yes - vote - passes - 45-0-0-1-1.
- Motion #24 - MSC - motion to approve new addendum "DJ" for new minimum efficiency heat pump pool heaters to match DOE regulations section 7.4.5.3.1 with exception for solar heated pools and site renewable energy sources. Letter ballot - BOMA-yes - vote - passes - 33-6-1-5-2.
- Motion #25 - LSC - motion to approve modification to section 3.2 energy credits section 11.5.2.5.3 minimum lighting power shut off after 15 minutes at electric vehicle charging stations. Letter ballot ISC for publication public review.

- Motion #26 - motion to approve responses to reject proposed CMP for energy credits commenters comments. Hand vote - BOMA -yes - vote 36-3-1 - passes
- Motion #27 - MSC - motion to approve new addendum "DK" new energy recovery efficiency requirements for exhaust air in table 11.5.2.2.6. Letter ballot-BOMA-yes - Vote - passes
- Motion #28 - MSC - motion to accept response to proposed new CMP requirements for DOAS systems. Hand vote - BOMA - vote - yes - vote - passes.
- Motion #30 - MSC - motion to approve new addendum "AP" and discontinue old addendum "AA" and merge new "AP" into new revised TPS statement. Hand vote to approve new statement. - vote - BOMA-yes - vote - 36-0-0-1 - passes
- " Motion #31 -MSC-motion to approve new addendum "DL" section 7.4.7 gas fired hot water heaters, section 11.5.2.3.1 and electric heat pump water heaters energy credits. Letter ballot- BOMA-yes-vote -passes - 43-0-0-3-1.
- Motion #32 - MSC - motion to approve new addendum "DM" new energy efficiency requirements for high efficiency (90%) gas fired heat pumps for pool water heating with an exception for solar and stored energy systems. Letter ballot - BOMA - yes - vote - passes - 43-0-0-3-1.
- Motion #33 - MSC - motion to approve response to official interpretation. Hand Vote - BOMA - yes - vote - passes.
- Motion #34 - MSC - motion to approve new addendum "DN" to require service water heating system controls storage water minimum temperature to be 110F for safety reasons. Letter ballot- BOMA-yes -vote- passes -44-0-0-2-1.
- Motion #35 - ECB 006 - motion to approve new addendum "BJ" ISC simplified performance rating method (SPRM). Hand vote - BOMA - yes - vote - 31-0-1-0 - passes.
- Motion #36 (REVISED TO #40)-ECB 007 - motion to approve new addendum "DQ" to add new section 12 lighting and HVAC requirements update for simple buildings . Letter ballot - BOMA - yes - vote - passes - 32-7-3-4-1.
- Motion #37 - F&C 01 - motion to approve new addendum "DP" for section 4 commissioning (Cx) process clarification. Letter ballot- BOMA-yes - vote - passes 40-0-0-1-2.

- Motion #38 - F&C 02-motion to approve new addendum "DO" to update "Nonnative references" to ASHRAE STANDARD 0.4 update to year 2022 with addenda "a,b,c,and g" Letter ballot - BOMA - yes - vote - passes - 45-0-0-1-1.