International Energy Conservation Code
Consensus Committee-Commercial

Meeting Agenda (9/5/23 posting)

September 6, 2023
2 PM Eastern to 5 PM Eastern (3 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.
   d. ICC Antitrust Compliance Guideline

3. Roll Call – Hoffman

4. Approval of Agenda

5. Approval of Minutes from August 23, 2023

6. Administrative issues.-

7. Action Items.

CE2D-29-23(Move plan for disclosure to C401)	Admin as modified 9-0-1/EPLR approve 13-1-2
CE2D-33-23(Submetering)	Modeling as modified 10-1-2/EPLR as modified 11-3-1
CEC2D-5-23(Non-electrical energy monitoring)	Electrical as modified 11-2-5,
CE2D-30-23(Energy monitoring)	Electrical approve 9-3-2
CE2D-31-23(End-use metering categories)	Electrical disapprove 12-3-0
CE2D-61-23(C406 H01 TSPRsav formula)	Modeling as modified 14-0-2
CE2D-57-23(Buildings without heat pump edits)	Modeling as modified 15-0-1
CE2D-52-23(Remove C406.1.1.1 buildings without heat pumps)	Modeling disapprove 8-1-6
CE2D-54-23(Bldg/Additions not served by heat pumps)	Modeling disapprove 8-1-6
CE2D-51-23(Modification to carryover surplus load mngmt)	Modeling disapprove 2-4-8
CE2D-55-23(Remove C406.1.1.1)	Modeling disapprove 7-3-3
CEC2D-1-23(Demand responsive controls)	HVACR as modified 8-0-2
CEC2D-6-23(Deadband)	HVACR approve 8-0-1
CE2D-62-23(W03 Efficient fossil fuel water heating)	HVACR disapprove 9-0-1

CE2D-77-23(AHRI 1430 ref standard)	HVACR as modified 9-0-1
CE2D-16-23(Remove requirements prior to 1/1/23)	HVACR as modified 8-1-1
CE2D-75-23(Electrification appendix comment)	HVACR as modified 8-1-1
CE2D-70-23(SEHPCAC interior lighting controls)	Electrical approve 6-5-1
CE2D-71-23(SEHPCAC exterior lighting)	Electrical approve 12-0-0
CE2D-63-23(Remove master switch)	Electrical disapprove 8-4-1
CE2D-64-23(L05 Residential light control)	Electrical as modified 10-2-1
CE2D-79-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-80-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-81-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-82-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-84-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-85-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-86-23(Remove Appendix CG)	Electrical disapprove 13-0-2
CE2D-87-23(Remove Appendix CH)	Electrical disapprove 12-0-2
CE2D-88-23(Remove Appendix CH)	Electrical disapprove 12-0-2
CE2D-89-23(Remove Appendix CH)	Electrical disapprove 12-0-2
CE2D-91-23(Remove Appendix CH)	Electrical disapprove 12-0-2
CE2D-93-23(Remove Appendix CH)	Electrical disapprove 12-0-2
CE2D-94-23(Remove Appendix CH)	Electrical disapprove 12-0-2

8. Subcommittee Reports

9. Other business.

10. Next meeting September 13, 2 pm Eastern

11. 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/

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

Kristopher Stenger, AIA, Director of Energy Programs
International Code Council
kstenger@iccsafe.org

Join by meeting number

Meeting number (access code): 2599 815 0421

Meeting password: 3eKk3uWWdi3

Tap to join from a mobile device (attendees only)

1-844-740-1264,,25998150421## USA Toll Free

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International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-29-23 C405.13.8 Plan for disclosure
CDP ID #	1650
Code	IECC CE
Code Section(s)	C405.13.8
Location	SC rev
Proponent	Bryan Holland Bryan.Holland@nema.org
Proposal Status	SC rev
Subcommittee	CE Admin
Subcommittee Notes	
Recommendation	**C405.13 Energy monitoring.** New buildings with a gross conditioned floor area of Page 172 of 305 not less than 10,000 square feet (929 m2) shall be equipped to measure, monitor, record and report energy consumption data in compliance with Sections C405.13.1 through C405.13.5. ~~A plan for quantifying annual energy type and end-use disclosure in compliance with Sections C405.13.1 through C405.13.8 shall be submitted with the construction documents .~~ Delete section in its entirety: ~~C405.13.8 Plan for disclosure~~ **C105.6.2 Compliance documentation.** 1. The envelope insulation compliance path. 2. All compliance calculations including those required by Sections C402.1.4, C403.8.1, C405.3 and C405.5. 3. A plan for annual energy use data gathering and disclosure as specified in Section C405.13. Reason Statement: A plan for quantifying annual energy type and end-use disclosure requirement is best located in Chapter 1 versus C405.13.
Vote	Approved as Modified: 9-0-1
Recommendation Date	8/1/23
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 #	CE2D-29-23 C405.13.8 Plan for disclosure
CDP ID #	1650
Code	IECC CE
Code Section(s)	C405.13.8
Location	SC rev
Proponent	Bryan Holland Bryan.Holland@nema.org
Proposal Status	SC rev
Subcommittee	CE EPLR
Subcommittee Notes	
Recommendation	This proposal relocates the plan for disclosure to C105 as this rule applies to construction document submittal and not an installation or operational requirement belonging in C403.18 and C405.13
Vote	Approve 13-1-2
Recommendation Date	8/21/23
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 #	CE2D-33-23 Sub-metering
CDP ID #	1759
Code	IECC CE
Code Section(s)	C405.13.2
Location	SC rev
Proponent	Renee Lani rlani@apga.org
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	
Recommendation	this proposal would add the word “electrical” to the title of Section C405.13.3 and the associated table.
Vote	As modified 10-1-2
Recommendation Date	7/24/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

C405.13.3 Electrical Meters.

Meters or other measurement devices required by this section shall be configured to automatically communicate energy consumption data to the data acquisition system required by Section C405.13.4. Source meters shall be allowed to be any digital-type meter. Lighting, HVAC or other *building* systems that can self-monitor their energy consumption shall be permitted instead of meters. Current sensors shall be permitted, provided that they have a tested accuracy of ±2 percent. Required metering systems and equipment shall have the capability to provide at least hourly data that is fully integrated into the data acquisition system and graphical energy report in accordance with Sections C405.13.4 and C405.13.5.Non-intrusive load monitoring (NILM) packages that extract energy consumption data from detailed electric waveform analysis shall be permitted to substitute for individual meters if the equivalent data is available for collection in Section C405.13.4 and reporting in Section C405.13.5.

C405.13.6 Non-electrical energy ~~metering~~.

Consumption of non-electrical fuel or energy sources including district heating or cooling shall be automatically metered ~~in accordance with Section C405.13.2 and C405.13.3.~~ or a method developed for usage calculation annually or more frequently from energy bills. Natural gas usage shall be monitored through on site interval metering or from utility interval data, as available.

Reason Statement:

APGA appreciates the opportunity to provide IECC-C Committee this input. APGA is the national trade association for approximately 1,000 communities across the U.S. that own and operate their own retail natural gas distribution entities. They include municipal gas distribution systems, public utility districts, county districts, and other public agencies, all locally accountable to the citizens they serve. Public gas systems focus on providing safe, reliable, resilient, and affordable natural gas service to their customers. APGA members

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-33-23 Sub-metering
CDP ID #	1759
Code	IECC CE
Code Section(s)	C405.13.2
Location	SC rev
Proponent	Renee Lani rlani@apga.org
Proposal Status	SC rev
Subcommittee	CE EPLR
Subcommittee Notes	
Recommendation	This provides important editorial updates to the requirements in this section.
Vote	As modified 11-3-1
Recommendation Date	8/25/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CE2D-33 AM by PLR 8-25-23

This proposal replaces CE2D-33 from the monograph with the following language. The proposal modifies CEC2D-5. The modifications are shown in YELLOW highlight or RED text.

2024 International Energy Code[CE Project] R3

Add new text as follows:

C403.18 Non-electrical energy monitoring.

New buildings with a gross *conditioned floor area* of not less than 10,000 square feet (929 m^2) shall be equipped to measure, monitor, record and report consumption of non-electrical fuel or energy sources including district heating or cooling shall be submetered in accordance with Sections C403.18.1 through C403.18.5. ~~A plan for quantifying annual energy type and end-use disclosure in compliance with Sections C403.18.1 through C403.18.6 shall be submitted with the *construction documents*~~.

Exceptions:

1.	*Dwelling units* in R-2 occupancies
2.	Individual tenant spaces are not required to comply with this section provided that the space has its own utility services and meters and has less than 5,000 square feet (464.5 m^2) of *conditioned floor area*.

C403.18.1 Non-electrical energy submetering.

For all non-electrical energy supplied to the *building* and its associated site that serves the *building* and its occupants, submeters or other measurement devices shall be provided to collect energy consumption data for each end-use category required by Section C403.18.2.

C403.18.2 End-use non-electrical submetering categories.

Submeters or other *approved* measurement devices shall be provided to collect energy use data for each end-use category indicated in Table C403.18.2. Where multiple submeters are used to measure any end-use category, the data acquisition system shall total all of the energy used by that category. Not more than 5 percent of the measured load for each of the end-use categories indicated in Table C403.18.2 shall be permitted to be from a load that is not within that category.

Exceptions:

1.	HVAC and water heating equipment serving only an individual *dwelling unit* shall not require end-use submetering.
2.	End-use submetering shall not be required for fire pumps, stairwell pressurization fans or any system that operates only during testing or emergency.
3.	End-use submetering shall not be required for an individual tenant space having a floor area not greater than 2,500 square feet (232 m^2) where a dedicated source meter complying with Section C403.18.3is provided.

TABLE C403.18.2 NON-ELECTRICAL ENERGY USE CATEGORIES

Load Category	~~Descripton~~

	Description of End Use
Total HVAC system	**Heating, cooling and ventilation, including but not limited to fans, pumps, boilers, chillers and water heating.**

Process Load	Any single load that is not included in an HVAC, lighting or plug load category and that exceeds 5 percent of the peak connected load of the whole building, including but not limited to manufacturing equipment and commercial kitchens.
Building operations and other miscellaneous loads	The remaining loads not included elsewhere in this table, including but not limited to vertical transportation systems, automatic doors, motorized shading systems, ornamental fountains, ornamental fireplaces, swimming pools, inground spas and snow-melt systems.
Non-electric hot water heating for uses other than space conditioning	Energy used to generate hot water. Exception: Water heating with design capacity that is less than 10 percent of building service rating.

C403.18.3 Non-electrical submeters.

Submeters or other measurement devices required by this section shall be configured to automatically communicate energy consumption data to the data acquisition system required by Section C403.18.4. Source submeters shall be allowed to be any ~~digital-type meter that can provide a digital output to the data acquisition system~~. Required submetering systems and equipment shall ~~have the capability to provide at least hourly data that is~~ be fully integrated into the data acquisition system and graphical energy report that updates at least hourly in accordance with Sections C403.18.4 and C403.18.5.

C403.18.4 Non-electrical energy data acquisition system.

A data acquisition system shall have the capability to store the data from the required submeters and other sensing devices for a minimum of 36 months. The data acquisition system shall have the capability to store real-time energy consumption data and provide hourly, daily, monthly and yearly logged data for each end-use category required by Section C403.18.2. The data acquisition system shall have the capability of providing *building* total peak demand and the time(s) of day and time(s) per month at which the peak occurs. Peak demand shall be integrated over the same time period as the underlying whole *building* submeter reading rate.

C403.18.5 Graphical energy report.

A permanent and readily accessible reporting mechanism shall be provided in the *building* that is accessible by *building* operation and management personnel. The reporting mechanism shall have the capability to graphically provide the non-electrical energy consumption for each end-use category required by Section C403.18.2not less than every hour, day, month and year for the previous 36 months. The graphical report shall incorporate natural gas interval data from the submeter or the ability to enter gas utility bills into the report.

~~C403.18.6 Plan for disclosure.~~

~~The plan for annual energy use data gathering and disclosure shall include the following:~~

~~1.~~	~~Property information including:~~ ~~1.1. Address~~ ~~1.2. Gross floor area~~ ~~1.3. Year occupied~~ ~~1.4. Occupancy classifications, with respective floor areas~~
~~2.~~	~~Total annual *building site* energy use by unit area as collected or documented through Section C408.18.5 sources, separated by energy type and fuel type.~~
~~3.~~	~~Annual site-generated renewable energy by unit area.~~

CE2D-33

- Would have affected non-electrical loads and submetering.
- Revised based on knowledgeable gas metering changes.
- Discussion of meter versus sub-meter
- Motion to approve as modified / shown on the screen.
    - 1st – Steve Rosenstock
    - 2nd – Bryan Holland
    - Vote: 11 – 3 – 1 – 1
    - Reason: This provides important editorial updates to the requirements in this section.
- Affects #34 and chair requests removal of 34

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CEC2D-5-23 Non-electrical energy monitoring
CDP ID #	1654
Code	IECC CE
Code Section(s)	C403.18
Location	SC rev
Proponent	Bryan Holland bryan.holland@nema.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The requirements to monitor non-electrical energy should not be located in C405 that covers "power and lighting." Relocating these rules to their own section in C403 will add clarity and enforceability.
Vote	As modified 11-2-5
Recommendation Date	8/21/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

C403.18 Non-electrical energy monitoring. (1654)

IECC CE: C403.18 (New), C403.18.1 (New), C403.18.2 (New), TABLE C403.18.2 (New), C403.18.3 (New), C403.18.4 (New), C403.18.5 (New), C403.18.6 (New)

Proponents:

Bryan Holland, representing National Electrical Manufacturers Association (NEMA) (bryan.holland@nema.org)

2024 International Energy Code[CE Project] R3

Add new text as follows:

C403.18 Non-electrical energy monitoring.

New buildings with a gross *conditioned floor area* of not less than 10,000 square feet (929 m^2) shall be equipped to measure, monitor, record and report consumption of non-electrical fuel or energy sources including district heating or cooling shall be metered in accordance with **Sections C403.18.1** through **C403.18.5**. ~~A plan for quantifying annual energy type and end-use disclosure in compliance with Sections C403.18.1 through C403.18.6 shall be submitted with the *construction documents*.~~

Exceptions:

1. *Dwelling units* in R-2 occupancies

2. Individual tenant spaces are not required to comply with this section provided that the space has its own utility services and meters and has less than 5,000 square feet (464.5 m^2) of *conditioned floor area*.

C403.18.1 Non-electrical energy metering.

For all non-electrical energy supplied to the *building* and its associated site that serves the *building* and its occupants, meters or other measurement devices shall be provided to collect energy consumption data for each end-use category required by **Section C403.18.2**.

C403.18.2 End-use non-electrical metering categories.

Meters or other *approved* measurement devices shall be provided to collect energy use data for each end-use category indicated in **Table C403.18.2**. Where multiple meters are used to measure any end-use category, the data acquisition system shall total all of the energy used by that category. Not more than 5 percent of the measured load for each of the end-use categories indicated in **Table C403.18.2** shall be permitted to be from a load that is not within that category.

Exceptions:

1. HVAC and water heating equipment serving only an individual *dwelling unit* shall not require end-use metering.

2. End-use metering shall not be required for fire pumps, stairwell pressurization fans or any system that operates only during testing or emergency.

3. End-use metering shall not be required for an individual tenant space having a floor area not greater than 2,500 square feet (232 m^2) where a dedicated source meter complying with **Section C403.18.3** is provided.

TABLE C403.18.2 NON-ELECTRICAL ENERGY USE CATEGORIES

Load Category	Descripton of End Use
Total HVAC system	Heating, cooling and ventilation, including but not limited to fans, pumps, boilers, chillers and water heating.

Process Load	Any single load that is not included in an HVAC, lighting or plug load category and that exceeds 5 percent of the peak connected load of the whole building, including but not limited to manufacturing equipment and commercial kitchens.
Building operations and other miscellaneous loads	The remaining loads not included elsewhere in this table, including but not limited to vertical transportation systems, automatic doors, motorized shading systems, ornamental fountains, ornamental fireplaces, swimming pools, inground spas and snow-melt systems.
Non-electric hot water heating for uses other than space conditioning	Energy used to generate hot water. **Exception**: Water heating with design capacity that is less than 10 percent of building service rating.

C403.18.3 Non-electrical meters.

Meters or other measurement devices required by this section shall be configured to automatically communicate energy consumption data to the data acquisition system required by **Section C403.18.4**. Source meters shall be allowed to be any digital-type meter. Required metering systems and equipment shall have the capability to provide at least hourly data that is fully integrated into the data acquisition system and graphical energy report in accordance with **Sections C403.18.4** and **C403.18.5**.

C403.18.4 ~~Electrical~~ energy data acquisition system.

A data acquisition system shall have the capability to store the data from the required meters and other sensing devices for a minimum of 36 months. The data acquisition system shall have the capability to store real-time energy consumption data and provide hourly, daily, monthly and yearly logged data for each end-use category required by Section **C403.18.2**. The data acquisition system shall have the capability of providing *building* total peak demand and the time(s) of day and time(s) per month at which the peak occurs. Peak demand shall be integrated over the same time period as the underlying whole *building* meter reading rate.

C403.18.5 Graphical energy report.

A permanent and readily accessible reporting mechanism shall be provided in the *building* that is accessible by *building* operation and management personnel. The reporting mechanism shall have the capability to graphically provide the non-electrical energy consumption for each end-use category required by **Section C403.18.2** not less than every hour, day, month and year for the previous 36 months. The graphical report shall incorporate natural gas interval data or the ability to enter gas utility bills into the report.

~~C403.18.6 Plan for disclosure.~~

~~The plan for annual energy use data gathering and disclosure shall include the following:~~

~~1. Property information including:~~

~~1.1 Address~~

~~1.2 Gross floor area~~

~~1.3 Year occupied~~

~~1.4 Occupancy classifications, with respective floor areas~~

~~2. Total annual *building site* energy use by unit area as collected or documented through Section C408.18.5 sources, separated by energy type and fuel type.~~

~~3. Annual site generated renewable energy by unit area.~~

~~Reason:~~

It is confusing and illogical to include non-electrical monitoring requirements embedded in the electrical monitoring requirements in the

Electrical Power and Lighting Systems section. Including non-electrical metering requirements with the electrical requirements will make it difficult for the design, specification, construction, and AHJ professionals to use the code because they practice in different Master Specification divisions than the electrical professionals. The professionals practicing in the non-electrical division will not find the non-electrical monitoring requirements if they are placed in the Electrical Power and Lighting Systems section of the code. Therefore, the non-electrical monitoring requirements must be moved to another section.

Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This is an editorial change.

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-30-23 Energy monitoring
CDP ID #	1653
Code	IECC CE
Code Section(s)	C405.13.2
Location	SC rev
Proponent	Bryan Holland bryan.holland@nema.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The requirements to monitor non-electrical energy should not be located in C405 that covers "power and lighting." Relocating these rules to their own section in C403 will add clarity and enforceability.
Vote	Approve 15-0-2
Recommendation Date	8/21/23
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 #	CE2D-31-23 End-use metering categories
CDP ID #	1596
Code	IECC CE
Code Section(s)	C405.13.2
Location	SC rev
Proponent	Steven Rosenstock srosenstock@eei.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	Meters are needed to disaggregate the energy used to charge vehicles from the energy used by the building.
Vote	Disapprove 12-3-0
Recommendation Date	8/7/23
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 #	CE2D-61-23 C406 HO1 TSPRsav formula
CDP ID #	1666
Code	IECC CE
Code Section(s)	C406.2
Location	SC rev
Proponent	Michael Tillou michael.tillou@pnnl.gov
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	
Recommendation	Change the TSPRa to AREAtspr. Not substantive. Simple change in two places. Does not affect the stringency.
Vote	As modified 15-0-1
Recommendation Date	8/28/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

Proposal 1666 changes vs. amendments to draft 1. CDPaccess removed strikeout/underline notation when the proposal was re-edited, so here us a legal markup relative to the current posting for public review. The yellow highlighted text are the additional modifications suggested by the Modeling SC.

C406.2 . . .

Energy credits achieved for the project shall be the sum of the individual measure's energy credits. Credits are available for the measures listed in this Section. Where a project contains multiple building occupancy groups:

1. Credits achieved for each occupancy group shall be summed and then weighted by the conditioned floor area of each occupancy group to determine the weighted average project energy credits achieved.
2. Improved envelope efficiency (E01 through E06), HVAC Performance (H01), and lighting reduction (L06) measure credits shall be determined for the building or permitted conditioned floor area as a whole. Credits for other measures shall be determined for each occupancy separately. Credits shall be taken from applicable tables or calculations for each occupancy and weighted by the building occupancy group floor area.

C406.2.2.1 H01 HVAC Performance (TSPR).

H01 energy credits shall be earned where systems are permitted to use Section C409 and where the savings (TSPRs) based on the proposed TSPR (TSPRp) compared to the target ~~exceeds the minimum~~ TSPR (TSPRt) ~~requirement~~ is 5 percent or more. If ~~improvement~~ savings is greater than 5 percent, determine H01 earned credits using Equation 4-14. Energy credits for H01 shall not be combined with energy credits from HVAC measures H02, H03 or H05.

~~H01 energy credit = H01 base energy credit x TSPRs / 0.05~~

ECTSPR = ECBASE x ~~TSPRa~~AREA$_{TSPR}$ x TSPRs / 0.05
(Equation 4-14)

where:
ECTSPR = Energy credits achieved for H01
ECBASE = H01 base energy credits from Tables C406.2(1) through C406.2(9)

TSPRs ~~x~~ = ~~TSPRa x [~~the lessor of 0.20 and (1 - (TSPRt ~~p~~ / TSPRp ~~t~~))~~]~~
~~where:~~
~~TSPRa~~AREA$_{TSPR}$ = [floor area served by systems ~~permitted to use~~ included in TSPR] / [total building conditioned floor area]
TSPRp = HVAC TSPR of the proposed design calculated in accordance with Sections C409.4, C409.5 and C409.6.
TSPRt = TSPRr / MPF

~~where:~~
TSPRr = HVAC TSPR of the reference building design calculated in accordance with Sections C409.4, C409.5 and C409.6.
MPF = Mechanical Performance Factor from Table C409.4 based on climate zone and building use type.

Where a building has multiple building use types, MPF shall be area weighted in accordance with Section C409.4

Reason:
Review and testing of the formula for TSPRs found three issues that this proposal corrects:
1. The subscript TSPRx is incorrect and changed to TSPRs for TSPRsavings
2. TSPRp and TSPRt were reversed in the formula for TSPRs resulting in a negative result and a fraction representing improvement in TSPR rather than the savings indicated by the improvement in TSPR. The corrected core formula for TSPRsavings is: 1 - (TSPRt / TSPRp).

As an example, for a typical improvement case, the current TSPRs formula would return -12.6% savings when the TSPR improvement was 12.6%, and the actual savings in site energy use was 11.2%. The corrected formula returns 11.2%.
3. The adjustment for building area included in the TSPR calculation (TSPRa) was moved to the main formula so that TSPRs can be properly referenced to be in the range of 0.05 to 0.20 for setting measure eligibility limits.
Two symbols were added for the base and earned energy credits to match the format of other measure adjustment formulas. In addition, charging language was clarified to indicate the minimum 5% is a savings from TSPR improvement rather than the TSPR improvement itself. Also, the mixed-use section was modified to include measure H01 with those measures that are calculated for the project as a whole.

NOTE that CDPaccess did not retain strikeout and underline in these corrections, so a file is attached that shows all changes from the second round IECC posting.

There was a question during the SC call asking about the correction to TSPR savings formula (correction #2 above). Here is a more detailed explanation of why the correction is needed.

The base credits for using TSPR are based on achieving a minimum 5% improvement over the target HVAC systems. Additional credits can be earned for additional TSPR savings up to 20%. Remember that the TSPR metric increases as an HVAC system gets more efficient. Let's take an example where the target system has a TSPR value of say 95. In order to qualify for this credit a proposed HVAC system would have to have a TSPR of 100, a 5% improvement. Let's use these two numbers in the corrected formula above for TSPR savings.

The corrected formula is 1- (TSPR target / TSPR proposed) = 1 – (95/100) = 0.05 or 5%

The incorrect formula was 1-(TSPR proposed/TSPR target) = 1 – (100/95) = -0.052 as you can see this results in a negative number which would not work in Equation 4-14.

International Energy Conservation Code

Code Change Proposal Tracking Sheet

Proposal #	CE2D-57-23 Buildings without heat pumps edit
CDP ID #	1892
Code	IECC CE
Code Section(s)	C406.1.1.1
Location	SC rev
Proponent	Richard Lord richard.lord@carrier.com
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	
Recommendation	Add a new exception to C406.1.1.1 as follows: 5. Buildings located in climate zones 0A, 0B, 1A, 1B, 2A and 2B ~~and 2C that are dominated by cooling operation.~~ Reason Statement: Additional heat pump credits in warm climate zones. Heat pump cooling eff are lower than AC eff. Detailed slide presentation. Requiring HPs in warm climates increases energy.
Vote	As modified 15-0-1
Recommendation Date	8/28/23
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 #	CE2D-52-23 Bldg/Additions not served by heat pumps
CDP ID #	
Code	IECC CE
Code Section(s)	C406.1.1.1
Location	SC rev
Proponent	Emily Lorenz emilyblorenz@gmail.com
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	The proponent did not provide sufficient support for striking provisions to partially address differences in energy usage between heat pump and non-heat pump buildings, nor were specific changes proposed to address specific concerns.
Recommendation	Disapprove
Vote	Approve – 1, Disapprove – 8, Abstain – 6
Recommendation Date	8/7/23
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 #	CE2D-54-23 Bldg/Additions not served by heat pumps
CDP ID #	1643
Code	IECC CE
Code Section(s)	C406.1.1.1
Location	SC rev
Proponent	Laura Petrillo-Groh lpetrillo-groh@ahrinet.org
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	The proponent did not provide sufficient support for striking provisions to partially address differences in energy usage between heat pump and non-heat pump buildings, nor were specific changes proposed to address specific concerns.
Recommendation	Disapprove
Vote	Approve – 1, Disapprove – 8, Abstain – 6
Recommendation Date	8/7/23
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 #	CE2D-51-23 Modification to carryover surplus load management
CDP ID #	1726
Code	IECC CE
Code Section(s)	C406.1.1(2) Table
Location	SC rev
Proponent	Laura Petrillo-Groh lpetrillo-groh@ahrinet.org
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	
Recommendation	Reason Statement: With extensive well-documented benefits of energy efficiency, the amount of energy efficiency credits allowed to be traded off to renewable energy and load management credits is limited to the specific amounts determined through the committee's consensus view of the supporting analysis provided by PNNL.
Vote	Disapprove 4-2-8
Recommendation Date	8/28/23
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 #	CE2D-55-23 Remove C406.1.1.1
CDP ID #	1762
Code	IECC CE
Code Section(s)	C406.1.1.1
Location	SC rev
Proponent	Kevin Duell kevin.duell@nwnatural.com
Proposal Status	SC rev
Subcommittee	CE Model, Metrics
Subcommittee Notes	The proponent did not provide sufficient support for the changes proposed, and the extent of changes intended by the proponent were unclear.
Recommendation	Disapprove
Vote	Approve – 3, Disapprove – 7, Abstain – 3
Recommendation Date	8/7/23
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 #	CEC2D-1-23 Demand responsive controls
CDP ID #	1888
Code	IECC CE
Code Section(s)	C403.4.6.2
Location	SC rev
Proponent	Richard Lord richard.lord@carrier.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	• Discussion around adding allowance for thermal or battery storage to serve as an exception • Discussion that the language and requirement to meet this energy storage exception likely asks for more in terms of peak load reduction that what you'd have to do to meet the base DR (setback) requirement.
Recommendation	Approve Reason: Encourages the use of thermal energy storage by providing an additional technology option for reducing demand.
Vote	As modified 8-0-2
Recommendation Date	8/17/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee _X_____
Consensus Committee	
Committee Response	

Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CEC2D-1-23

IECC CE: C403.4.6

Proponents:

Richard Lord, representing Carrier Corporation (richard.lord@carrier.com)

2024 International Energy Code[CE Project] R3

Revise as follows:

C403.4.6 Demand responsive controls.

Also add the requirements to C403.4.1.1 for thermostat dead band and setpoints. Electric heating and cooling systems shall be provided with demand responsive controls capable of executing the following actions in response to a *demand response signal*:

1.	**Automatically increasing the *zone* operating cooling set point by the following values: 1°F (0.5°C), 2°F (1°C), 3°F (1.5°C), and 4°F (2°C).**
2.	**Automatically decreasing the *zone* operating heating set point by the following values: 1°F (0.5°C), 2°F (1°C), 3°F (1.5°C), and 4°F (2°C).**

Where a *demand response signal* is not available the heating and cooling system controls shall be capable of performing all other functions. Where thermostats are controlled by direct digital control including, but not limited to, an energy management system, the system shall be capable of *demand responsive control* and capable of adjusting all thermal set-points to comply. The demand responsive controls shall comply with either Section C403.4.6.1 or Section C403.4.6.2

Exceptions:

1.	**Group I occupancies**
2.	**Group H occupancies**
3.	**Controls serving *data center* systems**

4.	**Occupancies or applications requiring precision in indoor temperature control as *approved* by the *code official***
5.	**Buildings that comply with Load Management measure G02 in Section C406.3.3**
6.	**Buildings ~~that have~~ with energy storage ~~that has~~with the capacity ~~to allow~~ for not less than a 25 percent~~%~~ load reduction at peak load for a period of not less than 3 ~~hou~~rs**

Reason:

The requirements to thru demand limiting will result in a setup of cooling to a higher temperature to turn on heat and the setback for heating operation could turn on cooling for building thermostats that have a single setpoint which we have found is commonly used in Hotels and some commercial buildings. The proposed text is pulled from a new ASHRAE 90.1 addendum

Also with electrification buildings may have cooling and heating thermal storage which could be used for demand limiting without resulting in comfort problems. We have proposed adding an exception for buildings with thermal storage.

Bibliography:

This change has been proposed for ASHRAE 90.1 and has been thru public review.

Cost Impact:

The code change proposal will increase the cost of construction.

The Capability Exists in Most Thermostats and Control Systems. Most modern controllers already have dual set points since the dead band capability has been a requirement of Standard 90.1 since 1989. And many already have displays that meet the new requirements. Direct digital control systems generally have configurable displays that can be readily modified to meet the proposed requirements. So the primary first cost impact will be to modify the displays of non-DDC (firmware) thermostats, but these are low-cost thermostats to begin with and also the thermostats that this addendum is targeting. The energy savings will more than cover the small first cost in just a few years of demand control.

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CEC2D-6-23 deadband
CDP ID #	1888
Code	IECC CE
Code Section(s)	C403.4.6.2
Location	SC rev
Proponent	Richard Lord richard.lord@carrier.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	• Discussion of changes needed to address application to thermostats in many hotels and other commercial spaces • Changes proposed will align with ASHRAE 90.1-2025
Recommendation	Approve Reason:
Vote	Approve 8-0-1
Recommendation Date	8/24/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee _X_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CEC2D-6-23

IECC CE: C403.4.1.2 (New), C403.4.1.3 (New), C403.4.1.4 (New)

Proponents:

Blake Shelide, representing IECC CE HVACR & Water Heating Subcommittee (iecccehvacr@iccsafe.org)

2024 International Energy Code[CE Project] R3

Revise as follows:

C403.4.1.2 Deadband.

Where used to control both heating and cooling, zone thermostatic controls shall: ~~be configured to provide a temperature range or deadband of not less than 5°F (2.8°C) within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.~~

1. Have separate set points for heating and cooling, each individually adjustable,
2. Be capable of and initially configured to provide a temperature range or dead band between the two set points of not less than 5°F (3°C) within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum, and
3. Have a minimum dead band of not less than 1°F (0.5°C) when set points are adjusted.

Exceptions:

1. Thermostats ~~that require~~ requiring *manual* changeover between heating and cooling modes.
2. Occupancies or applications where applicable codes or accreditation standards requiring precision in indoor temperature control ~~as approved by the code official~~ shall be permitted to be initially configured to not less than 1ºF (0.5ºC) deadband.

Add new text as follows:

C403.4.1.3 Set point adjustment and display.

Where thermostatic control set points are capable of being adjusted by occupants or HVAC system operators, the adjustment shall be independent for the heating set point and the cooling set point; when one set point is changed, the other shall not change except as needed to maintain the minimum dead band required by Section C404.4.1.2. For thermostatic controls that display set points, both the heating and cooling set points shall be displayed simultaneously, or the set point of the currently active mode (heating or cooling) shall be displayed along with an indication of that mode.

Revise as follows:

C403.4.1.~~3~~4 Set point overlap restriction.

Where heating and cooling to a zone are controlled by ~~has a~~ separate ~~heating and a separate cooling~~zone thermostatic controls located within the zone, mechanical or software means shall be provided ~~a limit switch, mechanical stop or direct digital control system with software programming shall be configured~~ to prevent the heating setpoint from exceeding the cooling setpoint, minus the deadband required by ~~and to maintain a deadband in accordance with~~ Section C403.3.4.1.

Reason:

The requirements to thru demand limiting will result in a setup of cooling to a higher temperature to turn on heat. The setback for heating operation could turn on cooling for building thermostats that have a single setpoint, which we have found is commonly used in Hotels and some commercial buildings. The proposed text is pulled from a new ASHRAE 90.1 addendum

Also with electrification, buildings may have cooling and heating thermal storage, which could be used for demand limiting without

resulting in comfort problems. We have proposed adding an exception for buildings with thermal storage.

Bibliography:

This change is the same as addendum c to ASHRAE 90.1-2022.

Cost Impact:

The code change proposal will increase the cost of construction.

The code change proposal will increase the cost of construction.

The capability exists in most thermostats and control systems. Most modern controllers already have dual set points since the dead band capability has been a requirement of Standard 90.1 since 1989. And many already have displays that meet the new requirements. Direct digital control systems generally have configurable displays that can be readily modified to meet the proposed requirements. So the primary first cost impact will be to modify the displays of non-DDC (firmware) thermostats, but these are low-cost thermostats to begin with and also the thermostats that this addendum is targeting. The energy savings will more than cover the small first cost in just a few years of demand control.

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-62-23 W03 Efficiency fossil fuel water heater
CDP ID #	1785
Code	IECC CE
Code Section(s)	C406.2.3.1.3
Location	SC rev
Proponent	Eric Tate
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	• Discussion that the proponent misunderstood what the language and proposed change would do. There was an indicated concern making certain water heaters unavailable on the market, but this is not actually a result of the language. Taking the language out as proposed would work against the proponent's goals.
Recommendation	Disapprove Reason: The credits provide a needed option for partial credit for certain equipment
Vote	Disapprove 9-0-1
Recommendation Date	8/24/23
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 #	CE2D-77-23 AHRI 1430 ref standard
CDP ID #	1595
Code	IECC CE
Code Section(s)	Chapter 6
Location	SC rev
Proponent	Bryan Ahee bahee@bradfordwhite.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	
Recommendation	Approve as modified Reason: It is to incorporate AHRI 1430 and align with IECC residential
Vote	As modified 9-0-1
Recommendation Date	9/6/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee _X_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CE2D-77-23 As Modified

IECC CE: AHRI Chapter 06 (New), SECTION C404

Proponents:

Bryan Ahee, representing Bradford White Corporation (bahee@bradfordwhite.com)

2024 International Energy Code[CE Project] R3

C404.10 Demand responsive water heating. Electric storage water heaters with a rated water storage volume of 40 gallons (150L) to 120 gallons (450L) and a nameplate input rating equal to or less than 12kW shall be provided with demand responsive controls in accordance with Table C404.10 ~~or another equivalent *approved* standard~~.

Exceptions:

1. Water heaters that provide a hot water delivery temperature of 180°F (82°C) or greater.
2. Water heaters that comply with Section IV, Part HLW or Section X of the ASME Boiler and Pressure Vessel Code.
3. Water heaters that use 3-phase electric power.

TABLE C404.10

DEMAND RESPONSIVE CONTROLS FOR WATER HEATING

Equipment Type	Controls	
	Manufactured before 7/1/2025	Manufactured on or after 7/1/2025
Electric storage Water heaters	AHRI Standard 1430 or ANSI/CTA-2045-B Level 1 and also capable of initiating water heating to meet the temperature set point in response to a demand response signal.	AHRI Standard 1430 ~~ANSI/CTA-2045-B Level 2, except "Price Stream Communication" functionality as defined in the standard.~~

Add new standard(s) as follows:

AHRI	**Air-Conditioning, Heating, & Refrigeration Institute ~~2111~~ 2311 Wilson Blvd, Suite ~~500~~ 400 Arlington VA 22201**

1430	**AHRI 1430 (I-P): Demand Flexible Electric Storage Water Heaters**

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-16-23 Remove req. prior to 1/1/23
CDP ID #	1807
Code	IECC CE
Code Section(s)	C403.3.2 table
Location	SC rev
Proponent	Richard Lord richard.lord@carrier.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	
Recommendation	Approve Reason: Remove all 2023 date references because it is the 2024 IECC
Vote	Approve 9-0-1
Recommendation Date	8/24/23
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 #	CE2D-75-23 Electrification appendix comment
CDP ID #	1746
Code	IECC CE
Code Section(s)	CG103.2.6
Location	SC rev
Proponent	Jennifer Kane jennifer.kane@tranetechnologies.com
Proposal Status	SC rev
Subcommittee	CE HVACR & WH
Subcommittee Notes	• Discussion of language and application to different technologies
Recommendation	Approve as modified Reason: it ensures excessive electric resistance energy is not applied when energy recovery devices are employed.
Vote	As modified 8-1-1
Recommendation Date	8/24/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee __X_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CE2D-75-23 As Modified

IECC CE: CG103.2.6

Proponents:

Jennifer Kane, representing Trane Technologies

2024 International Energy Code[CE Project] R3

Revise as follows:

CG103.2.6 Pre-heating of outdoor air.

Hydronic systems without energy recovery ventilation and that do not use freeze protection fluids shall be permitted to utilize electric resistance to temper air ~~entering the energy recovery device~~ to not more than 40°F (4.5°C). All s~~S~~ystems with energy recovery ventilation shall be permitted to utilize electric resistance to preheat outdoor air for defrost or temper air entering the energy recovery device and shall comply with one of the following: ~~to not more than 45°F (7.2°C).~~

1. ~~if~~When the space is mechanically humidified or has a process application that will maintain the space above 30% relative humidity when the outdoor temperature is not greater than 25ºF (-4ºC) and the system recovers latent energy, the ~~preheat may not preheat~~ the outdoor air shall not be preheated to greater than 25ºF (-4ºC);

2. ~~The electric resistance used to preheat outdoor air f~~For ~~heating only applications with~~ sensible-only heat recovery exchangers, outdoor air shall not be preheated to ~~air~~ greater than 25ºF (-4ºC);

3. ~~The electric resistance used to preheat~~ For all other systems, outdoor air ~~for the energy recovery device~~ shall not be preheated ~~outdoor air~~ to greater than 5ºF (-15ºC).

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-70-23 SEHPCAC interior lighting controls comment
CDP ID #	1695
Code	IECC CE
Code Section(s)	C503.5.1
Location	SC rev
Proponent	SEHPCAC sehpcac@iccsafe.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	Proposal clarifies what constitutes an alteration in space area
Vote	Approve 6-5-1
Recommendation Date	8/25/23
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 #	CE2D-71-23 SEHPCAC comment on exterior lighting and controls
CDP ID #	1697
Code	IECC CE
Code Section(s)	C503.5.2
Location	SC rev
Proponent	SEHPCAC sehpcac@iccsafe.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	These recommended revisions are mainly editorial in nature to add clarity, conciseness, and enforceability to the section. These changes do not impact the cost effectiveness nor the original technical merit or intent of the requirement.
Vote	Approve 12-0-0
Recommendation Date	8/25/23
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 #	CE2D-63-23 Remove master switch
CDP ID #	1607
Code	IECC CE
Code Section(s)	C406.2.5.5
Location	SC rev
Proponent	Greg Johnson gjohnsonconsulting@gmail.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	Proposal would reduce energy savings form this voluntary measure and better modifications have been proposed
Vote	Disapprove 8-4-1
Recommendation Date	8/25/23
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 #	CE2D-64-23 L05 Residential light control
CDP ID #	1895
Code	IECC CE
Code Section(s)	C406.2.5.5
Location	SC rev
Proponent	Jack Bailey jbailey@oneluxstudio.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	Refer to the printed reason statement on the proposal.
Vote	As modified 10-2-1
Recommendation Date	8/25/23
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 #	CE2D-79-23 Remove Appendix CG
CDP ID #	1800
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Eric Tate eric.tate@atmosenergy.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	

CE2D-64-23 AM by PLR on 8/25/2023

Modifications shown in RED.

IECC CE: C406.2.5.5

Proponents:

Jack Bailey, representing INTERNATIONAL ASSOCIATION OF LIGHTING DESIGNERS (jbailey@oneluxstudio.com)

2024 International Energy Code[CE Project] R3

Revise as follows:

C406.2.5.5 L05 Residential light control.

In *buildings* with Group R-2 occupancy spaces, interior lighting systems shall comply with the following:

- 1.

  In common area, the following space types shall have occupant sensor controls that comply with the requirements of Section C405.2.1.1 :

  - 1.1.

    Laundry/washing areas,

  - 1.2.

    Dining areas,

  - 1.3.

    Food preparation areas,

  - 1.4.

    Seating areas,

  - 1.5.

    Exercise areas,

  - 1.6.

    Massage spaces

- 2.

  In dwelling units, not less than one receptacle in each living room and each sleeping room shall be controlled by a switch in that room.

- 3.

~~Each *dwelling unit* shall have a switch by the main entrance that turns off all the lighting and all switched receptacles in the *dwelling unit*~~ Lights and switched receptacles in bathrooms and kitchens shall be controlled by an occupant sensor complying with C405.2.1.1. All other lights and switched receptacles in each dwelling unit shall be controlled by a switch at the main entrance. . The switch shall be ~~clearly labeled~~ marked to indicate its function.

> **Exception:** Lighting and switched receptacles controlled by an occupant sensor complying with C405.2.1.1 are not required to be controlled by the switch at the main entrance.

Reason:

Legitimate safety concerns were raised during the consensus committee hearing related to elderly or disabled people being unable to safely find their way to the main switch in the event that someone else inadvertently shut the lights off on them. Equivalent energy savings will be achieved through the use of occupant sensors, while eliminating the safety concern.

Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

An occupant sensor is more expensive than a switch, but providing one is optional.

CED2D-64

- Residential master switch
- Motion to approve as modified as shown on screen
  - 1st – Jack Bailey
  - 2nd – Jon McHugh
  - Vote: 10 – 2 – 1
  - Reason: Refer to the printed reason statement on the proposal.

International Energy Conservation Code
Code Change Proposal Tracking Sheet

Proposal #	CE2D-80-23 Remove appendix CG
CDP ID #	1737
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Laura Petrillo-Groh lpetrillo-groh@ahrinet.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-81-23 Remove appendix CG
CDP ID #	1775
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Steven Cowen steven.cowen@blackhillscorp.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-82-23 Remove appendix CG
CDP ID #	1783
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Shannon Corcoran SCorcoran@aga.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-84-23 Remove Appendix CG
CDP ID #	1774
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Kevin Duell kevin.duell@nwnatural.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-85-23 Remove Appendix CG
CDP ID #	1856
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Bruce Swiecicki bswiecicki@npga.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-86-23 Remove Appendix CG
CDP ID #	1756
Code	IECC CE
Code Section(s)	Appendix CG
Location	SC rev
Proponent	Renee Lani rlani@apga.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to adopt an all-electric commercial building option for certain projects, zones, or community-wide to meet their BPS and energy-profile goals.
Vote	Disapprove 13-0-2
Recommendation Date	8/25/23
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 #	CE2D-87-23 Remove Appendix CH
CDP ID #	1802
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Eric Tate eric.tate@atmosenergy.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
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 #	CE2D-88-23 Remove appendix CH
CDP ID #	1738
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Laura Petrillo-Groh lpetrillo-groh@ahrinet.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
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 #	CE2D-89-23 Remove appendix CH
CDP ID #	1797
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Steven Cowen steven.cowen@blackhillscorp.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
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 #	CE2D-91-23 Remove appendix CH
CDP ID #	1840
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Shannon Corcoran SCorcoran@aga.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
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 #	CE2D-93-23 Remove Appendix CH
CDP ID #	1766
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Kevin Duell kevin.duell@nwnatural.com
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
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 #	CE2D-94-23 Remove Appendix CH
CDP ID #	1755
Code	IECC CE
Code Section(s)	Appendix CH
Location	SC rev
Proponent	Renee Lani rlani@apga.org
Proposal Status	SC rev
Subcommittee	CE Elec, Light
Subcommittee Notes	
Recommendation	The appendix offers jurisdictions the opportunity to provide consumers a choice in the type of appliances and utilizations equipment they wish to use based on their energy preferences without the need to alter or increase premises wiring infrastructure in the future.
Vote	Disapprove 12-0-2
Recommendation Date	8/25/23
Next Step	To Subcommittee To Advisory Group_____ To Consensus Committee_____
Consensus Committee	
Committee Response	
Vote	Affirmative_____ Negative_____ Table_____ To Subcommittee_____
Date	