DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF CLIMATE, COASTAL AND ENERGY

Statutory Authority: 16 Delaware Code, Section 7602 (16 **Del.C.** §7602)
7 **DE Admin. Code** 2101

PROPOSED

PUBLIC NOTICE

2101 Regulations for State Energy Conservation Code

SAN # 2025-04
DOCKET # 2025-R-CCE-0008

1. TITLE OF THE REGULATIONS:

7 **DE Admin. Code** 2101 Regulations for State Energy Conservation Code.

2. BRIEF SYNOPSIS OF THE SUBJECT, SUBSTANCE AND ISSUES:

The State Energy Office is proposing to amend 7 **DE Admin. Code** 2101 Regulations for State Energy Conservation Code to adopt the 2024 International Energy Conservation Code (IECC) with zero net energy capable amendments for residential buildings and the 2024 IECC/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2022 with amendments for commercial and high-rise residential buildings. The proposed appendices for residential buildings are Appendix RB, Appendix RD, Appendix RE, Appendix RJ, and Appendix RK. The proposed appendices for commercial and high-rise residential buildings are Appendix CB, Appendix CG, Appendix CH, Appendix CI, and Appendix CJ. This regulatory update is necessary to comply with statutory mandates, to align with national standards, and to improve energy efficiency in buildings across the state. These proposed updates are prompted by the requirement in Delaware's Energy Conservation Code Act (16 **Del.C.** §7602) that mandates a triennial update of the state energy codes to adopt newer versions of the IECC and ASHRAE energy code standards. 16 **Del.C.** §7602 also requires that zero net energy capable residential buildings go into effect prior to January 2026.

3. POSSIBLE TERMS OF THE AGENCY ACTION:

None.

4. STATUTORY BASIS OR LEGAL AUTHORITY TO ACT:

16 **Del.C.** §7602.

5. OTHER REGULATIONS THAT MAY BE AFFECTED BY THE PROPOSAL:

The State Energy Office does not believe that other regulations will be impacted.

6. NOTICE OF PUBLIC COMMENT:

A virtual public hearing (Docket # 2025-R-CCE-0008) will be held on Tuesday, July 22, 2025, beginning at 6:00 p.m. The web link to the virtual hearing can be accessed through the DNREC Public Hearings site at https://de.gov/dnrechearings. If prompted for a password, please use: 712818. To access the audio-only portion of the virtual hearing, dial 1-646-931-3860 and enter the Meeting ID: 827 7203 4542. Language assistance is available by request within 10 business days of the hearing. Closed captioning is available via the Zoom platform utilized for all DNREC Public Hearings.

Those wishing to offer verbal comments during DNREC public hearings must pre-register no later than noon of the date of the virtual hearing at https://de.gov/dnreccomments or by telephone at 302-739-9001.

The Department will accept public comment through the close of business on Wednesday, August 6, 2025. Comments will be accepted in written form via email to DNRECHearingComments@delaware.gov, or by using the online form at https://de.gov/dnreccomments, or by U.S. mail to the following address:

Theresa Smith, Hearing Officer
DNREC – Office of the Secretary
89 Kings Highway, Dover, DE 19901

7. PREPARED BY:

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2101 Regulations for State Energy Conservation Code

1.0 Purpose and Statutory Authority

1.1 The purpose of ~~these regulations~~this regulation is to provide the Department of Natural Resources and Environmental Control's determination of the most recent and/or highest available version of the International Energy Conservation Code and the latest ~~ASHRAE/IESNA~~ANSI/ASHRAE/IES standard. The goal of establishing ~~these regulations~~ this regulation is to provide a statewide building energy conservation code.

1.2 ~~These regulations provide~~ This regulation provides rules of practice and procedures for certification of compliance with these codes and standards to be utilized by the respective local governments.

1.3 16 **Del.C.** §7602 provides the authority for adopting the State Energy Conservation Code. ~~These regulations are~~ This regulation is promulgated under the authority of 16 **Del.C.** §7602.

23 DE Reg. 1036 (06/01/20)

2.0 Definitions

For purposes of ~~these regulations~~ this regulation, the following words and phrases shall have the meanings set forth below.

"**ASHRAE**" means the ANSI/ASHRAE/IES Standard 90.1-~~2016~~2022: Energy Standard for Buildings except Low-Rise Residential Buildings published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

"Department" means the Department of Natural Resources and Environmental Control, the Division of Climate, Coastal, & Energy or the Delaware Energy Office, as appropriate.

"**DET verifier**" means a certified Duct and Envelope Tightness verifier. A certified DET verifier shall be a certified Home Energy Rating Systems (HERS) rater, or be a certified Home Performance with ENERGY STAR contractor, or be a Building Performance Institute (BPI) Heating Professional to perform duct tightness testing or a BPI Building Analyst or Envelope Professional to perform building tightness testing, or successfully complete a course that is approved by the Department of Natural Resources and Environmental Control.

"IECC" means the ~~2018~~2024 International Energy Conservation Code published by the International Code Council, Inc.

23 DE Reg. 1036 (06/01/20)

3.0 Incorporation by Reference with Provisions

3.1 ~~The 2018 International Energy Conservation Code (IECC), published by the International Code Council, Inc., is hereby adopted and incorporated by reference as the Delaware Residential Building Energy Conservation Code and is an enforceable part of the Delaware Building Codes.~~The Residential Provisions of the 2024 International Energy Conservation Code (IECC), published by the International Code Council, Inc., are hereby adopted with the following amendments as the Delaware Residential Building Energy Conservation Code, an enforceable part of the Delaware Building Codes.

R401.2 *Revise Section R401.2 as follows:*

R401.2 Application. Residential buildings shall comply with Section R401.2.1, R401.2.2, R401.2.3, R401.2.4 or R401.2.5, and Appendix RE.

Exception: Additions, alterations, repairs and changes of occupancy to existing buildings complying with Chapter 5.

R401.2.4 *Revise Section R401.2.4 as follows:*

R401.2.4 Passive House Option. The Passive House Option requires compliance with Section R407.

R401.2.5 Add new Section R401.2.5 as follows:

R401.2.5 Department of Energy Zero Energy Ready Homes Option. Department of Energy Zero Energy Ready Homes Option requires compliance with Section R409.

R405.2 *Revise Section R405.2 as follows:*

R405.2 Simulated building performance compliance. Compliance based on simulated building performance requires that a building comply with the following:

1. The requirements of the sections indicated within Table R405.2.
2. The proposed total building thermal envelope thermal conductance (TC) shall be less than or equal to the required total building thermal envelope TC using the prescriptive U-factors and F-factors from Table R402.1.2 multiplied by 1.15 in Climate Zones 3 through 8, in accordance with Equation 4-2 and Section R402.1.5.

Equation 4-2 for Climate Zones 3-8: TCProposed design ≤ 1.15 x TCPrescriptive reference design

3. For each dwelling unit with one or more fuel-burning appliances for space heating, water heating, or both, the annual energy cost of the dwelling unit shall be less than or equal to 60 percent of the annual energy cost of the standard reference design. For all other dwelling units, the annual energy cost of the proposed design shall be less than or equal to 65 percent of the annual energy cost of the standard reference design. For each dwelling unit with greater than 5,000 square feet (465 m2) of living space located above grade plane, the annual energy cost of the dwelling unit shall be reduced by an additional 5 percent of annual energy cost of the standard reference design. Energy prices shall be taken from an approved source, such as the US Energy Information Administration's State Energy Data System prices and expenditures reports. Code officials shall be permitted to require time-of-use pricing in energy cost calculations.

Exceptions:

1. The energy use based on source energy expressed in Btu or Btu per square foot of conditioned floor area shall be permitted to be substituted for the energy cost. The source energy multiplier for electricity shall be 2.51. The source energy multipliers shall be 1.09 for natural gas, 1.15 for propane, 1.19 for fuel oil, and 1.30 for imported liquified natural gas.
2. The energy use based on site energy expressed in Btu or Btu per square foot of conditioned floor area shall be permitted to be substituted for the energy cost.

R406.5 *Revise Section R406.5 as follows:*

R406.5 ERI-based compliance. *Compliance based on an ERI analysis requires that the rated design and each confirmed as-built dwelling unit be shown to have an ERI less than or equal to the appropriate value indicated in Table R406.5 where compared to the ERI reference design.*

Exception:

1. For buildings with 20 or more dwelling units, where approved by the code official, compliance shall be permitted using the Average Dwelling Unit Energy Rating Index, as calculated in accordance with ANSI/RESNET/ICC 301.

R406.5 *Replace Table R406.5 with the following:*

CLIMATE ZONE	ENERGY RATING INDEX NOT INCLUDING ON-SITE POWER PRODUCTION (OPP)
4	42

R407 *Replace Section R407 in its entirety as follows:*

Section R407 – Passive House

R407.1 Compliance. Projects may document compliance with either Phius certification in accordance with R407.2.1 or PHI certification in accordance with R407.2.2 or follow R407.3. Buildings shall be pre-certified as meeting the Phius CORE 2021 or Phius ZERO 2021 Passive Building Standard – North America, or newer, demonstrated using Phius-approved Passive House certification software and program criteria, where design-certification is demonstrated by Phius and a Certified Passive House Consultant (CPHC). Projects meeting the PHI Certified Passive House standard shall use PHI-approved certification software and program criteria where certification is demonstrated by a PHI accredited Certifier.

R407.2 Documentation. Compliance with Phius or PHI standards shall be in accordance with R407.2.1 or R407.2.2.

R407.2.1 Phius Documentation.

1. Prior to the issuance of a building permit, the following items must be provided to the Building Official:
   a. A Design Certification Letter from Phius

or

b. A Passive House Verification report with results from the approved Passive House certification software which demonstrates project compliance with Phius CORE 2021 (or newer), or Phius ZERO 2021 (or newer) performance requirements;

c. A statement from the CPHC that the verification report results accurately reflect the plans submitted; and

d. Evidence of project registration from Phius.

2. Prior to the issuance of a final certificate of occupancy, the following items must be provided to the Building Official:

a. Verification of compliance with Appendix RE or applicable Phius program requirements, whichever is more stringent.

and either:

b. A Final Certification Letter, provided by Phius.

or

c. Design Certification Letter from Phius;

d. An updated Passive House Verification Report with results from the approved Passive House certification software which reflects "as-built" conditions and test results (blower door and ventilation) that demonstrate project compliance with Phius performance requirements;

e. A statement from the CPHC that the envelope meets the Phius hygrothermal requirements found in Appendix B of the Phius 2021 Certification guidebook;

f. A statement from the Phius project Verifier that the project test results meet the model performance requirements, all the mandatory limits and any other mandatory requirements; and

g. A copy of the Phius workbook listing all testing results and as-built conditions.

R407.2.2 Passive House Institute (PHI) Documentation.

1. Prior to the issuance of a building permit, the following items must be provided to the Building Official:

a. A Design State Conditional Assurance Letter from a PHI-accredited Certifier.

or

b. A Passive House Planning Package (PHPP) compliance report with results from the approved Passive House certification software which demonstrates project compliance with current PHI performance requirements;

c. A statement from either the Certified PH consultant or Certified PH designer that the approved Passive House certification software results and compliance report accurately reflect the plans submitted; and

d. Evidence of project registration from a PHI-accredited Certifier.

2. Prior to the issuance of a final certificate of occupancy, the following items must be provided to the building official:

a. Verification of compliance with Appendix RE or applicable PHI program requirements, whichever is more stringent.

and either

b. A Final Certification Letter from a PHI-accredited Certifier.

or

c. A Design State Conditional Assurance Letter from a PHI-accredited Certifier;

d. An updated compliance report with results from the approved Passive House certification software which reflects "as-built" conditions and test results (blower door and ventilation) that demonstrates project compliance with PHI performance requirements;

e. A copy of both the air leakage test results and report on the commission settings and performance of the building's ventilation system; and

f. A statement from the Certified Passive House Consultant or Certified Passive House Designer that the project test results meet the model performance requirements, all the mandatory limits and any other mandatory requirements.

R407.3 Near Passive House. Projects that pursued Phius or PHI certification that did not achieve final certification may be considered Near Passive House.

R407.3.1 Compliance. Buildings shall be pre-certified per Section R407.1. If, at construction completion, final certification cannot be received from either Phius or PHI, this compliance pathway may be followed to receive a certification of occupancy based on compliance with R407.3.2. Compliance via R407.3.2 is not equivalent to either Phius or PHI Certification and will not designate the project as a certified passive house.

R407.3.2 Documentation. The following materials are required:

a. Statement from the Phius Certified Consultant or PHI-Accredited Verifier confirming project has completed all interim, final, and corrective testing and modeling requirements, including a summary of deviations from certification requirements.

b. Copy of executed contracts with Phius Consultant or PHI Rater/Verifier covering all required inspections and testing requirements for certification.

c. Design phase pre-certification/approval, in the form of a statement issues from Phius or PHI-Accredited Verifier confirming design certification or precertification was achieved.

d. Report from Rater/Verifier demonstrating as-built conditions, including those that comply with Phius or PHI requirements, and those that do not.

i. If the initial whole building blower door tests do not meet the Phius or PHI airtightness requirement, a statement must be provided to reflect evidence of a re-test. Statement shall include an explanation for sources of leakage and attempted remediation efforts. Final test results shall not exceed Phius or PHI airtightness thresholds by more than 30%.

ii. If the mechanical ventilation flow rates and balance do not meet the requirements of Phius or PHI, report must show that the installed ventilation system demonstrates compliance with the mechanical code in accordance with Section R403.

e. For projects with Phius design certification, provide final Energy Star and Zero Energy Ready Homes certificates.

f. A letter from a licensed professional engineer that states that the potential hygrothermal or moisture risk of the as-built assemblies, with the measured blower door test result, is acceptably low.

R408.2 *Revise Section R408.2 as follows:*

R408.2 Additional energy efficiency credit requirements. Residential buildings shall earn no less than 30 credits from no less than two measures specified in Table R408.2. Five additional credits shall be earned for *dwelling units* with more than 5,000 square feet (465 m2) of *living space* located above *grade plane*. To earn credit as specified in Table R408.2 for the applicable *climate zone*, each measure selected shall comply with the applicable subsections of Section R408. Each *dwelling unit* or *sleeping unit* shall comply with the selected measure to earn credit. Interpolation of credits between measures shall not be permitted.

Table R408.2 *Replace Table R408.2 with the following:*

Table R408.2 Credits for Additional Energy Efficiency

Measure Number	**Measure Description**	**Credit Value for Climate Zone 4**
R408.2.1.1(1)	≥ 2.5% reduction in total TC	1
R408.2.1.1(2)	≥ 5% reduction in total TC	2
R408.2.1.1(3)	> 7.5% reduction in total TC	2
R408.2.1.1(4)	> 10% reduction in total TC	3
R408.2.1.1(5)	> 15% reduction in total TC	4
R408.2.1.1(6)	> 20% reduction in total TC	5
R408.2.1.1(7)	> 30% reduction in total TC	8
Table R408.2.1.2	0.25 U-factor windows with SHGC of 0.40	2
R408.2.2 (1)[b]	Ground source heat pump (Greater than or equal to 16.1 EER and 3.1 COP ground source heat pump.)	15
R408.2.2(2)[b]	High performance cooling system (Greater than or equal to 15.2 SEER2 and 12.0 EER2 air conditioner.)	2
R408.2.2(3)[b]	High performance cooling system (Greater than or equal to 16.0 SEER2 and 12.0 EER2 air conditioner.)	2
R408.2.2(4)[b]	High performance gas furnace (Greater than or equal to 97 percent AFUE fuel gas furnace.)	5
R408.2.2(5)[b]	High performance gas furnace (Greater than or equal to 95 percent AFUE fuel gas furnace.)	4
R408.2.2(10)[b]	High performance heat pump	12

	with electric resistance backup (Greater than or equal to 7.8 HSPF2, 15.2 SEER2, and 11.7 EER2 air source heat pump.)	
R408.2.2(11)[b]	High performance gas furnace and cooling (Greater than or equal to 95 percent AFUE fuel gas furnace and 15.2 SEER2 and 12.0 EER2 air conditioner)	5
R408.2.2(12)[b]	High performance gas furnace and cooling (Greater than or equal to 97 percent AFUE fuel gas furnace and 16.0 SEER2 and 12.0 EER2 air conditioner.)	6
R408.2.2(13)[b]	High performance gas furnace and heat pump (Greater than or equal to 95 percent AFUE fuel gas furnace and 8.1 HSPF2 and 15.2 SEER2 air source heat pump capable of meeting a capacity ratio ≥ 70 percent of heating capacity at 5°F versus rated heating capacity at 47°F.)	12
R408.2.2(14)[b]	High performance heat pump with electric resistance backup (Greater than or equal to 8.1 HSPF2 and 15.2 SEER2 air source heat pump capable of meeting a capacity ratio ≥ 70 percent of heating capacity at 5°F versus rated heating capacity at 47°F.)	12
R408.2.2.1	Gas furnace and heat pump (Greater than or equal to 95% AFUE fuel gas furnace and 7.8 HSPF2, 15.2 SEER2 and 10.0 EER2 air source heat pump.)	11
R408.2.3(1)(a)[d]	Fossil fuel service water heating system (Greater than or equal to 81 UEF fuel gas service water-heating system.)	5
R408.2.3(1)(b)[d]	Gas-fired storage water heaters (Greater than or equal to 86 UEF fuel gas storage water-heating system.)	6
R408.2.3(2)(a)[d]	Gas-fired instantaneous water heaters (Greater than or equal to 92 UEF fuel gas instantaneous water heating system.)	6
R408.2.3(2)(b)[d]	Gas-fired instantaneous water heaters (greater than or equal to 95 UEF fuel gas	6

	instantaneous water heating system.)	
R408.2.3(3)[d]	High performance heat pump water heating system (Greater than or equal to 3.3 UEF Integrated HPWH water-heating system.)	7
R408.2.3(4)[d]	Electric water heaters (Greater than or equal to 2.2 UEF Integrated HPWH with 120 volt/15amp circuit water-heating system.)	6
R408.2.3(5)(a)[d]	Electric water heaters (Greater than or equal to 2.2 UEF split system HPWH water-heating system.)	6
R408.2.3(5)(b)[d]	Electric water heaters (Greater than or equal to 3.75 UEF split system HPWH water-heating system.)	7
R408.2.3(6)[d]	Electric water heaters (Greater than or equal to 3 COP for electric water heater with Rated input capacity greater than 12 kW.)	7
R408.2.3(7)(a)[d]	Solar hot water heating system (Greater than or equal to 3 Solar Uniform Energy Factor (SUEF) water-heating system with electric backup.)	9
R408.2.3(7)(b)[d]	Solar hot water heating system (Greater than or equal to 1.8 Solar Uniform Energy Factor (SUEF) water-heating system with gas backup.)	6
R408.2.3(8)[c]	Compact hot water distribution (The pipe shall store not more than 16 ounces of water between the nearest source of heated water and the termination of the fixture supply pipe. Where the source of heated water is a circulation loop, the loop shall be primed with a demand recirculation water system. There shall be a dedicated return line for the loop that begins after the branch to the last fixture on the supply portion of the loop and runs back to the water heater.)	2
R408.2.4(1)[c]	More efficient HVAC distribution system. (The ductless thermal distribution system or hydronic thermal distribution system is located completely on the conditioned side of the building thermal envelope.)	7

R408.2.4(2)[c]	100% of ducts in conditioned space. (The space conditioning equipment is located inside conditioned space. In addition, 100 percent of the ductwork is located completely inside conditioned space as defined by Section R403.3.2, Items 1 and 2.)	6
R408.2.4(3)[c]	≥ 80% of ductwork inside conditioned space (The space conditioning equipment is located inside conditioned space and not less than 80 percent of ductwork is located completely inside conditioned space as defined by Section R403.3.2, Items 1 and 2. In addition, not more than 20 percent of ductwork is contained within building assemblies separating unconditioned from conditioned space as defined by Section R403.3.4, Item 3.)	5
R408.2.4(4)[c]	Reduced total duct leakage. (Where ductwork is located outside conditioned space, the total leakage of the duct system measured in accordance with Section R403.3.6 is one of the following: 4.1. Where the space conditioning equipment is installed at the time of testing, total leakage is not greater than 2.0 cubic feet per minute (0.94 L/s) per 100 square feet (9.29 m2) of conditioned floor area. 4.2. Where the space conditioning equipment is not installed at the time of testing, total leakage is not greater than 1.75 cubic feet per minute (0.83 L/s) per 100 square feet (9.29 m2) of conditioned floor area.)	1
R408.2.5(2)[c]	2 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to 2.0 ACH50, with either an Energy Recovery Ventilator (ERV) or Heat Recovery Ventilator (HRV) installed.)	4
R408.2.5(4)[c]	1.5 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to equal to 1.5 ACH50, with either an	6

	ERV or HRV installed.)	
R408.2.5(5)[c]	1 ACH50 air leakage rate with ERV or HRV installed. (Less than equal to 1.0 ACH50, with either an ERV or HRV installed.)	7
R408.2.6[a]	Energy Efficient Appliances (Each appliance not to exceed the following efficiencies: Refrigerator – Maximum Annual Energy Consumption (AEC) not greater than 620 kWh/yr; Dishwasher Maximum Annual Energy Consumption (AEC) not greater than 240 kWh/yr; Clothes washer located within dwelling units: Maximum Annual Energy Consumption (AEC), not greater than 130 kWh/yr, and Integrated Modified Energy Factor (IMEF) > 1.84 cu ft/kWh/cycle); Clothes washer not located within dwelling units and where dwelling units are not provided with rough-in plumbing for washers: Modified Energy Factor (MEF) > 2.0 cu ft/kWh/cycle.	1
R408.2.7	Renewable Energy Measure (Renewable energy resources shall be permanently installed and have the rated capacity to produce not less than 1.0 watt of on-site renewable energy per square foot of conditioned floor area. To qualify for this option, renewable energy certificate (REC) documentation shall be provided to the code official by the property owner or owner's authorized agent demonstrating that where renewable energy certificates (RECs) or energy attributable certificates (EACs) are associated with that portion of renewable energy used to comply with this code, the RECs or EACs shall be retained, or retired, on behalf of the property owner.)	11
R408.2.8[c]	Demand responsive thermostat (The thermostat controlling the primary heating or cooling system of each dwelling unit shall be	1

	provided with a demand responsive control capable of communicating with the Virtual End Node (VEN) using a wired or wireless bi-directional communication pathway that provides the occupant the ability to voluntarily participate in utility demand response programs, where available. The thermostat shall be 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, 2°F, 3°F and 4°F. 2. Automatically decreasing the zone operating heating set point by the following values: 1°F, 2°F, 3°F and 4°F.)	

a. Where the measure is selected, each dwelling unit, sleeping unit and common area where the measure is applicable must have the measure installed.

b. Where multiple heating or cooling systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

c. Where the measure is selected, each dwelling unit and sleeping unit must comply with the measure.

d. Where the measure is selected, each dwelling unit shall be served by a water heater meeting the applicable requirements. Where multiple service water heating systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

R409 *Add Section R409 as follows:*

Section R409 – Zero Energy Ready Homes

R409.1 Compliance. New *residential buildings* shall achieve certification through the U.S. Department of Energy's (DOE) Zero Energy Ready Home (ZERH) Program in accordance with Sections R409.2 through R409.4.

R409.2 ZERH certification. *Buildings* shall comply with one of the following:

1. For one- and two-family dwellings and townhouses, the ZERH program Single Family Version 2, Rev. 1, or the version in effect at the time of submission of the building permit application.
2. For *Group* R-2, R-3, and R-4 *buildings* three stories or less in height, the ZERH program Multifamily Version 2, or the version in effect at the time of submission of the building permit application.

R409.3 Certification entity. Building projects shall be certified by a DOE-recognized ZERH third party verifier.

R409.4 Documentation. Documentation shall be provided to the *code official* demonstrating the following:

1. Prior to the issuance of a building permit, signed documentation from a DOE ZERH program registered Architect and Design Partner including a draft ZERH report with a ZERH Target and as-designed ERI score, and including a list of compliance features.
2. Prior to the issuance of a certificate of occupancy, a copy of the final certification demonstrating compliance with the ZERH program requirements.

Appendix RE Electric Vehicle Charging Infrastructure: *Revise as follows:*

SECTION RE101—ELECTRIC VEHICLE POWER TRANSFER

RE101.1 Definitions.

AUTOMOBILE PARKING SPACE. A space within a *building* or private or public parking lot, exclusive of driveways, ramps, columns, office and work areas, for the parking of an automobile.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles and electric motorcycles, primarily powered by an electric motor that draws current from an onboard battery charged through a building electrical service *electric vehicle supply equipment (EVSE),* a rechargeable storage battery, a fuel cell, a photovoltaic array or another source of electric current.

ELECTRIC VEHICLE READY SPACE (EV READY SPACE). An *automobile parking space* that is provided with a branch circuit and an outlet, junction box or receptacle that will support an installed EVSE.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer, including ungrounded, grounded and equipment grounding conductors; electric vehicle connectors; attached plugs; any personal protection system; and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle.*

ELECTRIC VEHICLE SUPPLY EQUIPMENT INSTALLED SPACE (EVSE SPACE). An *automobile parking space* that is provided with a dedicated *EVSE* connection which can charge an electric vehicle within 5 feet of the parking space.

RE101.2 Electric vehicle power transfer infrastructure. New residential *automobile parking spaces* for residential *buildings* shall be provided with electric vehicle power transfer infrastructure in accordance with Sections RE101.2.1 through RE101.2.4

RE101.2.1 Quantity. New one- and two-family dwellings and townhouses with a designated attached or detached garage or other on-site private parking provided adjacent to the *dwelling unit* shall be provided with one *EV ready* or *EVSE space* per *dwelling unit*. R-2 occupancies or allocated parking for R-2 occupancies in mixed-use *buildings* shall be provided with an *EV ready space* or *EVSE space* for 20 percent of the *dwelling units* or *automobile parking spaces,* whichever is less.

1. At least 1 EVSE space must be in an area available for use by all residents and available for use by all residents of the R-2 occupancy. The EVSE space must be accessible by an individual with a disability.
2. Construction documents must indicate the location of proposed EVSE spaces and EV ready spaces. The construction documents, or other clear identification of the location of EVSE spaces and EV ready spaces, must be available to the residents of the multi-family residential dwelling on request.

Exceptions:

1. Where the local electric distribution entity certifies in writing that it is not able to provide 100 percent of the necessary distribution capacity within 2 years after the estimated certificate of occupancy date, the required *EV* charging infrastructure shall be reduced based on the available existing electric distribution capacity.
2. Where substantiation is *approved* that meeting the requirements of Section RE101.2.4 will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the builder or developer by more than $450 per *dwelling unit.*

RE101.2.2 EV ready spaces. Each branch circuit serving *EV ready spaces* shall comply with all of the following:

1. Termination at an outlet or enclosure, located within 5 feet of each *EV ready space* it serves and marked “For electric vehicle supply equipment (EVSE).”
2. Service by an electrical distribution system and circuit capacity in accordance with Section RE101.2.4.
3. Designation on the panelboard or other electrical distribution equipment directory as “For electric vehicle supply equipment (EVSE).”

RE101.2.3 EVSE spaces. An installed *EVSE* with multiple output connections shall be permitted to serve multiple *EVSE spaces*. Each *EVSE* serving either a single *EVSE space* or multiple *EVSE spaces* shall comply with the following:

1. Be served by an electrical distribution system in accordance with Section RE101.2.4.
2. Have a nameplate charging capacity of not less than 6.2 kVA (or 30A at 208/240V) per *EVSE space* served. Where an *EVSE* serves three or more *EVSE spaces* and is controlled by an energy management system in accordance with Section RE101.2.4, the nameplate charging capacity shall be not less than 2.1 kVA per EVSE space served.
3. Be located within 5 feet of each *EVSE space* it serves.
4. Be installed in accordance with NFPA 70 and be listed and labeled in accordance with UL 2202 or UL 2594.

RE101.2.4 Electrical distribution system capacity. The branch circuits and electrical distribution system serving each *EV ready space* and *EVSE space* used to comply with Section RE101.2.1 shall comply with one of the following:

1. Sized for a calculated *EV* charging load of not less than 6.2 kVA per *EVSE* or *EV ready space*. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.
2. The capacity of the electrical distribution system and each branch circuit serving multiple EVSE spaces or *EV ready spaces* designed to be controlled by an energy management system in accordance with NFPA 70 shall be sized for a calculated *EV* charging load of not less than 2.1 kVA per space. Where an energy management system is used to control *EV* charging

loads for the purpose of this section, it shall not be configured to turn off electrical power to *EVSE* or *EV ready spaces* used to comply with Section RE101.2.1.

SECTION RE102-REFERENCED STANDARDS

RE102.1 General. See Table RE102.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix that reference the standard.

TABLE RE102.1-REFERENCED STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
UL 2202-2009	Electric Vehicle (EV) Charging System Equipment – with revisions through February 2018	RE101.2.3
UL 2594-2016	Standard for Electric Vehicle Supply Equipment	RE101.2.3

3.2 ~~The American Society of Heating, Refrigerating and Air-Conditioning Engineers Standards (ASHRAE) 90.1-2016: Energy Standard for Buildings except Low-Rise Residential Buildings and the commercial provisions of the 2018 International Energy Conservation Code are hereby adopted and incorporated by reference in their entirety as the Delaware Commercial Building Energy Conservation Code and is an enforceable part of the Delaware Building Codes.~~The Commercial Provisions of the 2024 International Energy Conservation Code (IECC), published by the International Code Council, Inc., are hereby adopted with the following amendments as the Delaware Commercial Building Energy Conservation Code, an enforceable part of the Delaware Building Codes:

C401.2 *Revise Section C401.2 as follows:*

C401.2 Application. Commercial buildings shall comply with Appendix CB and either Section C401.2.1 or C401.2.2.

C401.2.1 International Energy Conservation Code. Commercial buildings shall comply with one of the following:

1. Prescriptive Compliance. The Prescriptive Compliance option requires compliance with Sections C402 through C406 and Section C408. Dwelling units and sleeping units in Group R-2 buildings shall be deemed to be in compliance with this chapter, provided that they comply with Section R406.
2. Simulated Building Performance. The Simulated Building Performance option requires compliance with Section C407.

Exception: Additions, alterations, repairs and changes of occupancy to existing buildings complying with Chapter 5.

C401.2.2 ASHRAE 90.1. Commercial buildings shall comply with the requirements of ANSI/ASHRAE/IES 90.1.

Appendix CB Solar-Ready Zone: *Revise as follows:*

SECTION CB101-SCOPE

CB101.1 General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION CB102-GENERAL DEFINITION

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION CB103-SOLAR-READY ZONE

CB103.1 General. A solar-ready zone shall be located on the roof of buildings that are five stories or less in height above grade plane, and are oriented between 110 degrees and 270 degrees of true north or have low slope roofs. Solar-ready zones shall comply with Sections CB103.2 through CB103.8.

Exceptions:

1. A *building* with a permanently installed, on-site renewable energy system.
2. A *building* with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.
3. A *building* where the licensed design professional certifies that the incident solar radiation available to the *building* is not suitable for a solar-ready zone.
4. A *building* where the licensed design professional certifies that the solar zone area required by Section CB103.3 cannot be met because of extensive rooftop equipment, skylights, *vegetative roof* areas or other obstructions.

CB103.2 Construction document requirements for a solar-ready zone. *Construction documents* shall indicate the solar-ready zone.

CB103.3 Solar-ready zone area. The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less than the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory access or set back areas as required by the *International Fire Code*. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

CB103.4 Obstructions. Solar-ready zones shall be free from obstructions, including pipes, vents, *ducts*, HVAC equipment, skylights and roof-mounted equipment. Solar-ready zones may be relocated to allow future installation of roof equipment as long as the 40 percent minimum allocation is maintained.

CB103.5 Roof loads and documentation. A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m^2) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the *construction documents*.

CB103.6 Interconnection pathway. *Construction documents* shall indicate pathways for routing of conduit or piping from the solar-ready zone to the electrical service panel or service hot water system.

CB103.7 Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a dual-pole circuit breaker for future solar electric and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the end of the panel that is opposite from the panel supply conductor connection.

CB103.8 Construction documentation certificate. A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, *water heater* or other conspicuous location by the builder or *registered design professional*.**23 DE Reg. 1036 (06/01/20)**

4.0 Implementation and Enforcement

4.1 ~~All buildings must meet all requirements of the applicable referenced code six months after date of promulgation.~~County and municipal building and plumbing codes shall meet all requirements of the applicable referenced code set forth in 7 **DE Admin. Code** 2101(3.0) 12 months after the date of promulgation, except as otherwise noted in 16 **Del.C.** §7602.

4.2 As of December 31, 2025, all new residential building construction in the State of Delaware shall be zero net energy capable in accordance with 16 **Del.C.** §7602(c).

~~4.2~~4.3 All projects may utilize the new applicable reference codes at any time after the date of promulgation, provided such choice is stated on the construction documents.

~~4.3~~4.4 Procedures for certification of compliance and standards to be utilized by respective local governments are those specified in the IECC at Chapter 1 ("Scope and Administration") and in the ASHRAE at Chapter 4 ("Administration and Enforcement") as enforceable parts of the Delaware Building Codes pursuant to subsections 3.1 and 3.2 herein.

23 DE Reg. 1036 (06/01/20)

5.0 Certified duct and envelope tightness (DET) verifier.

Testing for duct and building envelope tightness shall be conducted by a certified DET verifier.

17 DE Reg. 1086 (05/01/14)
23 DE Reg. 1036 (06/01/20)

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17 DE Reg. 1086 (05/01/14)
23 DE Reg. 1036 (06/01/20)