

Illinois Commercial Stretch Energy Code

2/20/2024



SEDAC

SMART ENERGY DESIGN ASSISTANCE CENTER

Providing effective energy strategies for buildings and communities



SEDAC

SMART ENERGY DESIGN ASSISTANCE CENTER

Presenters:

Robert Schlorff



Ryan Siegel



Who We Are



SEDAC

SMART ENERGY DESIGN ASSISTANCE CENTER

Our mission: Reduce the energy footprint of Illinois and beyond



What We Do

We are an applied research program at the University of Illinois.

We assist buildings and communities in achieving energy efficiency, saving money, and becoming more sustainable.

We help facilities become more energy efficient.

We educate.

We research.

We advocate for a greener future.



SEDAC is the Illinois Energy Conservation Code Training Provider



This training program is sponsored by **Illinois EPA Office of Energy**

SEDAC is a Preferred Education Provider with the International Code Council (ICC). Credits earned on completion of this program will be reported to ICC for ICC members. Certificates of Completion will be issued to all participants.



This workshop is approved for 1 LU/HSW CES credits from the American Institute of Architects (AIA). Credits earned on completion will be reported for AIA members.



Energy Code Assistance

Technical support

- energycode@illinois.edu
- 800.214.7954

Online resources at

smartenergy.illinois.edu/energy-code

- Workshops
- Webinars
- Online on-demand training modules



SEDAC Energy Code Training Series

Energy Code Webinar Schedule

08.22.23 – ARCHIVED – Energy Code Basics

09.26.23 – ARCHIVED - Existing Residential Buildings

11.14.23 – ARCHIVED - Residential Stretch Code

12.12.23 – ARCHIVED Q&A Review – How We Answer Energy Code Questions

02.20.24 – TODAY! Commercial Stretch Energy Code

03.19.24 2021 IECC Updates Residential

03.20.24 2021 IECC Updates Commercial

04.09.24 – Simplified Code Compliance

05.21.24 – Existing Commercial Buildings

Registration: <https://smartenergy.illinois.edu/events>

SEDAC Energy Code Upcoming Events

Based on popular demand we have added (2) upcoming webinars to cover changes between the 2018 IECC and 2021 IECC

03.19.24 – 2021 IECC Updates: Residential

03.20.24 – 2021 IECC Updates: Commercial

Registration: <https://smartenergy.illinois.edu/events>

Illinois Energy Conservation Code

[About](#) ▾[Programs](#) ▾[Who We Serve](#) ▾[Resources](#) ▾[Contact](#)[Events](#)

Illinois Energy Conservation Code

[Home](#) > [Energy Code Training](#) > [Illinois Energy Conservation Code](#)

Click [here](#) for the [2022 Chicago Energy Transformation Code](#).

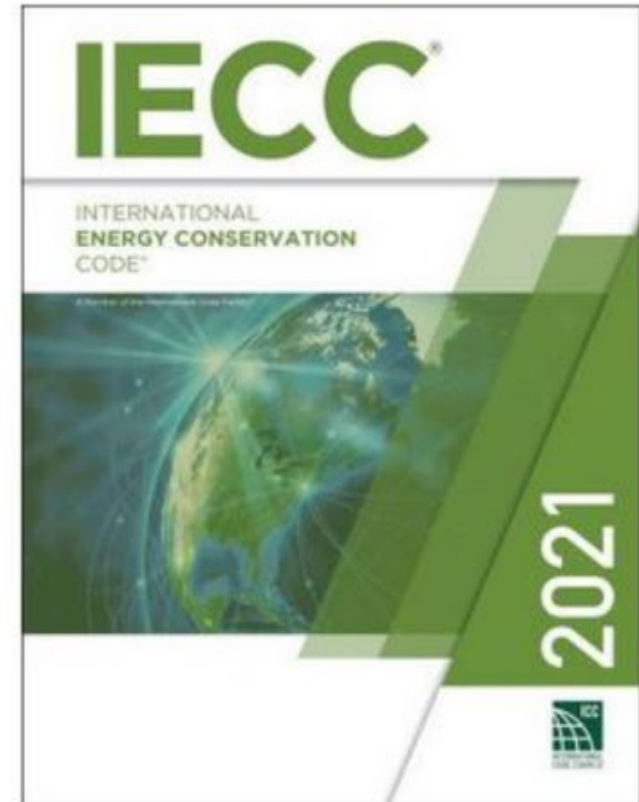
New Energy Code Coming to Illinois January 1, 2024

In accordance with the [Energy Efficient Building Act](#), the [Capital Development Board](#) (CDB) is required to review and adopt the most current version of the International Energy Conservation Code (IECC) within one year of its publication date. The Code will then become effective in Illinois within 6 months following its adoption by the CDB. The CDB, in conjunction with the [Illinois Environmental Protection Agency](#) and the [Illinois Energy Conservation Advisory Council](#), initiates the cycle for the Illinois Energy Conservation Code to be updated every three years.

At its November 7 meeting, JCAR approved the new rules to update the Illinois Energy Conservation Code from the 2018 IECC with amendments to the 2021 IECC with amendments. On November 14, the Capital Development Board set the effective date for the changes as January 1, 2024. Any projects applying for a permit on or after January 1, 2024 will need to comply with the new code.

The 2021 Illinois Energy Conservation Code can be accessed here:

- [2021 IECC](#)
- [Illinois Amendments](#)



Access to 2021 IECC & IL Amendments

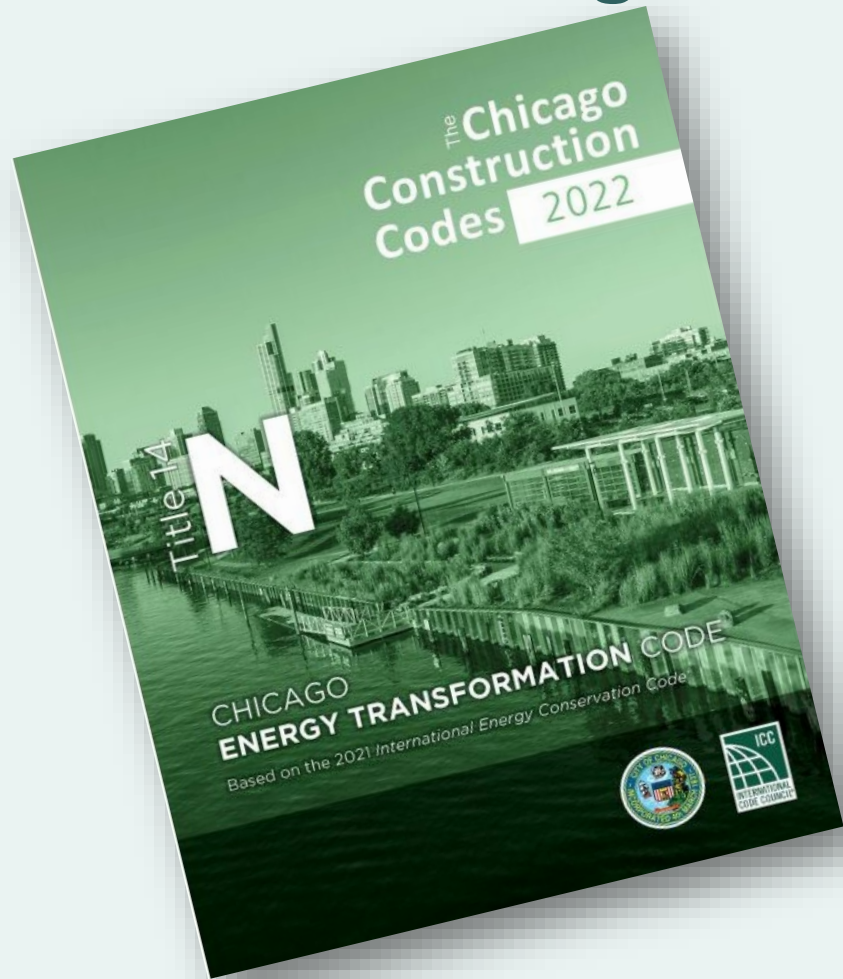
The screenshot shows the ICC Digital Codes website interface. At the top, there is a search bar labeled "Search all of Digital Codes" and a menu icon. Below the search bar, the page is titled "2021 International (IECC)". A sidebar on the left lists "CODE SECTIONS" including "2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)", "COPYRIGHT", "PREFACE", "ARRANGEMENT AND FORMAT OF THE 2021 IECC", "ABBREVIATIONS AND NOTATIONS", "IECC—COMMERCIAL PROVISIONS", and "CHAPTER 1 [CE] SCOPE AND ADMINISTRATION" through "CHAPTER 4 [CE] COMMERCIAL ENERGY EFFICIENCY". The main content area features a large image of the IECC 2021 cover, a description: "The 2021 IECC® addresses energy efficiency on several resources and the impact of energy usage on the environ...", and a section titled "Related Titles" with two links: "2021 Complete Revision History to the 2021 I-Codes - IECC: Successful Changes and Public Comments" and "2021 Significant Changes to the International Energy Conservation Code".

<https://cdb.illinois.gov/business/codes/illinois-energy-codes/illinois-energy-conservation-code.html>

The screenshot shows the Illinois Energy Conservation Code page on the Illinois.gov website. The page header includes the Illinois.gov logo, "AGENCIES", "SERVICES", and a search bar. The main content area is titled "Illinois Energy Conservation Code (20 ILCS 3125/15)". It includes a section for "State Funded Facilities" which states: "State Funded Facilities must comply with the IECC per 20 ILCS 3125. See Subpart B of the Illinois Energy Conservation Code for more information. The 2021 edition of the IECC as amended went into effect on 1/1/24." Below this, there is a section for "Privately Funded Commercial Facilities" which states: "Privately Funded Commercial Facilities must comply with IECC per 20 ILCS 3125. See Subpart C of the Illinois Energy Conservation Code for more information. The 2021 edition of the IECC as amended went into effect on 1/1/24." At the bottom, there is a section for "Residential Buildings" which states: "Residential Buildings must comply with IECC per 20 ILCS 3125. See Subpart D of the Illinois Energy Conservation Code for more information. The 2021 edition of the IECC as amended went into effect on 1/1/24." A list of "2021" amendments is provided, including "Illinois Specific Amendments" and "Illinois Specific Amendments with Modifications Shown".

<https://codes.iccsafe.org/content/IECC2021P2>

Access to Chicago Energy Transformation Code



<https://codes.iccsafe.org/codes/illinois/Chicago>

ARTICLE XIII. CHICAGO ENERGY CONSERVATION CODE

SECTION 1. The Municipal Code of Chicago is hereby amended by inserting a new Title 14N, as follows:

TITLE 14N ENERGY CONSERVATION CODE

PART I – COMMERCIAL PROVISIONS

CHAPTER 14N-C1 SCOPE AND PURPOSE

14N-C1-C001 Adoption of the commercial provisions of the International Energy Conservation Code by reference.

The commercial provisions of the *International Energy Conservation Code*, 2018 edition, second printing, and all erratum thereto identified by the publisher (hereinafter referred to as "IECC-CE"), except Appendix CA, are adopted by reference and shall be considered part of the requirements of this title except as modified by the specific provisions of this title.

If a conflict exists between a provision modified by this title and a provision adopted without modification, the modified provision shall control.

14N-C1-C002 Citations.

Provisions of IECC-CE which are incorporated into this title by reference may be cited as follows:

14N-C[IECC-CE chapter number]-[IECC-CE section number]

14N-C1-C003 Global modifications.

The following modifications shall apply to each provision of IECC-CE incorporated into this title:

1. Replace each occurrence of "*International Codes*" with "*Chicago Construction Codes*."
2. Replace each occurrence of "*International Building Code*" with "*Chicago Building Code*."
3. Replace each occurrence of "ASME A17.1" or "ASME A17.1/CSA B44" with "the *Chicago Conveyance Device Code*."
4. Replace each occurrence of "NFPA 70" with "the *Chicago Electrical Code*."

Learning Objectives

By the end of the presentation, participants will be able to:

- Summarize the stretch code development cycle and progressive improvement
- Compare the 2032 stretch code to the base code
- Identify how the stretch code improves resiliency and reduces pollution
- Identify how the stretch code makes future building improvements safer and more cost effective

What is the Commercial IL Stretch Code?

Creation of the Commercial IL Stretch Code

- The Illinois Climate and Equitable Jobs Act (CEJA) was signed into law in September 2021. CEJA addressed many energy efficiency issues but included provisions to create a residential and commercial stretch energy code that can be adopted by individual municipalities that want to go beyond the base energy code.



Clean Energy Jobs Act

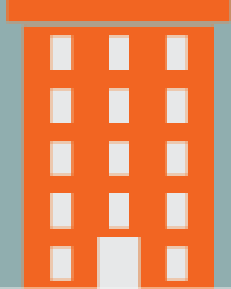











Repowering Illinois For All

What is the Commercial IL Stretch Code?

- The Illinois Stretch Energy Code is a pre-established text that enables jurisdictions to adopt requirements without having to develop their own text.
- The Illinois Stretch Energy Code allows municipalities and projects authorized or funded by the Capital Development Board (CDB) to achieve greater levels of energy efficiency in buildings than would be achieved by simply following the base code (currently the 2021 Illinois Energy Conservation Code) and allows them to do this with a consistent pathway that applies statewide.



How the Stretch Code Works

Stretch Code Site Energy Index Targets				
	Commercial		Residential	
BASELINE 2006 IECC		100%		100%
2024 Stretch		60%		50%
2025 Stretch		50%		40%
2028 Stretch		44%		33%
2031 Stretch		39%		25%

Added Definitions

Added Definitions - Cooking

Commercial Cooking Appliance – Appliances used in a commercial food service establishment for heating or cooking food.

Commercial Food Service Establishment – Location where food is regularly prepared for sale or on a scale or volume and frequency not representative of domestic household cooking.



Added Definitions – EV Capable Space

Electric Vehicle Capable Space – An automobile parking space provided with electrical infrastructure including raceway or cable assemblies, electrical capacity, and electrical distribution equipment space, necessary for connection to EV supply equipment.



Added Definition - Replacement Cost

Replacement Cost:

The cost to construct or replace an entire building with equal quality, construction type, and square footage, at current construction market labor and material rates.

Key to determining next definition of *substantial improvement*.



Added Definition - Substantial Improvement

Substantial Improvement:

“Any repair, reconstruction, rehabilitation, alteration, addition or other improvement of a building or structure, ***the cost of which is ≥ 50 percent of the market value replacement cost of the structure...***”.

Where the structure has sustained *substantial damage*, as defined in the International Building Code (IBC), ANY repairs are considered substantial improvement.

Substantial improvement does not include :

- Minimum necessary improvements for livable conditions ordered by the code official to correct health, sanitary or safety code violations.
- Alteration of a historic building where the alteration will not affect the designation as a historic structure.

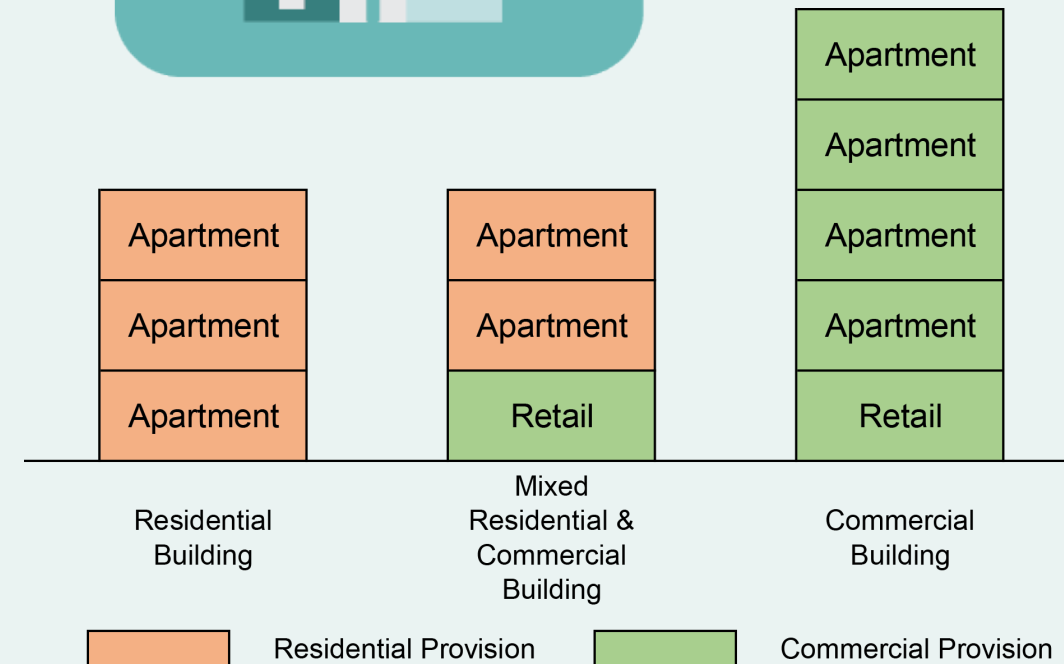


Key Updates from 2024

IECC

Maintains Base Code Scope and Applicability

- **Scope:** As this is the Commercial Stretch Code, it applies to the construction and maintenance of all buildings not covered by the Residential Stretch Code.
- **Applicability:** If different sections of the code specify conflicting requirements, the more restrictive or more specific shall govern.
- Any building that contains both commercial and residential portions shall apply the appropriate code section separately to the two portions of the building.
- The Stretch Code won't nullify any existing local, state, or federal laws



Additional Documentation Requirements

- **Construction Docs:** Same requirements as base energy code with one addition:
 - Construction documents must provide information on electrical infrastructure (branch circuits, pre-wiring, conduit, panel capacity, etc) as well as which interior and exterior spaces are designated for future electrical equipment.



Beyond-Code Compliance Pathways

- **Compliance Pathways:**

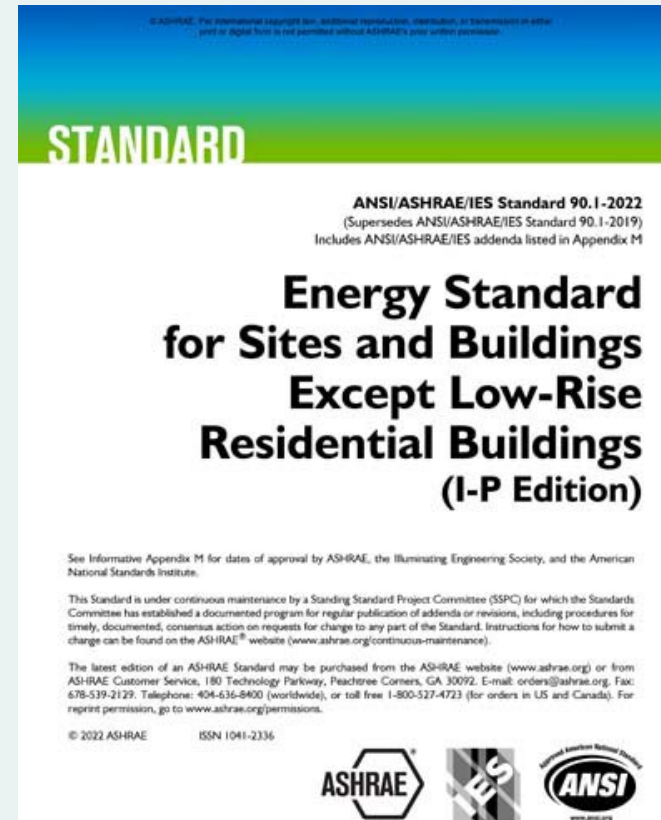
- Alternative path, "certification by a nationally recognized nonprofit certification organization specializing in high-performance passive buildings and offering climate-specific building energy standards that require equal or better energy performance than the Illinois Stretch Energy Code."
- Allows Phius and Appendix CC (Zero-Energy) as compliance pathways in the IL Stretch Code



ASHRAE 90.1 Additional Requirements

- **ASHRAE 90.1 Mandatory Requirements and Metric Changes**

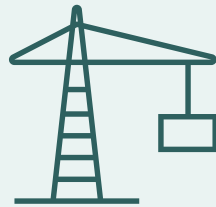
- Requires buildings that choose to comply with ASHRAE 90.1 2022 to also comply with certain requirements (EV-ready, electric ready) from the 2024 IECC



ASHRAE 90.1 Additions List

The following sections must be added to 90.1 compliance to align with the IL Stretch Code:

New Construction:



- Horticultural lighting requirements
- EV Infrastructure
- Electrical Energy Storage
- Electric Infrastructure

Existing Buildings:



- Additional efficiency credits for additions, alterations, and change of occupancy.
- HVAC system acceptance testing
- Duct testing
- Controls
- System sizing

Key Update – Horticultural Lighting

- **Horticultural Lighting:** Requires horticultural lighting to comply with current requirements for cannabis facilities
 - Exception: cannabis facilities subject to 410 ILCS 705/10-45

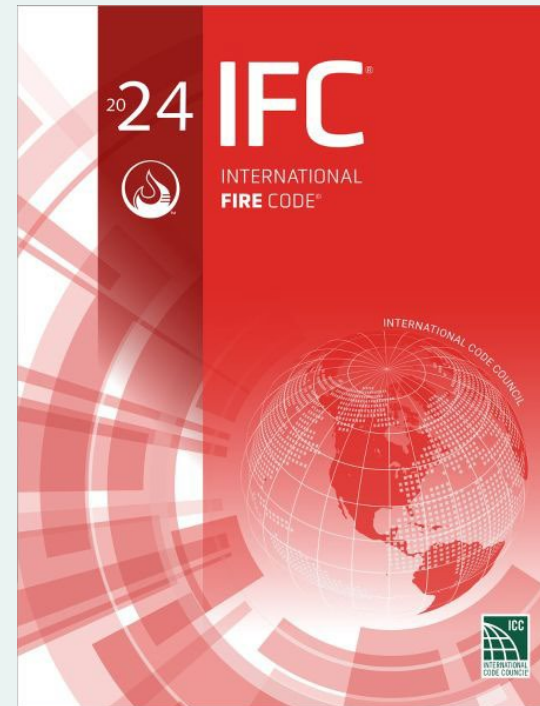


Electric-Ready Fire Code Reference Update

- **Energy Storage Ready:** Clarifies the correct fire code reference to improve safety of energy storage ready requirements: Section 1207 of the 2024 International Fire Code, or NFPA 855.



Image credit: <https://www.energy-storage.news/commercial-and-utility-battery-storage-launches-offer-all-in-one-and-plug-and-play-options/>

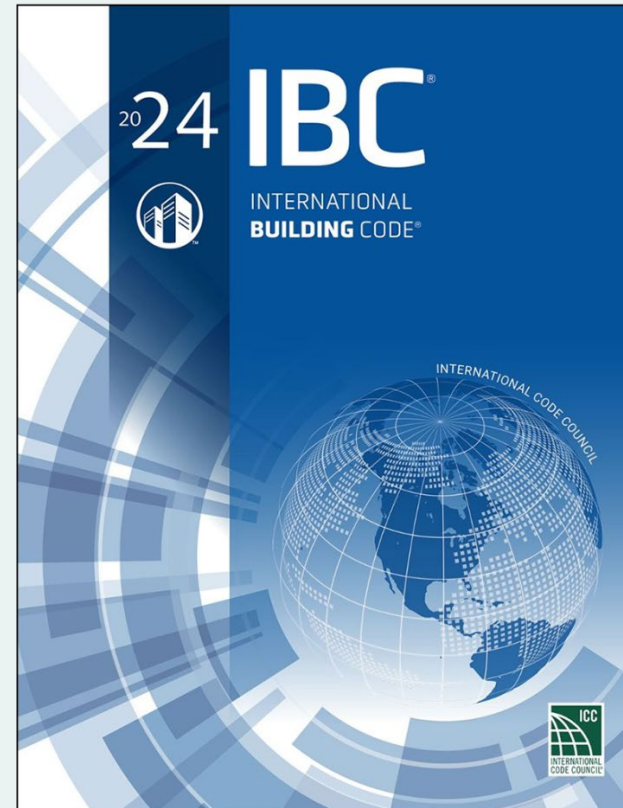


EVSE Requirements Update to 2024 IECC

- **Electric Vehicle-Ready:** Clarifies the correct International Building Code reference (2024 edition, section 1107) to improve the accessibility of EV infrastructure



Image credit: <https://basc.pnnl.gov/>



Electric Ready Provisions

Electric Ready for Residential Occupancy

- **Electric-Ready:** Requires new R2 occupancy commercial buildings to include electric infrastructure that would be required for electric appliance installation at time of combustion appliance replacement

- Includes provisions for:
 - Space heating
 - Water heating
 - Cooking
 - Clothes drying
 - Transformers

Group R-2: Multi-unit housing

- Apartment housing (Condos/Co-ops)
- Congregate living facilities (16+ occupants)
- Townhouses

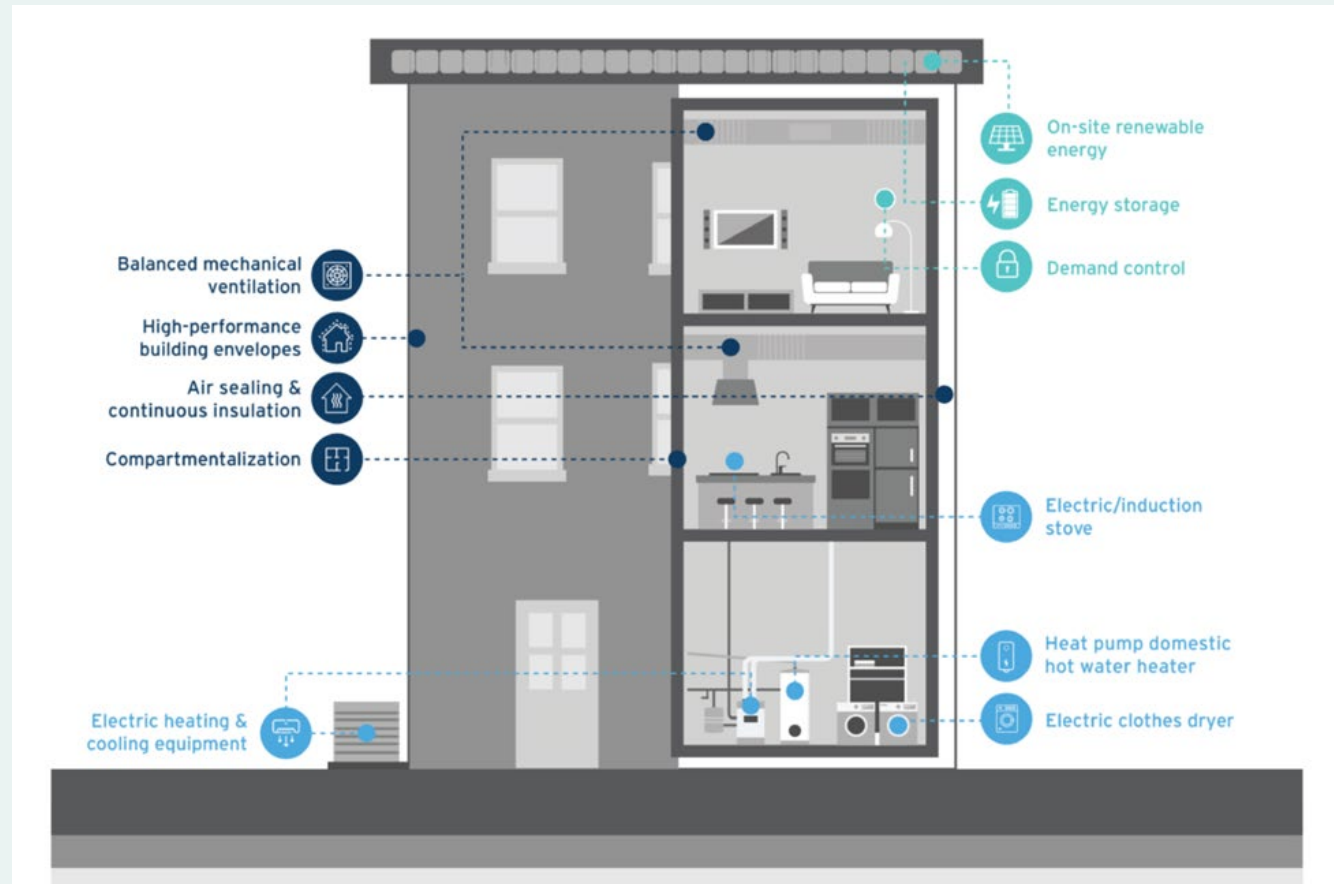


Image credit: rmi.org/how-to-upgrade-and-electrify-millions-of-us-homes-and-buildings/?utm_medium=email&utm_source=pem-pol&utm_content=pol-subs&utm_campaign=2023_08_16

- **C405.18.1** Fossil fuel warm-air furnaces/fossil fuel boilers shall comply with C405.18.1.1 or C405.18.1.2, as applicable.
 - *Exception:* Where a branch circuit exists for space cooling equipment with the capacity to serve heat pump space heating equipment sized per Section C403.1.1.



Ready for
Upgrade



Image credit:
<https://www.energy.gov/energysaver/furnaces-and-boilers>

C405.18.1.1 Low-capacity space heating.

- Fossil fuel warm-air furnaces (capacities less than 225,000 Btu/hr (65.9kW))
and
- Fossil fuel boilers (capacities less than 300,000 Btu/hr (88kW))

Shall be provided a dedicated circuit complying with the following:

- Circuit conductors shall have ready access within 6 ft (2 m) of the installed equipment.
- Circuit shall be sized for heat pump space heating equipment, per Section C403.1.1
- Circuit overcurrent device and termination of the circuit shall be labeled “For future heat pump space heating equipment.”



Image credit: <https://basc.pnnl.gov/>

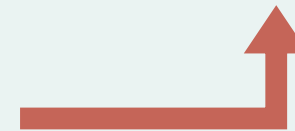
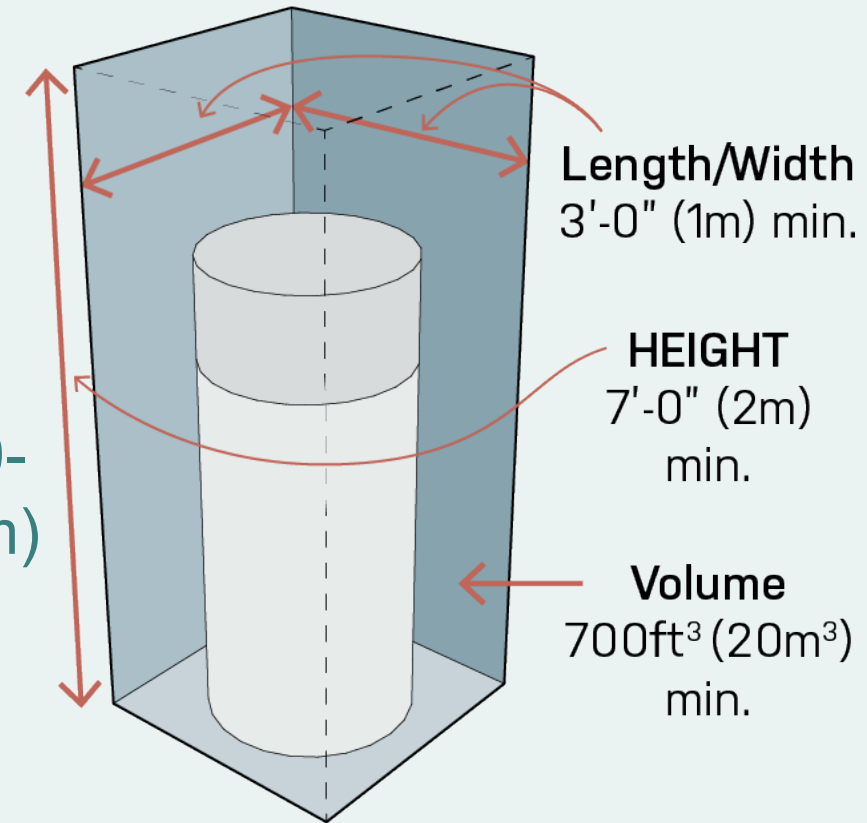
- **C405.18.1.2 Other space heating equipment.** Fossil fuel space heating equipment not covered under C405.18.1.1 shall be provided with a raceway complying with the following:
 - Continuous raceway from branch circuit panel to junction box within the same space as interior equipment or within 3ft (1m) of exterior equipment.
 - Junction box, raceway, bus bar in the electric panel and conductors serving the electrical panel shall be sized to serve electric equipment sized to same load as fossil fuel equipment.
 - Provide sufficient electric panel space for branch circuit overprotection devices that are sized to serve the same load as the fossil fuel appliances.



C405.18.2 Water heating. Fossil fuel water heaters shall comply with Section C405.18.2.1 or C405.18.2.2, as applicable.

C405.18.2.1 Low-capacity water heating. Fossil fuel water heaters with input rating of <300,000 Btu/hr (88kW) shall comply with all the following:

- Individual, readily accessible, 30 ampere, 208/240-volt branch circuit shall be provided within 6 ft (2 m) of the water heater.
- Branch circuit overcurrent protection device and termination of the branch circuit shall be labeled "For future electric water heater".
- Spatial requirements unless sufficient air circulation



C405.18.2. 2 Other water heating. Fossil fuel water heating equipment not covered by Section C405.18.2.1 shall be provided with the following:

- Continuous raceway from branch circuit panel to junction box located within same space as interior equipment or 3ft (1m) of exterior equipment.
- Junction box, raceway, bus bar in electric panel and conductors serving electrical panel sized to serve electric equipment serving same load as the fossil fuel equipment.
- Provide sufficient space in electrical panel for branch circuit overprotection devices sized to serve the same load as the fossil fuel appliances.
- Origin and termination of the raceway shall be labeled “For future electric water heating appliance”.



C405.18.3 Non-commercial cooking. *Non-commercial* fossil fuel ranges, cooktops and ovens shall be provided with a dedicated circuit complying with all the following:

- Branch circuit shall be rated for 208/240-volts and not less than 50 amps.
- Branch circuit shall terminate have ready access within 3 ft (1 m) of the appliance.
- The origin and termination of the branch circuit shall be labeled “For future electric cooking appliance”.



C405.18.4.1 Residential drying. Fossil fuel clothes drying appliances *serving individual dwellings units* shall be provided with a dedicated circuit complying with the following:

- The branch circuit shall be rated for 208/240-volts and not less than 30 amps.
- The branch circuit shall terminate with ready access within 3 ft (1 m) of the appliance.
- Origin and termination of the branch circuit shall be labeled “For future electric clothes drying appliance



C405.18.4.1 Non-residential drying. Fossil fuel clothes drying appliances not covered by Section C405.18.4.1 shall be provided with the following:

- Continuous raceway from an electric panel to a junction box located in same space as the appliance.
- Junction box, raceway, electric panel bus bar and conductors serving electric panel sized to serve electric equipment with same capacity as the fossil fuel appliance.
- Electric panel shall have reserved space for branch circuit overprotection devices sized for electric appliance serving same load as fossil fuel appliance.
- Origin and termination of the raceway shall be labeled “For future electric clothes drying appliance”

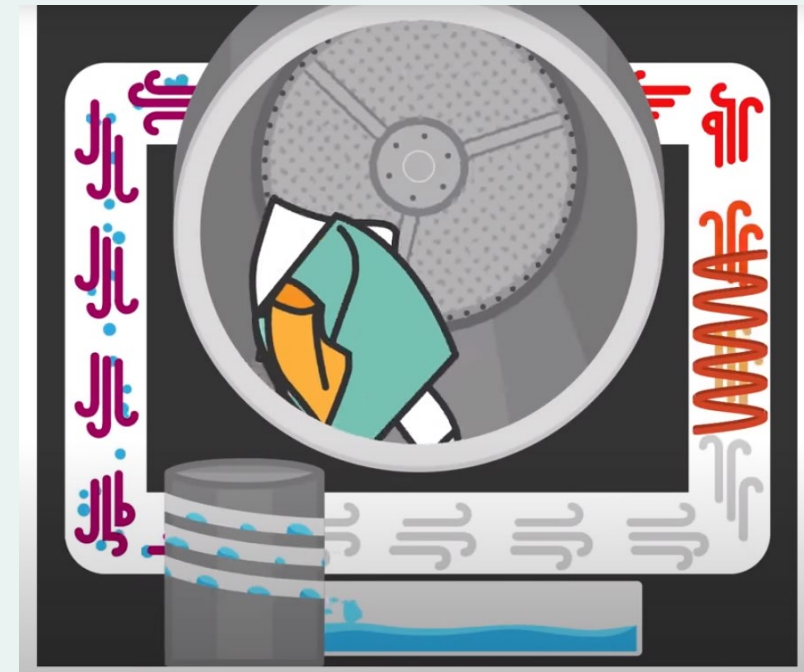


Image credit:

https://www.energystar.gov/products/heat_pump_dryer

C405.18.4.1 On-Site Transformers

Enclosed spaces and underground vaults containing onsite electric transformers on the building side of the electric utility meter shall have sufficient space to accommodate transformers sized to serve the additional electric loads identified in C405.18.1, C405.18.2, C405.18.3 and C405.18.4



Other Key Provisions

EV-Capable Spaces

- **Electric Vehicle Capable Spaces:** Requires each EV capable space shall have the following:
 - Continuous raceway or cable assembly shall be installed between electric distribution equipment and outlet within 3ft of EV-Capable Space.
 - Raceway or cable sized and rated to supply minimum circuit per C405.14.5.
 - Electrical distribution equipment shall have dedicated overcurrent protection device space to serve capacity per C405.14.5.
 - Distribution equipment spaces and outlet marked “For EVSE”.



Heat Pump Incentive: New Construction

Heat Pump Incentive For New Construction:

- Per C406.1.1.1, buildings need 25% more efficiency credits if they:
 - Use purchased energy that is not electricity for space or water heating.
 - Have electric tank water heaters that are not heat pumps
 - Buildings with heat pump capacity less than the heating load at design conditions.



Image credit: <https://www.esmagazine.com/articles/103281-heat-pump-potential-grows-with-increased-environmental-awareness>

Heat Pump Incentive: Additions

Heat Pump Incentive for Existing Buildings:

- Requires additions and changes of occupancy to receive additional energy credits if heat pump equipment is *not* installed, 25% more than baseline.
 - Similar exception list to new construction
 - Note: Additions only need 50% of the credit required for new construction, so non-heat pump additions and change of use would need 62.5% of the credits for new construction.



Image credit: <https://www.energy-manager.ca/toronto-condo-heat-pump-retrofit-a-blueprint-for-broader-decarbonization-at-scale/>

Heat Pump Incentive - Alterations

Alterations that are *substantial improvements* as defined in the stretch code, shall comply with the additional efficiency credit requirements in Table C406.1.1.

TABLE C406.1.1(1)
ENERGY CREDIT REQUIREMENTS BY BUILDING OCCUPANCY GROUP

Building Occupancy Group	Climate Zone																		
	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
R-2, R-4, and I-1	65	66	67	77	80	86	80	81	90	86	90	90	86	90	90	70	89	80	78
I-2	43	42	38	37	36	38	32	32	30	36	36	35	43	43	44	46	47	50	53
R-1	63	62	66	65	70	71	77	80	84	81	83	88	85	86	90	83	87	87	85
B	62	62	64	66	66	65	64	64	68	70	72	74	71	73	77	71	74	74	71
A-2	70	70	72	72	75	75	70	73	82	69	74	78	67	72	78	60	67	57	51
M	80	79	83	79	81	84	67	74	87	80	66	65	79	62	50	75	67	75	58
E	56	57	55	58	58	57	59	62	59	61	66	62	64	67	67	65	67	63	58
S-1 and S-2	61	60	61	60	58	57	44	54	62	85	68	75	90	82	72	90	89	90	90
All Other	31	31	31	32	32	33	30	32	36	35	35	35	37	36	36	36	37	36	34

Substantial Improvements

Energy Efficiency Requirement for Substantial Improvements:

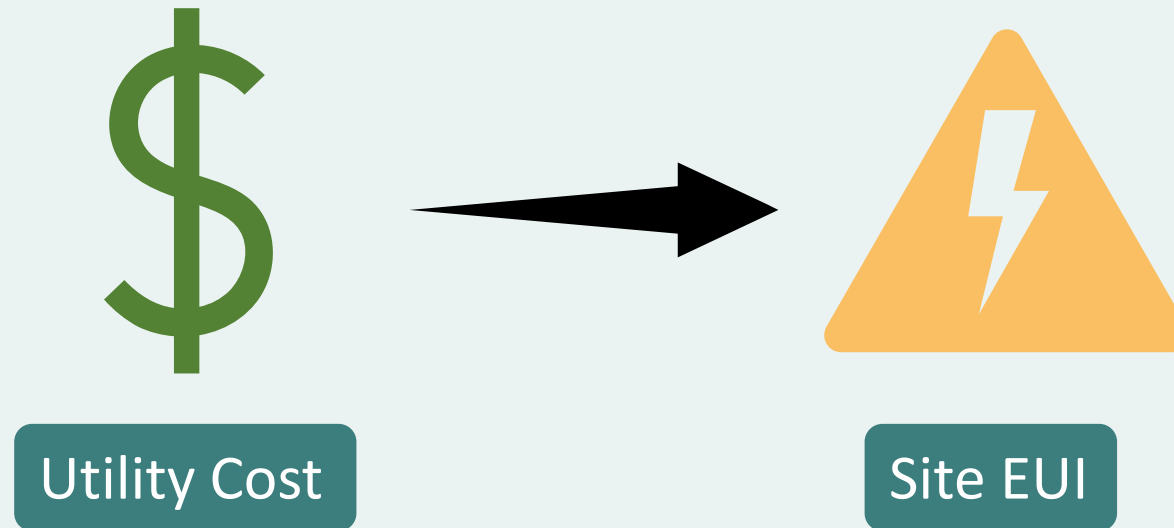
Requires substantial improvements to be electric ready and meet energy efficiency threshold



Performance Pathway: Site EUI

Site Energy Use Intensity (EUI) instead of Utility Costs in Performance Pathway:

Revises the performance pathway so that it is based on a site energy metric instead of a utility cost metric



Additional Energy Efficiency Credit Trade-Offs:

Disallows prorated renewable and demand management credits from being used in lieu of energy credits

From the 2024 IECC Commercial Draft:

"2. Where a building achieves more renewable and load management credits in Section C406.3 than are required in Section C406.1.2, surplus credits shall be permitted to reduce the required energy efficiency credits as follows:"

Fenestration Orientation

Either total east and west facing fenestration shall be less than 25% of fenestration area each
i.e. $AW \leq AT/4$ and $AE \leq AT/4$

OR

The area-weighted average east and west SHGC shall be 20% less than the Table C402.5 fenestration requirements

i.e. $AW \times SHGCW \leq (AT \times SHGCC)/5$ and
 $AE \times SHGCE \leq (AT \times SHGCC)/5$

Exception: if 75% of east/west fenestration is shaded by permanent structures/topography

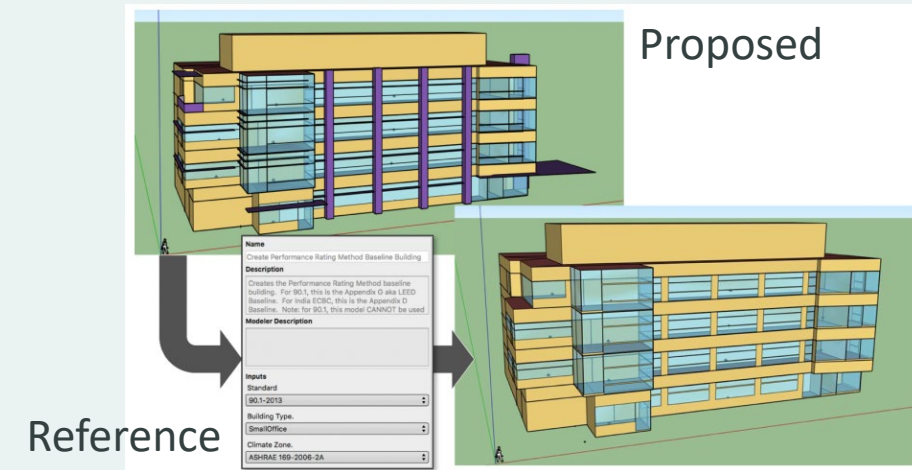


Image EIU Renewable Energy Center

Appendix C1: Total Building Performance Pathway

Total Building Performance Pathway Appendix:

- Requires substantial improvements to be electric ready and meet energy efficiency threshold
- Aligns the ASHRAE 90.1 Total Building Performance Pathway with CEJA requirements for site energy
 - Replaces language of energy cost with site energy language
 - Redefines baseline building performance, and proposed building performance to be more in line with site energy requirements
 - Establishes tables for building performance factors and units of fuel to site energy conversion



Appendix CG: All-Electric Commercial Building Provisions

Appendix CG includes all-electric commercial building provisions.

Two provisions have been modified from the 2024 IECC Commercial Draft.

Section CG 103: New Commercial Buildings

- **CG103.1 Application:** New commercial buildings shall be all-electric buildings and comply with Sections C401.2.1 or C401.2.2
 - Illinois Stretch Code revisions address requirements for Purchased Energy
- **CG103.2.6 Pre-heating of Outdoor Air:** This section addresses when electric resistance is permitted to temper outdoor air
 - Illinois Stretch Code reorganizes this section and adds further detailed requirements based on the system specifications

Existing Buildings

Additions: Additional energy efficiency credits

Additions need to achieve at least 50% of the number of required efficiency credits from Table C406.1.1

- *Exceptions:*
 - *Groups U, S, F, and H*
 - *Additions <1,000 square feet*
 - *Additions w/o replacement/new equipment covered by Tables C403.3.2 or Section C404.2*

TABLE C406.1.1(1)
ENERGY CREDIT REQUIREMENTS BY BUILDING OCCUPANCY GROUP

Building Occupancy Group	Climate Zone																		
	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
R-2, R-4, and I-1	65	66	67	77	80	86	80	81	90	86	90	90	86	90	90	70	89	80	78
I-2	43	42	38	37	36	38	32	32	30	36	36	35	43	43	44	46	47	50	53
R-1	63	62	66	65	70	71	77	80	84	81	83	88	85	86	90	83	87	87	85
B	62	62	64	66	66	65	64	64	68	70	72	74	71	73	77	71	74	74	71
A-2	70	70	72	72	75	75	70	73	82	69	74	78	67	72	78	60	67	57	51
M	80	79	83	79	81	84	67	74	87	80	66	65	79	62	50	75	67	75	58
E	56	57	55	58	58	57	59	62	59	61	66	62	64	67	67	65	67	63	58
S-1 and S-2	61	60	61	60	58	57	44	54	62	85	68	75	90	82	72	90	89	90	90
All Other	31	31	31	32	32	33	30	32	36	35	35	35	37	36	36	36	37	36	34

Additions: without heat pumps

Need to achieve at least 125% of the number of required efficiency credits, if the following conditions apply

- Additions using purchased energy not electricity for space heating or service water heating
- Additions using electric storage water heaters (non heat pump)
- Additions served by total heat pump space heating capacity less than the peak space heating load at heating design conditions calculated per Section C403.1.1



Replacement or Added Roof Equipment

Roofs with insulation entirely above roof deck

- Roof curbs need to be raised/replaced to enable future insulation to be added to meet C402 levels or 17” from roof deck to top of curb
- Does not require the insulation to be added as part of equipment replacement



Exterior Lighting Alterations

Lighting power increased by more than 400W:

- ALL exterior lighting (including beyond planned alteration) shall comply with Section C405.5 (lighting power)

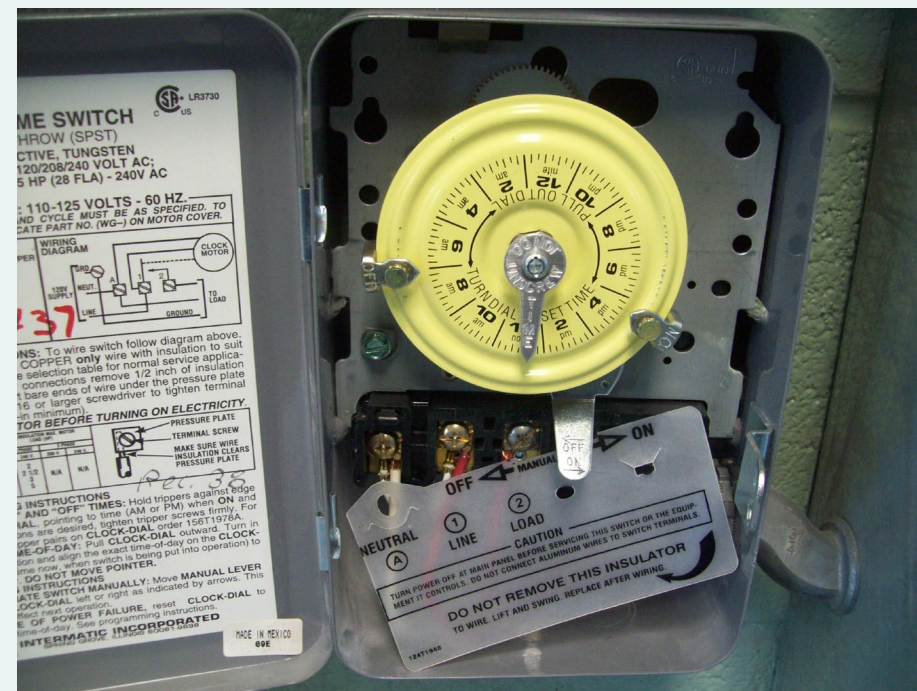


Image credit: <https://centuryservice.com/category/commercial-lighting-services/>

Exterior Lighting Alterations

Lighting scope (both new and replacement fixtures) more than 400W:

- ALL exterior lighting (including beyond planned alteration) shall comply with Sections C405.2 (lighting controls) and C408.3 (commissioning)
- *Exception for luminaires <50W with operating daylight shut-off*





Questions?

**energycode@illinois.edu
800-214-7954**