

1. I understand that historic structures are exempt if compliance will substantially degrade the relevant structural elements. How are historic structures defined? **Per IECC.** Would this only apply to our LHD's or National Register properties or is it more inclusive than that? **Both.** Will the Preservation Commission need to be involved? **Yes, they should assist in determinations**

Historic buildings is defined in the IECC in chapter 2 definitions. Ultimately the preservation division can assist in making this determination.

Historical Designation Criteria (summary of IECC):

a. the state historic preservation officer or keeper of national register of historic places

b. designated as historic under an applicable state or local law

c. certified as a contributing resource within a national register listed, State designated or locally designated historic district

2. How does the Specialized Code define "change of use"? Change of Use is not defined in the Model Code, Stretch Code or Specialized Code. **We would defer to language in IECC R505.1 [any space that is converted to a dwelling unit or portion thereof from another use or occupancy shall comply with this code] and IECC R201.3 [terms that are not defined in this code but are defined in *IBC, IFC, IFGE, IMC, IPC* or IRC shall have the meanings ascribed to them in those codes]** The code lumps change of use in with additions (greater than 1,000 sf or more than an additional 100% of existing sf), requiring a "prescriptive" compliance with the code. **This is correct. I would like to point out that *Extensive Alteration*, as cited in the Stretch Code, is [actually] not defined in the 2021 IECC, Stretch Code, 2015 IRC, 2021 IRC or Unofficial 10th Edition (BBRS).** It says it applies to all building sizes. Could this impact a change of use in our commercial areas? Such as a change from a retail shop to a restaurant?

The 2021 IECC is comprised of two separate codes.

One is code is for **Residential Buildings** (*residential code scope- for this code, includes detached one and two family dwellings and multi single family dwellings townhouses and group R-2, R-3 and R-4 buildings three stories or less in height above grade plane*). **If any of the above listings are four or more stories or USE Classifications other than those listed above then compliance with the commercial energy code is required.**

The other code is for **Commercial Buildings** (*commercial code scope- all buildings that are not included in the definition of "Residential Building"*).

If you are referencing section 503.1.5 Alteration Level 3 or Change of Use, this section would only apply to a LOW RISE RESIDENTIAL (*detached one and two family dwellings and multi single family dwellings townhouses and group R-2, R-3 and R-4 buildings three stories or less in height above grade plane*)

A Change of Use from a retail to restaurant would have to comply with the Existing Building section of the Commercial portion of the code (C505). i.e. not limited to compliance with building envelop, mechanical systems, water heating, electric power and lighting, additional efficiency requirements, testing/commissioning.

2021 IECC definitions

CONDITIONED FLOOR AREA. The horizontal projection of the floors associated with the *conditioned space*.

CONDITIONED SPACE. An area, room or space that is enclosed within the *building thermal envelope* and that is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

Is it total Building or per commercial unit? **We are still researching this information. Projects falling under the residential energy code will have certain options for testing per 402.5.2.2.**

3. Do we have data on the number of additions built in a year? Yes. Approximately 75 Residential and 220 Commercial addition/renovations. How many are larger than 1,000 sf? The [1000 sq.ft] data is available but we currently don't have resources or staff to categorize this information.

4. The code states that there will be efficiency standards for any new appliances needed to complete the "new" conditioned space. Do we have a list of approved appliances or just efficiency standards. Please refer to 225 CMR 9 § 9.05 (we do not have jurisdiction or enforce this code)

9.01: Statutory Authorization

M.G.L. c. 25B, §§ 5 through 10 require the Commissioner of Energy Resources to adopt procedures for testing the energy efficiency of appliances and lamps covered by 225 CMR 9.00 if such procedures are not covered by the state plumbing code, and to certify those in compliance with 225 CMR 9.00.

9.05: Identification of Complying Appliances and Lamps

(1) Sufficient information shall be shown on the outside of the shipping carton for any appliance or lamp (and unit carton in the case of plumbing fittings) to permit the determination of whether the appliance or lamp complies with the requirements of 225 CMR 9.00. The appropriate measure of energy or water consumption, the model number as it has been certified, or any label earned as part of the certification process may be used for this purpose and shall be deemed as providing sufficient information to determine compliance.

(2) The Commissioner or his or her designee may require additional information if necessary to permit determination of compliance.

(3) The manufacturer's name or brand name shall appear on each appliance or lamp.

5. Does the Building Department have adequate staffing and resources to administer the Specialized Code starting July 1, 2023? No (or) it is not clear at this time. More admin and enforcement staff will be required for stakeholder inquiries, review of energy documentation, and energy regulations enforcement. It is our view there will be delays with plans reviews for code compliance with respect to issuing permits as well as delays regarding finalizing and issuing Final Inspections and CO's.

6. Given the requirements for third party modeling and certification, do you think there are adequately trained individuals available in the trades for both the HERS and Air Exchange Heat Recovery requirements? We don't know at this time. Mass Save has a list of approximately 68 providers in Mass [for Residential New Construction Low-Rise single and multi-family homes 3 stories or less]. DOER and/or Mass Save should be able to answer this question. It safe to assume their will be an increased demand for this specialist.

7. How big of a difference (cost/construction), and how difficult (cost/construction) to achieve are the changes between the current say, HERS 55 reduced to HERS 42 for the mixed fuel low-rise residential? Or HERS 60 to HERS 45 as in the All-Electric pathway? (DOER presented data saying the average HERS in 2021 new construction was 51). We are not sure how this will actually affect construction logistics, ie increase in size of framing members, additional air sealing, etc. These variables may also limit the Design Professional's design options. We foresee a rise in cost based on addition materials and services (Rater). We have seen HERs scores at 51 but DOER's metric is likely based on NEW construction. We can't confirm a HERs rating at 51 is the state average. *Our office does have concerns about EXISTING residential building meeting a HERS score of 52. This is one point higher than the past scores of 51 for new construction as stated by DOER. We anticipate a rise in the number of projects that will require the services of a HERS rater for permit application and well as close out documentation.

8. Would the new code apply to the Waldo/Durgin project, despite the Town/CHR Memorandum of Agreement? Yes. This is a Mass. State Code which has been adopted by the Town to be enforced throughout our jurisdiction.

9. Does the Building Department have the authority to waive the PhotoVoltaic requirements? Does DOER give clear guidance on what conditions must be present to waive this requirement? **No. Appendix RA and CA [Residential and Commercial respectively] are part of 2021 IECC (Model Code) but are not adopted into the Stretch/Specialized Code. At this time we don't see a path to waivers or variances. Jurisdictions that only adopt the Base Code (promulgated by BBRs) may be able seek variance with the BBRs. DOER can provide more information.**

10. On the Passive House pathway, does compliance require pre-certification or post-certification, or both? **The Passive House Pathway has two documentation paths. Phius Documentation and PHI Documentation. Both require documentation; prior to the issuance of a building permit and prior to the issuance of a CO**

2021 International Energy Conservation Code (IECC) BASIC Upgrade to Premium Second Version: Sep 2021

CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY

R405.3.2.1 Compliance report for permit application. P E

A compliance report submitted with the application for building permit shall include the following:

1. Building street address, or other *building site* identification.
2. The name of the individual performing the analysis and generating the compliance report.
3. The name and version of the compliance software tool.
4. Documentation of all inputs entered into the software used to produce the results for the reference design and/or the rated home.
5. A certificate indicating that the proposed design complies with Section R405.3. The certificate shall document the building components' energy specifications that are included in the calculation including: component-level insulation *R*-values or *U*-factors; duct system and building envelope air leakage testing assumptions; and the type and rated efficiencies of proposed heating, cooling, mechanical ventilation and service water-heating equipment to be installed. If on-site renewable energy systems will be installed, the certificate shall report the type and production size of the proposed system.
6. Where a site-specific report is not generated, the proposed design shall be based on the worst-case orientation and configuration of the rated home.

R405.3.2.2 Compliance report for certificate of occupancy. P E

A compliance report submitted for obtaining the certificate of occupancy shall include the following:

1. Building street address, or other building site identification.
2. Declaration of the total building performance path on the title page of the energy report and the title page of the building plans.
3. A statement, bearing the name of the individual performing the analysis and generating the report, indicating that the as-built building complies with Section R405.3.

11. Are back-up generators (using fossil fuel) allowed in all-electric buildings? **No. Per definition is both 225 CMR 22 and 23 (definition for residential and commercial respectively)**

R202 Add the following definitions:

ALL-ELECTRIC BUILDING. A building with no on-site *combustion equipment* for fossil fuel use or capacity including fossil fuel use in space heating, water heating, cooking, or drying appliances.

C202 Add the following definitions.

ALL-ELECTRIC BUILDING. A building with no on-site *combustion equipment* for fossil fuel use or capacity for including fossil fuel use in space heating, water heating, cooking, or drying appliances.

Required documentation for Passive House

R401.2.2 Passivehouse Building Certification Option. The Passivehouse Building Certification Option requires compliance with Section R405 and R404.4.

R405.2 Phius Documentation. When using WUFI Passive or other Phius approved software:

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

- a. A Phius 2021 (or newer) Verification Report which demonstrates project compliance with Phius 2021 (or newer) performance requirements.
- b. A statement from the CPHC that the verification report results accurately reflect the plans submitted.
- c. Evidence of project registration from Phius.

OR

- a. A Design Certification Letter from Phius.

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

- a. Design Certification Letter from Phius.
- b. An updated Verification Report by the CPHC which reflects "as-built" conditions and test results that demonstrate project compliance with Phius (blower door and ventilation results).
- c. A statement from the CPHC that the envelope meets the Phius hygrothermal requirements found in Appendix B of the Phius 2021 Certification guidebook
- d. A statement from the Phius Certified Verifier or Rater that the project test results and other Phius verification requirements are met.
- e. A copy of the Phius workbook listing all testing results and as-built conditions.

OR

- a. A Project Certificate demonstrating final certification awarded by Phius.

AND

- f. A statement from the Phius Verifier or Rater of compliance with R404.4: EV ready, and Appendix RB: Solar Ready Provisions.

(or)

R405.3 Passive House International (PHI) Documentation.

1. If using PHI Passive House software, prior to the issuance of a building permit, the following items must be provided to the Building Official:

- a. A PHPP compliance report which demonstrates project compliance with current PHI performance requirements;
- b. A statement from the Certified Passive House Consultant/Designer (CPHC/D) that the PHPP results and compliance report accurately reflect the plans submitted;
- c. Evidence of project registration from a Certified Passive House Certifier.

OR

2. Prior to the issuance of a certificate of occupancy, the following item(s) must be provided to the building official:

- a. A Design Certification Letter from a Certified Passive House Certifier.
- b. An updated PHPP compliance report which reflects "as-built" conditions and test results (blower door and ventilation results) that demonstrate project compliance with PHI performance requirements;
- c. A statement from the CPHD that the project test results meet the model performance requirements, all the mandatory limits and any other mandatory requirements.
- d. A copy of the Passive House Verifier's or Rater's test results;

OR

a. A Final Certification Letter from a Certified Passive House Certifier

AND

e. A statement from the Passive House Verifier or Rater of compliance with R404.4: EV ready, and Appendix RB: Solar Ready Provisions.