



International Energy Conservation Code Consensus Committee-Commercial

Meeting Agenda (Draft 4/28)

May 4, 2022

2:30 PM Eastern to 5:00 PM Eastern (2.5 hours)

[Webex Link](#)

Committee Chair: Duane Jonlin

Committee Vice Chair: Emily Hoffman

1. Call to order.
2. Meeting Conduct. Staff
 - a. Identification of Representation/Conflict of Interest
 - b. ICC [Council Policy 7](#) Committees: Section 5.1.10 Representation of Interests
 - c. ICC [Code of Ethics](#): ICC advocates commitment to a standard of professional behavior that exemplifies the highest ideals and principles of ethical conduct which include integrity, honesty, and fairness. As part of this commitment it is expected that participants shall act with courtesy, competence and respect for others.
3. Roll Call – Hoffman
4. Approval of Agenda
5. Approval of Minutes
6. Administrative issues.
 - a. Progress indicators
7. Action Items.
 - a. Code Change Proposals

CEPI-117-21 (ERV other spaces)	(HVACR disapprove 16-0-0)
CEPI-103-21 (Economizer exception)	(HVACR as modified 14-0-0)
CEPI-104-21 (Economizer exception)	(HVACR disapprove 13-0-0)
CEPI-116-21 (Exhaust air recovery)	(HVACR approve 15-0-0)
CEPI-115-21 (Enthalpy recovery)	(HVACR disapprove 13-1-0)
CEPI-74-21 (Roof curbs for Mech Equip)	(HVACR disapprove 7-3-2)
CEPI-81-21 (Equipment curbs)	(HVACR disapprove 12-0-1)
CEPI-211-21 (Perf. Mechanical ventilation)	(Modeling as modified 15-0-1)
CEPI-213-21 (Performance ventilation)	(Modeling disapprove 15-0-1)
CEPI-216-21 (Existing Building exception)	(Modeling disapprove 15-0-1)
CEPI-11-21 Part I (Attic definition)	(Envelope disapprove 16-0-2)
CEPI-39-21 (R Value Table Wall naming)	(Envelope disapprove 9-8-1)
CEPI-48-21 (Airsapces)	(Envelope as modified 18-0-2)

CEPI-49-21 (Airspaces)	(Envelope disapprove 19-0-1)
CEPI-44-21 (Spandrel Panels)	(Envelope as modified 19-0-1)
CECPI-4-21 (Committee Thermal Bridging)	(Envelope as modified 13-4-3)
CEPI-33-21 (Thermal Bridging)	(Envelope disapprove 17-0-1)
CEPI-40-21 (Thermal Bridging Cont. Insulation)	(Envelope disapprove 17-0-1)
CEPI-45-21 (Thermal Bridging)	(Envelope disapprove 17-0-1)
CEPI-169-21 (Lighting guestroom controls)	(Elect. Power as modified 7-3-4)
CEPI-177-21 (Total connected lighting power)	(Elect. Power as modified 17-0-1)
CEPI-138-21 (Energy Monitoring)	(Elect. Power as modified 10-9)
CEPI-139-21 (Energy Monitoring)	(Elect. Power disapprove 11-8-1)
CEPI-141-21 (Energy Monitoring plug loads)	(Elect. Power disapprove 10-8-1)
CEPI-140-21 (EV Energy Monitoring)	(Elect. Power as modified 15-3-1)
CEPI-10-21 (AC output UPS system)	(Elect. Power disapprove 11-5-3)
CEPI-168-21 (Display Lighting)	(Elect. Power as modified 16-0-1)

8. Subcommittee & Temporary Work Group reports

- a. Envelope and Embodied Energy- Culp
- b. Electrical Power, Lighting, and Renewables-Jouaneh
- c. HVACR & Water Heating-Shelide
- d. Modeling, Whole-Building Metrics, Zero Energy-Eades
- e. Construction Cost & LCC Update- Tillou

9. Other business.

- a. Public comment on any matters discussed at the meeting (Please limit comments to 2 minutes. Further comments can be directed to the Secretariat following the meeting to be considered at a future meeting.)

10. "3 Minutes of Fame." Speakers TBD

11. Upcoming meetings. May 11, 2022 2:30 Eastern

12. Adjourn.

FOR FURTHER INFORMATION BE SURE TO VISIT THE ICC WEBSITE:

IECC Commercial Consensus Committee Webpage

<https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/iecc-commercial-consensus-committee/>

ICC Energy webpage

<https://www.iccsafe.org/products-and-services/codes-standards/energy/>

Code Change Proposal Submittals

<https://energy.cdpass.com/login/>

Energy Complete Monograph

[Monograph](#)

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

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International Code Council

kstenger@iccsafe.org



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-117-21 ERV Other Spaces
CDP ID #	163
Code	IECC CE
Code Section(s)	C403.7.4.2, TABLE C403.7.4.2(1), TABLE C403.7.4.2(2) New Section n
Location	base
Proponent	Glory O'Brien glory.obrien@westernmechanicalsolutions.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> • This proposal deviates from 90.1. This proposal makes modifications that are not cost effective and eliminates energy savings opportunities in many climate zones. • Some language fixes may be appropriate, but changes to climate zone requirements are problematic. Not enough analysis to support. This is not ready. • A lot of things have been changed through this proposal that aren't supported, this proposal would need a lot of work to straighten it out
Recommendation	<p>Disapprove</p> <p>Reason: This proposal would create a total disconnect between ASHRAE 90.1 and the current provisions in the IECC. There is no cost effectiveness to support this proposal, no justification analysis.</p>
Vote	Motion to disapprove passed 16-0-0
Recommendation Date	4/14/2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u>
Consensus Committee	

Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-103-21 Economizer Exception
CDP ID #	565
Code	IECC CE
Code Section(s)	C403.5 New Section n
Location	base
Proponent	John Bade johnbade@2050partners.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> • Last cycle there was an exception added that gave a blanket exception to VRF systems. Some applications where this is not appropriate and an economizer is well-advised • Committee discussion around application and cost-effectiveness of economizers in systems that would fall under exception language • Committee discussion and revision to Exception 7 to include “unitary equipment” and reduce variable speed requirement from minimum three stages to “multiple stages”, which would include two stages of compressor capacity (including systems with multiple staged compressors)
Recommendation	<p>Approve As Modified, see attached modifications.</p> <p>Reason: proposal provides an exception for small units being used with DOAS and expands exception to WSHPs.</p> <p>Also reference reason statement in original proposal: The exemption from economizer requirements for variable refrigerant flow (VRF) systems employed with a dedicated outdoor air system added in IECC 2021 was reasonable. However, limiting the exception to only VRF systems created an unfair advantage in the market for those systems. Other zone-level DX fan coil systems with multi-stage compressors, such as water-source heat pumps, provide equal or better energy savings. This proposal levels the playing field and eliminates the need to provide water coils in those products.</p> <p>The limit to fan coils with a capacity of less than 54,000 Btu/h aligns the exception with the requirements in the body. VRF systems tested under AHRI 1230 do not include fan coils with a capacity of 54,000 Btu/h or more, and engineering analysis indicates that VRF systems that employ such fan coils very likely do not operate at the same level of efficiency as those that employ smaller capacity coils.</p>

Vote	Motion to approve as modified passed 14-0-0
Recommendation Date	4/14/2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u>
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	

CEPI-103-21 as modified

(modifications shown in red)

IECC®: C403.5

Proponents:

John Bade, representing California Investor Owned Utilities (johnbade@2050partners.com)

2021 International Energy Conservation Code

Revise as follows:

C403.5 Economizers.

Economizers shall comply with Sections C403.5.1 through C403.5.5.

An air or water economizer shall be provided for the following cooling systems:

1. Chilled water systems with a total cooling capacity, less cooling capacity provided with air economizers, as specified in Table 403.5(1).
2. Individual fan systems with cooling capacity greater than or equal to 54,000 Btu/h (15.8 kW) in buildings having other than a Group R occupancy, The total supply capacity of all fan cooling units not provided with economizers shall not exceed 20 percent of the total supply capacity of all fan cooling units in the building or 300,000 Btu/h (88 kW), whichever is greater.

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3. Individual fan systems with cooling capacity greater than or equal to 270,000 Btu/h (79.1 kW) in buildings having a Group R occupancy. The total supply capacity of all fan cooling units not provided with economizers shall not exceed 20 percent of the total supply capacity of all fan cooling units in the building or 1,500,000 Btu/h (440 kW), whichever is greater.

Exceptions: Economizers are not required for the following systems.

1. Individual fan systems not served by chilled water for buildings located in Climate Zones 0A, 0B, 1A and 1B.
2. Where more than 25 percent of the air designed to be supplied by the system is to spaces that are designed to be humidified above 35°F (1.7°C) dew-point temperature to satisfy process needs.
3. Systems expected to operate less than 20 hours per week.
4. Systems serving supermarket areas with open refrigerated casework.
5. Where the cooling efficiency is greater than or equal to the efficiency requirements in Table C403.5(2).
6. Systems that include a heat recovery system in accordance with Section C403.10.5.
7. ~~VRF systems~~ Direct-expansion fan coils or unitary equipment with a capacity less than 54,000 Btu/h and multiple stages of compressor capacity installed with a dedicated outdoor air system.

Reason Statement:

The exemption from economizer requirements for variable refrigerant flow (VRF) systems employed with a dedicated outdoor air system added in IECC 2021 was reasonable. However, limiting the exception to only VRF systems created an unfair advantage in the market for those systems. Other zone-level DX fan coil systems with multi-stage compressors, such as water-source heat pumps, provide equal or better energy savings. This proposal levels the playing field and eliminates the need to provide water coils in those products.

The limit to fan coils with a capacity of less than 54,000 Btu/h aligns the exception with the requirements in the body. VRF systems tested under AHRI 1230 do not include fan coils with a capacity of 54,000 Btu/h or more, and engineering analysis indicates that VRF systems that employ such fan coils very likely do not operate at the same level of efficiency as those that employ smaller capacity coils.

Cost Impact:

The code change proposal will decrease the cost of construction for water-source heat pump and single-split variable capacity systems and increase it where VRF fan coils with a capacity of greater than 54,000 Btu/h are employed.

This proposal will eliminate the need to provide economizer water coils in DX fan coils in non-VRF systems. Since the market share of VRF fan coils with a capacity of 54,000 Btu/h or greater is very small, the net change in cost to builders will be negative.

Definition of a variable refrigerant flow system for reference:

VARIABLE REFRIGERANT FLOW SYSTEM. An engineered direct-expansion (DX) refrigerant system that incorporates a common condensing unit, at least one variable-capacity compressor, a distributed refrigerant piping network to multiple indoor fan heating and cooling units each capable of individual zone temperature control, through integral zone temperature control devices and a common communications network. Variable refrigerant flow utilizes three or more steps of control on common interconnecting piping.



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-104-21 Economizer Exception
CDP ID #	232
Code	IECC CE
Code Section(s)	C403.5 New Section n
Location	base
Proponent	Glory O'Brien glory.obrien@westernmechanicalsolutions.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> Proposal is no longer necessary due to previous subcommittee action on CEPI-103. Changes made in CEPI-103 are inclusive of those proposed in CEPI-104.
Recommendation	<p>Disapprove</p> <p>Reason: Proposal is no longer necessary due to subcommittee action on CEPI-103</p>
Vote	Motion to Disapprove passed 13-0-0
Recommendation Date	4/14/2022
Next Step	<p>To Subcommittee _____</p> <p>To Advisory Group _____</p> <p>To Consensus Committee <u>X</u> _____</p>
Consensus Committee	
Committee Response	
Vote	<p>Affirmative _____ Negative _____ Table _____</p> <p>To Subcommittee _____</p>
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-116-21 Exhaust Air Recovery
CDP ID #	47
Code	IECC CE
Code Section(s)	C403.7.4.2 New Section n
Location	base
Proponent	Emily Toto etoto@ashrae.org
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> Proposal is directly from 90.1. Allows series energy recovery to be included, wrap around heat pipes are most often used. Saves energy when used properly. This proposal clarifies an exception that was already in there, but needed more definition.
Recommendation	<p>Approve</p> <p>Reason (from original proposal): This proposal revises two exceptions to the requirement to use energy recovery. One change limits the exception for solar heating to cooler climates. The second clarifies the exemption for the use of "energy recovery in series with the cooling coil" by creating a new definition for series energy recovery. This definition is required because some users of the standard have confused condenser heat recovery and site-recovered energy with series energy recovery. They are quite different. There is also a new definition that defines the performance of series energy recovery. The purpose is to ensure that the series energy recovery system performs well enough to justify allowing it to be used in lieu of conventional energy recovery.</p>
Vote	Motion to approve passed 15-0-0
Recommendation Date	4/14/2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u> _____
Consensus Committee	

Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-115-21 Enthalpy recovery
CDP ID #	179
Code	IECC CE
Code Section(s)	C403.7.4.2 New Section n
Location	base
Proponent	Glory O'Brien glory.obrien@westernmechanicalsolutions.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> • Committee discussion on intent of proposal to provide clarification and ensure understanding of this particular economizer exception • Committee member voiced opinion that proposal is unnecessary
Recommendation	<p>Disapprove</p> <p>Reason: clarifications are unnecessary, proposal attempts to over-clarify and over-explain code requirements.</p>
Vote	Motion to Disapprove passed 13-1-0
Recommendation Date	4/14/2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u> _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-074-21 Roof Curbs for Mech Equipment
CDP ID #	388
Code	IECC CE
Code Section(s)	C403, C403.15 , TABLE C403.15, SECTION C503, C503.3, C503.3.1, C503.3.2 New Section y
Location	base
Proponent	Justin Koscher jkoscher@pima.org
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> • Explanation from proponent that proposed amendment requires that when rooftop HVAC equipment is replaced the roof curb be raised to accommodate insulation requirements in current code. Reason is that low roof curb heights are a common reason given for not bringing roof insulation up to current code levels when re-roofing. Ensuring the curb is high enough at equipment replacement time helps reduce cost upon reroofing for meeting current roof insulation requirements and hopefully would reduce issues with reroofing/insulation in the future. • Subcommittee made a first motion, with second, to approve as submitted • Subsequent discussion around how this proposal would require curbs to be raised only when unit are replaced, so it doesn't address all the curbs and there might still be issues when reroofing. This proposal helps address some curbs and hopefully gets more curbs and reduces instances of future issues. Some concern for existing building owners. • Discussion of application for roofs with existing parapet heights that are lower than roof curbs and issues with application if the roof drainage system is not structured to accommodate additional insulation. • Discussion of existing requirement for current code level insulation upon reroofing and how new curbs or extenders are already required for this case • Committee concerns for small rooftop unit replacements and issues with warranty of the roof, need to get someone in to rework the flashing. This proposal has some unanswered parts that if you do one unit on a large roof. Alteration part could cause problems. • Committee member statement on how they see this as helping building owner, when they finally replace the roof they'll more likely have more appropriate curbs and be ready for a new roof

	<ul style="list-style-type: none"> • Committee discussion on whether section 503 (existing buildings) would be the more appropriate location for this proposed language, since it applies more to existing buildings than new buildings. New buildings application could arise in envelope trade-off scenarios. • Motion to approve as submitted failed 3-6-3 • Subsequent motion to disapprove
Recommendation	<p>Disapprove</p> <p>Reason: This proposal is difficult for manufacturers to anticipate and problematic for the owner.</p>
Vote	Motion to disapprove passed 7-3-2
Recommendation Date	4/14/2022
Next Step	<p>To Subcommittee_____</p> <p>To Advisory Group_____</p> <p>To Consensus Committee <u> X </u>_____</p>
Consensus Committee	
Committee Response	
Vote	<p>Affirmative_____ Negative_____ Table_____</p> <p>To Subcommittee_____</p>
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-081-21 Equipment curbs
CDP ID #	230
Code	IECC CE
Code Section(s)	C403.12.4 New Section y
Location	base
Proponent	Glory O'Brien glory.obrien@westernmechanicalsolutions.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	<ul style="list-style-type: none"> • Do have to be careful about roof curbs and leakage, but this is not the right way to address it. • Comments from committee member familiar with the referenced SMACNA duct leakage manual, and they do not see a way to successfully conduct apply the SMACNA duct leakage test to a curb and get a useful test out of it, as described under this proposal. Encourage the proponent to work with stakeholders to come up with language that is practical. Intent of proposal may be reasonable, but application is problematic. • Curb pre-testing could be a way to do it, but in-field testing as proposed would be a nightmare to conduct and unlikely to result in a useful test.
Recommendation	<p>Disapprove</p> <p>Reason: Curb leakage is important, but this is not the right way to address it. No way to apply SMACNA duct leakage test to a curb and actually get a useful test out of it. Intent of proposal may be reasonable, but application is problematic.</p>
Vote	Motion to disapprove passed 12-0-1
Recommendation Date	4/14/2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u> _____
Consensus Committee	

Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-211-21 Performance Mechanical Ventilation
CDP ID #	38
Code	IECC CE
Code Section(s)	C407.4.1(1) table New Section n
Location	base
Proponent	Anurag Goel agoel@enverid.com
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	This CCP allows proposed ventilation to be modeled as designed and baseline ventilation to reflect IMC ventilation requirements.
Recommendation	Accept the attached revised proposal.
Vote	Accept – 15, Reject-0, Abstain-1
Recommendation Date	4/18/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ ✓ _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-213-21 Performance Ventilation
CDP ID #	554
Code	IECC CE
Code Section(s)	C407.4.1(1) table New Section n
Location	base
Proponent	Mike Moore mmoore@statorllc.com
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	This CCP has been incorporated into CEPI-211.
Recommendation	Reject this CCP.
Vote	Accept-0, Reject-15, Abstain-1
Recommendation Date	4/18/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ ✓ _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	

CEPI-211, as modified:

Building Component Characteristics	Standard Reference Design	Proposed Design
Mechanical ventilation	<p>Same as proposed.</p> <p><u>For Systems 5-11 the minimum outdoor airflow rate shall be determined in accordance with IMC Section 403.3 and Section 403.7 of this standard.</u></p> <p><u>For Systems 1-4 minimum outdoor airflow rate shall be determined in accordance with ASHRAE 62.1 Section 6.2.4.3 Simplified Procedure and Section 403.7 of this standard.</u></p> <p><u>Where natural ventilation is utilized in the proposed design, in accordance with IMC Section 402, the standard reference design shall be the same as proposed.</u></p>	As proposed, in accordance with Section C403.2.2.

CEPI-213, as submitted:

BUILDING COMPONENT CHARACTERISTICS	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Mechanical ventilation	<p><u>Type, natural or mechanical: Same same as proposed.</u></p> <p><u>Airflow: as proposed.</u></p> <p><u>Energy recovery: where the proposed design specifies mechanical ventilation, energy recovery ventilation shall be provided in accordance with Section C403.7.4.</u></p> <p><u>Fan power: where the proposed design specifies mechanical ventilation, fan power shall be determined in accordance with C403.8.3.</u></p>	As proposed, in accordance with Section C403.2.2.

Strawman 1 for combining CEPI-211 and CEPI-213:

Building Component Characteristics	Standard Reference Design	Proposed Design
Mechanical ventilation	<p>Same as proposed.</p> <p><u>Type, natural or mechanical: As proposed</u></p>	As proposed, in accordance with Section C403.2.2.
	<p><u>Airflow:</u></p> <p><u>Where the proposed design specifies mechanical ventilation:</u></p> <ol style="list-style-type: none"> 1. <u>For Systems 1-4 as specified in Tables C407.4.1(2) and C407.4.1(3), the outdoor airflow rate shall be determined in accordance with Section C403.7 and IMC Section 403.3.1.1.2.3.4 Equation 4-8, using a system ventilation efficiency (E_v) of 0.75.</u> 2. <u>For Systems 5-11 as specified in Tables C407.4.1(2) and C407.4.1(3), the outdoor airflow rate shall be determined in accordance with Section C403.7 and IMC Section 403.3.</u> <p><u>Where the proposed design specifies natural ventilation, as proposed.</u></p>	
	<p><u>Energy recovery:</u></p> <p><u>Where the proposed design specifies mechanical ventilation, as specified in Section C403.7.4 based on the standard reference design airflows.</u></p> <p><u>Where the proposed design specifies natural ventilation, as proposed.</u></p>	

<p><u>Fan Power</u></p>	<p><u>As specified in Section C403.8 for the proposed design.</u></p> <p><u>Exceptions:</u></p> <ol style="list-style-type: none"> 1. <u>Where the fan power of the proposed design is exempted from the requirements of Section C403.8, as proposed.</u> 2. <u><i>Fan systems addressed by C403.8.1: Fan system BHP</i> power shall be as proposed or to the limits specified in C403.8.1, whichever is smaller. If the limit is reached, the power of each fan shall be reduced proportionally until the limit is met.</u> 3. <u>Fan systems serving areas where the mechanical ventilation is provided in accordance with an engineered ventilation system design of Section 403.2 of the IMC shall not use the particulate filtration or air cleaner pressure drop adjustment available in Table C403.8(12) when calculating the fan system BHP limit for the portion of the airflow being treated to comply with the engineered ventilation system design.</u> 	<p><u>As proposed.</u></p>



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-216-21 Existing Building exception ASHRAE 100
CDP ID #	486
Code	IECC CE
Code Section(s)	C501.2 New Section n
Location	base
Proponent	Amy Boyce amy.boyce@imt.org
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	This CCP was withdrawn by the proponent.
Recommendation	Reject the proposal.
Vote	
Recommendation Date	4/18/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ ✓ _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-011-21 Part I Attic definition
CDP ID #	336
Code	IECC CE
Code Section(s)	C202 New Section n
Location	base
Proponent	Darren Meyers dmeyers@ieccode.com
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason Statement: Proposed definition of attic is inconsistent with both IBC and IRC definitions. Suggest definition from IBC be used and technical limitations on the 'dropped ceiling' circumstance be addressed in the body of the code.
Recommendation	Disapprove
Vote	Disapprove: 16 – 0 – 2 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-039-21 R Value Table Wall naming
CDP ID #	351
Code	IECC CE
Code Section(s)	C402.1.3 table New Section n
Location	base
Proponent	Jay Crandell jcrandell@aresconsulting.biz
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason Statement: Need to coordinate this with U-factor table. Also, for some, this table is used for the other category.
Recommendation	Disapprove
Vote	Disapprove: 9-8-1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-048-21 Airspaces
CDP ID #	194
Code	IECC CE
Code Section(s)	C402.2.7 New Section n
Location	base
Proponent	Amanda Hickman amanda@thehickmangroup.com
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason Statement: Clarifies what systems can use standard R-values.
Recommendation	Approve as modified. Filename: "cepi-48 modified - as voted.docx"
Vote	Approve as modified: 18-0-2 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	

Modification to CEPI 48

Changes shown relative to 2021 IECC, showing what final language would look like:

C402.2.7 Airspaces.

Where the R-value of an airspace is used for compliance in accordance with Section C402.1, the airspace shall be enclosed in an unventilated cavity bounded on all sides by building components and constructed to minimize airflow into and out of the enclosed airspace. Airflow shall be deemed minimized where one of the following conditions occur: ~~the enclosed airspace is located on the interior side of the continuous air barrier and is bounded on all sides by building components.~~

1. The enclosed airspace is unventilated.
2. The enclosed airspace is bounded on at least one side by an anchored masonry veneer, constructed in accordance with Chapter 14 of the IBC, and vented by veneer weep holes located only at the bottom of the airspace and spaced not less than 15 inches on center with the top of the cavity airspace closed.

Exception: For ventilated cavities, the effect of the ventilation ~~The thermal resistance~~ of airspaces located on the exterior side of the continuous air barrier and adjacent to and behind the exterior wall-covering material shall be determined in accordance with ASTM C1363 modified with an airflow entering the bottom and exiting the top of the airspace at an air movement rate of not less than 70 mm/second.

Changes relative to original proposal.

C402.2.7 Airspaces.

Where the R-value of an airspace is used for compliance in accordance with Section C402.1, the airspace shall be enclosed in a an unventilated cavity bounded on all sides by building components and constructed to minimize airflow into and out of the enclosed airspace. Airflow shall be deemed minimized where one of the following conditions occur:

1. The enclosed airspace is unventilated.
2. The enclosed airspace is bounded on at least one side by an anchored masonry veneer, constructed in accordance with Chapter 14 of the IBC, and vented by veneer weep holes located only at the bottom of the airspace and spaced not less than 15 inches on center with the top of the cavity airspace closed.

Exception: For ventilated cavities, the effect of the ventilation of airspaces located on the exterior side of the continuous air barrier and adjacent to and behind the exterior wall-covering material shall be determined in accordance with ASTM C1363 modified with an airflow entering the bottom and exiting the top of the airspace at an air movement rate of not less than 70 mm/second.



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-049-21 Airspaces
CDP ID #	173
Code	IECC CE
Code Section(s)	C402.2.7 New Section n
Location	base
Proponent	Martha Vangeem martha.vangeem@gmail.com
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason Statement: Disapproval based on prior action on CEPI-48.
Recommendation	Disapprove
Vote	Disapprove: 19-0-1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-044-21 Thermal Resistance of Spandrel Panels
CDP ID #	282
Code	IECC CE
Code Section(s)	C402.1.4.3 New Section y
Location	base
Proponent	Duncan Brown dbrown@buildings.nyc.gov
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason Statement: It provides reasonable guidance on how to assess the thermal performance of spandrel assemblies that is not previously available and can cause problems with consistency.
Recommendation	Approve as modified. Filename: "CEPI-44 final as voted.docx"
Vote	Approve as modified: 19-0-1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	

CEPI-44 as modified -- Changes in color shown relative to original proposal.

C402.1.4.3 Thermal Resistance of Spandrel Panels.

U-factors of opaque assemblies within fenestration framing systems shall be determined in accordance with [the default values in Table C402.1.4.3, ASTM C1363, or ANSI/NFRC 100.](#)

TABLE C402.1.4.3 EFFECTIVE U-FACTORS FOR SPANDREL PANELS^a

Rated R-value of Insulation within Panel Assembly		R-4	R-7	R-10	R-15	R-20	R-25	R-30
Frame Type	Spandrel Panel	Default U-factor						
Aluminum without Thermal Break^b	Single glass pane, stone, or metal panel	0.285	0.259	0.247	0.236	0.230	0.226	0.224
	Double glass glazing with no low-e coatings	0.273	0.254	0.244	0.234	0.229	0.226	0.223
	Triple glazing or double glazing with low-e glass	0.263	0.249	0.241	0.233	0.228	0.225	0.223
Aluminum with Thermal Break^c	Single glass pane, stone, or metal panel	0.243	0.212	0.197	0.184	0.176	0.172	0.169
	Double glass glazing with no low-e coatings	0.228	0.205	0.193	0.182	0.175	0.171	0.168
	Triple glazing or double glazing with low-e glass	0.217	0.199	0.189	0.180	0.174	0.170	0.167
Structural Glazing^d	Single glass pane, stone, or metal panel	0.217	0.180	0.161	0.145	0.136	0.130	0.126

	<u>Double glass glazing with no low-e coatings</u>	<u>0.199</u>	<u>0.172</u>	<u>0.157</u>	<u>0.143</u>	<u>0.135</u>	<u>0.129</u>	<u>0.126</u>
	<u>Triple glazing or double glazing with low-e glass</u>	<u>0.186</u>	<u>0.165</u>	<u>0.152</u>	<u>0.140</u>	<u>0.133</u>	<u>0.128</u>	<u>0.125</u>
<u>No framing or Insulation is Continuous^c</u>	<u>Single glass pane, stone, or metal panel</u>	<u>0.160</u>	<u>0.108</u>	<u>0.082</u>	<u>0.058</u>	<u>0.045</u>	<u>0.037</u>	<u>0.031</u>
	<u>Double glass glazing with no low-e coatings</u>	<u>0.147</u>	<u>0.102</u>	<u>0.078</u>	<u>0.056</u>	<u>0.044</u>	<u>0.036</u>	<u>0.030</u>
	<u>Triple glazing or double glazing with low-e glass</u>	<u>0.139</u>	<u>0.098</u>	<u>0.076</u>	<u>0.055</u>	<u>0.043</u>	<u>0.035</u>	<u>0.030</u>

- a. Opaque assembly U-factors based on designs tested in accordance with ASTM C1363 or NFRC 100 shall be permitted. Extrapolation outside of the table shall not be permitted. Assemblies with distance between framing less than 30", or not included in the default table, shall have a U-factor determined by testing in compliance with ASTM C1363 or modeling in compliance with ANSI/NFRC 100. Spandrel panel assemblies in the table do not include metal backpans. For designs with metal backpans, multiply the U-factor by 1.20.
- b. This frame type shall be used for systems that do not contain a nonmetallic element that separates the metal exposed to the exterior from the metal that is exposed to the interior condition.
- c. This frame type shall be used for systems where a urethane or other nonmetallic element separates the metal exposed to the exterior from the metal that is exposed to the interior condition.
- d. This frame type shall be used for systems that have no exposed mullion on the interior exterior.
- e. This frame type shall be used for systems where there is no framing or the insulation is continuous and uninterrupted between framing.



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CECPI-04-21 Thermal bridging
CDP ID #	
Code	IECC CE
Code Section(s)	C402.6
Location	base
Proponent	Envelope and Embodied Carbon Subcommittee
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reason statement: In addition to the detailed reason statement in the proposal, CECPI-4 addresses a significant thermal performance degradation which is currently ignored and impacts the energy performance of buildings.
Recommendation	Approve as modified. See PDF file "CECPI-4-21.pdf"
Vote	Approve as modified: 13 – 4 – 3 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-033-21 Thermal Bridging
CDP ID #	340
Code	IECC CE
Code Section(s)	C402.1, C402.6 , TABLE C407.2 New Section y
Location	base
Proponent	Jay Crandell jcrandell@aresconsulting.biz
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reasoning statement: Based on previous action on CECPI-4-21
Recommendation	Disapprove
Vote	Disapprove: 17 – 0 – 1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u>
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-040-21 Thermal Bridging Continuous Insulation
CDP ID #	414
Code	IECC CE
Code Section(s)	C402.1.3 table, TABLE C402.1.4, C402.X New Section n
Location	base
Proponent	Paula Zimin pzimin@swinter.com
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reasoning statement: Based on previous action on CECPI-4-21
Recommendation	Disapprove
Vote	Disapprove: 17 – 0 – 1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-045-21 Thermal Bridging
CDP ID #	360
Code	IECC CE
Code Section(s)	C402.1.4.3 (New), TABLE C407.4.1(1), ASHRAE Chapter 06 (New) New Section y
Location	base
Proponent	Helen Sanders helen.sanders@Technoform.com
Proposal Status	SC rev
Subcommittee	CE Envelope
Subcommittee Notes	Reasoning statement: Based on previous action on CECPI-4-21
Recommendation	Disapprove
Vote	Disapprove: 17 – 0 – 1 (CNV)
Recommendation Date	4/21/22
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-169-21 Lighting guest room controls
CDP ID #	497
Code	IECC CE
Code Section(s)	C405.2.5 New Section n
Location	base
Proponent	Michael Jouaneh mjouaneh@lutron.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Proposal will increase the energy savings from guest rooms
Recommendation	<p>AS MODIFIED</p> <p>C403.7.6 Automatic control of HVAC systems serving guestrooms. In Group R-1 buildings containing more than 50 guestrooms, each guestroom shall be provided with controls complying with the provisions of Sections C403.7.6.1 and C403.7.6.2. Card key controls comply with these requirements.</p> <p>C405.2.5 Specific application 2. <i>Sleeping units</i> shall have control devices or systems that are configured to automatically switch off all permanently-installed luminaires and switched receptacles within 20 minutes after all occupants have left the unit. Hotels/motels with fewer than 50 guestrooms shall be permitted to use manual captive card key controls to comply.</p> <p>Exceptions:</p> <ul style="list-style-type: none"> • <u>Lighting and switched receptacles controlled by card key controls in buildings containing fewer than 50 sleeping units.</u> • Spaces where patient care is directly provided.
Vote	7 - 3 - 4
Recommendation Date	March 15, 2022
Next Step	To Subcommittee _____ MECHANICAL _____ To Advisory Group _____ To Consensus Committee _____
Consensus Committee	

Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-177-21 total connected lighting power
CDP ID #	90
Code	IECC CE
Code Section(s)	C405.3.1, C405.5.1 New Section y
Location	base
Proponent	Glenn Heinmiller glenn@lampartners.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Aligns language with 90.1 and adds new language consistent with the International Building Code.
Recommendation	AS MODIFIED C405.5.1 ... Exception: Lighting used for the following applications shall not be included. <u>15. Lighting of the exterior means of egress as required by the International Building Code.</u>
Vote	17 - 0 - 1
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <input checked="" type="checkbox"/> _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-138-21 Energy Monitoring
CDP ID #	176
Code	IECC CE
Code Section(s)	C405.12 New Section n
Location	base
Proponent	Kim Cheslak kim@newbuildings.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Based on the reason statement provided by the proponent, it improves the use of energy for buildings with a smaller overall size.
Recommendation	AS MODIFIED <u>COMMON AREA.</u> All portions of Group R occupancies that are not dwelling units or sleeping units.
Vote	10 - 9 - 0
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u>
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-139-21 Energy Monitoring
CDP ID #	112
Code	IECC CE
Code Section(s)	C405.12 New Section N
Location	base
Proponent	Steven Rosenstock srosenstock@eei.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Based on action taken on CEPI-138 and the proposed values are a rollback of stringency of current values.
Recommendation	DISAPPROVE
Vote	11-8-1
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-141-21 Energy Monitoring plug loads
CDP ID #	110
Code	IECC CE
Code Section(s)	C405.12.2, TABLE C405.12.2 New Section n
Location	base
Proponent	Steven Rosenstock srosenstock@eei.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: This proposal would create a rollback in terms of stringency and ignores significant energy use of plug loads.
Recommendation	DISAPPROVE
Vote	10 - 8 - 1
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-140-21 EV Energy Monitoring
CDP ID #	275
Code	IECC CE
Code Section(s)	C405.12.2 New Section y
Location	base
Proponent	Sean Denniston sean@newbuildings.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Definition as no longer needed and electrical vehicle charging monitoring is needed separate from other monitored loads.
Recommendation	<p>AS MODIFIED</p> <p>C202 ELECTRIC VEHICLE (EV). An automotive type vehicle for on road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current. Plug-in hybrid electric vehicles are electric vehicles having a second source of motive power. Off road, self-propelled electric mobile equipment, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats and the like, are not considered electric vehicles.</p>
Vote	15-3-1
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <u> X </u>
Consensus Committee	
Committee Response	

Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-010-21 AC output UPS system
CDP ID #	66
Code	IECC CE
Code Section(s)	C201, C405.13 New Section y
Location	base
Proponent	Nicholas O'Neil noneil@energy350.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: Proposal creates an above code stringency about requirements for UPS in data centers or other undefined occupancies as well as concerns with the definitions. More research is necessary related to DOE pre-emption.
Recommendation	DISAPPROVE
Vote	11 - 5 - 3
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee <input checked="" type="checkbox"/> _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	



International Energy Conservation Code Code Change Proposal Tracking Sheet

Proposal #	CEPI-168-21 Display lighting
CDP ID #	84
Code	IECC CE
Code Section(s)	C405.2.5 New Section n
Location	base
Proponent	Glenn Heinmiller glenn@lampartners.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	Reason: This proposal simplifies and clarifies requirements by eliminating redundancy.
Recommendation	AS MODIFIED C405.2.5 Specific application controls. 1.2 Display and accent lighting, including lighting in display cases.
Vote	16 - 0 - 1
Recommendation Date	April 25, 2022
Next Step	To Subcommittee _____ To Advisory Group _____ To Consensus Committee _____ X _____
Consensus Committee	
Committee Response	
Vote	Affirmative _____ Negative _____ Table _____ To Subcommittee _____
Date	

