



**TOWN OF ISLIP
DEPARTMENT OF PLANNING AND DEVELOPMENT
DIVISION OF BUILDING**

One Manitton Court, Islip, New York 11751

Administration.....631-224-5464	Plumbing.....631-595-3756
Permits.....631-224-5466	Records/Inspections...631-224-5470
Plans Examiner.....631-224-5467	Zoning.....631-224-5438

**COMMERCIAL ENERGY CODE REQUIREMENTS
(2020 NYS Uniform Code and 2020 NYSECCC as printed 2019)**

PART I – GUIDELINES FOR PLAN SUBMITTAL; APPLICABILITY OF THE COMMERCIAL 2020 NYSECC AND ANSI/ASHRAE/IESA 90.1 2016:

The 2020 NYSECCC regulates the required energy code compliance for commercial buildings. Each standard gives compliance choices. The code also allows the use of computer software as approved by the NY Secretary of State such as COMcheck or REScheck (for residential including R occupancies up to 3 stories) for exterior envelope UA tradeoffs.

Where a building has mixed-use of residential and commercial, the appropriate section of the NYSECCC shall apply with appropriate submittal documents; Residential and Commercial submittals are required as appropriate for the portion of the mixed-use building.

For additions to, remodel/alterations, repairs of, change of occupancy or change in use of an existing commercial building, refer to the 2020 NYSECCC section C501.4 and ANSI/ASHRAE /IESA 90.1 2016 sections 4.1.1.2 through 4.1.1.5. Generally a COMcheck is not required unless a building is being “guttied” – brought down to the structural framing, totally renovated, windows replaced or going from unconditioned to conditioned space.

PART II – INFORMATION ON CONSTRUCTION DOCUMENTS:

C105 Information on construction documents. Construction documents shall be drawn to scale upon suitable material. Electronic media documents are permitted to be submitted where approved by the code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and shall show sufficient detail, pertinent data and features of the building, systems and equipment as herein governed. Compliance and details shall include, but are not limited to, the following as applicable:

- Compliance path information 3 types, prescriptive, performance or ASHRAE 90.1 (must be specific which used).
- Any alternatives and exceptions must be noted on the construction plans and compliance documents.
- Lighting fixture schedule with ILP wattage calculations and control narrative.
- Comcheck or software documentation if used made part of plans (software must be a single building analysis for the envelope doing each wall assembly for each building, addition or new heated space, lighting and mechanical systems. Separate submissions will be accepted).
- R-values of insulation used in thermal envelope.
- Area weighted and or U-factors and SHGC of windows, doors & skylights as cited in code.
- Solar Heat Gain Coefficient calculations where required.

- HVAC heating and cooling load calculations & design criteria for system sizing including required efficiency and calculations for ventilation and outside air; duct construction and sealing and insulation R-values and location.
- Mechanical and water heating equipment, type, size & efficiencies, including fans, piping insulation and R-values and location.
- **Economizers, demand control ventilation, energy recovery, VAV, dedicated outdoor air and hydronic systems information and required controls.**
- HVAC equipment and system controls, including fan motor horsepower and controls.
- **Location of daylight zones and required lighting controls on floor plans.**
- Where applicable, mechanical systems that are required to comply for commissioning as outlined in the 2020 NYSECCC and ASHRAE A90.1 2016 shall include a narrative explaining the commissioning requirements, testing, etc. prepared by the design professional on the mechanical, electrical and plumbing plans.
- Air barrier sealing compliance including details of construction, sealing and testing.
- Service water heating equipment and system controls.
- Interior and exterior lighting plan, wattage & controls.
- Other information pertinent to energy consumption of this project.
- For 2020 NYSECCC and COMcheck, show required Additional Efficiency Package (chose 1 of 8 mandatory packages) and Air Barrier Options and same on plans. COMCHECK checklist shall be provided showing 100% completed.
- See 2020 NYSECCC Chapter 5 for application to **existing buildings** and additions.
- R2, R3 and R4 buildings up to Three (3) stories shall use Residential compliance.

C101.5.2 Mandatory provisions. The use of the software approach to demonstrate compliance does not excuse compliance with any mandatory provision of the 2020 NYSECCC Commercial Provisions or ASHRAE 90.1-2016 as applicable. Commercial Provisions (as amended), compliance with all applicable mandatory provisions of the 2020 NYSECCC Commercial Provisions, will still be required. When using the software approach to demonstrate compliance with ASHRAE 90.1-2016, compliance with all applicable mandatory provisions of ASHRAE 90.1-2016 will still be required. Show compliance on plans.

C105.2.1 Building thermal envelope depiction. The building’s thermal envelope shall be represented on the construction drawings.

C105.2.2 Written statement. When plans or specifications bear the seal and signature of a registered design professional, such registered design professional shall also include a written statement “that to the best of his or her knowledge, belief and professional judgment, such plans or specifications are in compliance with the Energy Code”.

PART III – ENERGY FORMS/REPORTS TO SUBMIT:

A Building Permit Application Package shall include:

REQUIRED – The energy compliance documentation provided to TOI at the time of plan submittal shall **include on your code analysis sheet(s)** the Method of Energy Compliance being used.

C401.2Application.

Commercial buildings shall comply with one of the following:

1. ASHRAE Compliance Path: The requirements of [ANSI/ASHRAE/IESNA 90.1](#), as amended by 19 NYCRR Part 1240.

2. Prescriptive Compliance Path: The requirements of [Sections C402](#) through [C405](#) and [C408](#). In addition, commercial buildings shall comply with [Section C406](#) and tenant spaces shall comply with [Section C406.1.1](#).
3. The requirements of [Sections - C402.5](#), [C403.2](#), [C403.3](#) through [C403.3.2](#), [C403.4](#) through [C403.4.2.3](#), [C403.5.5](#), [C403.7](#), [C403.8.1](#) through [C403.8.4](#), [C403.10.1](#) through [C403.10.3](#), [C403.11](#), [C403.12](#), [C404](#), [C405](#), [C407](#) and [C408](#). The building energy cost shall be equal to or less than 85 percent of the *standard reference design building*.

***A commissioning plan shall be developed by a registered design professional and shall include the following:** Mechanical, service water heating systems (SWH), and electrical systems. This includes requirements for air balancing, list of mechanical, electrical and plumbing systems to be included in commissioning and functional testing of controls (mechanical, electrical and plumbing) to be included.

1. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
2. A listing of the specific equipment, appliances or systems to be tested and a description of the tests to be performed.
3. Functions to be tested including, but not limited to, calibrations and economizer controls.
4. Conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
5. Measurable criteria for performance.

*Two copies of the commissioning plan shall be provided with the construction drawings.

REQUIRED – All energy compliance documentation must be signed, sealed, stamped and dated by the appropriate design professional.

PART IV – RESPONSIBILITIES FOR ENERGY REVIEW/INSPECTION AND SPECIFIC SUBMITTAL REQUIREMENTS:

The project Architect or Registered Design Professional in responsible charge will perform reviews/quality checks for the building design relating to energy compliance. The Architect will submit a required statement (or multiple statements from the designers, architect and engineers) that the item(s) under their responsibility were reviewed for energy compliance. Some individual energy related items ask for a number (percent/value) or a narrative be provided with the plans. Narratives must be submitted as a document in the submittal package referencing the appropriate drawing.

PART V – LIST OF MANDATORY REQUIREMENTS OF THE 2020 NYSECCC OR ASHRAE 90.1-2016:

If ASHRAE 90.1-2016 is chosen, there is a **Prescriptive Path (Sections 5 through 10)** and an **Energy Cost Budget Method (Section 11)**. Designers must choose one or another;

Mandatory provisions of the Energy Cost Budget Method (Section 11) are:

- A. **Section 5.4 Thermal Envelope Mandatory Provisions:** Insulation, Fenestration, and Air Leakage.
- B. **Section 6.4 HVAC Mandatory Provisions:** Minimum Efficiencies, Equipment Sizing, HVAC Controls, HVAC construction and insulation, Walk-in Coolers and Freezers.

- C. **Section 7.4 Service Water Heating Equipment:** Load Calculations, Equipment Efficiencies, Insulation, and Controls.
- D. **Section 8.4 Electrical Mandatory Provisions:** Maximum voltage drop, Receptacle Control, Energy Monitoring; Low Voltage Dry Type Distribution Transformers.
- E. **Section 9.4 Lighting Mandatory Provisions:** Lighting Controls (Interior and Exterior), Functional Testing.
- F. **Section 10.4 Other Mandatory Provisions:** Electric Motors, Service Water Pressure Booster Systems, Elevators, Escalators and Moving Walkways, Whole Building Energy Monitoring.
- G. **Energy Cost Budget:** Less than or equal to the Design Energy Cost (Software for Energy Cost Budget – DOE-2, BLAST, and other software that complies with Section 11.4.1.1).

Mandatory Provisions of the ASHRAE 90.1-2016 Prescriptive Path are:

- A. **Section 5 Building Envelope;** Sections 5.1, 5.2, 5.4, 5.7, 5.8, 5.9 and either Section 5.5 OR Section 5.6.
- B. **Section 6 HVAC;** Sections 6.2, 6.7, 6.8 and either Section 6.3 OR Section 6.4 and 6.5 or 6.4 and 6.6.
- C. **Section 7 Service Water Heating;** Sections 7.1, 7.2, 7.4, 7.5, 7.7, 7.8.
- D. **Section 8 Electrical Power;** Sections 8.1, 8.4, 8.7.
- E. **Section 9 Lighting;** Sections 9.1, 9.4, 9.7, and either Section 9.5 OR Section 9.6.

If the 2020 NYSECCC is Chosen, there is a **Prescriptive Path (Sections C402 through C406) and a Total Building Performance Path (Section C407).** Designers must choose one or another.

Mandatory provisions of the Total Building Performance Path (Section C407) are:

- A. Section C402.5 Air Leakage.
- B. Section 403.2 HVAC; Minimum Efficiencies, Equipment Sizing, HVAC Controls, Energy Recovery Ventilators, HVAC construction and insulation, Fan Horsepower and Efficiencies, Walk-in Coolers and Freezers.
- C. Sections C403.3 through C403.3.2, C403.4 through C403.4.2.3, C403.5.5, C403.7, C403.8.1 through C403.8.4 and C403.10.1 through C403.10.3, C403.11 and C403.12.
- D. Section C404 Service Water Heating.
- E. Section C405 Electrical Power and Lighting.
- F. Section C407 Total Building Performance; Building Energy Costs shall be equal to or less than 85% of the standard reference building design.
- G. Section C408 System Commissioning.

Mandatory Provisions of the 2020 NYSECCC Prescriptive Path are:

- A. All of Sections C402 through C405; Building Envelope, HVAC, Service Water Heating, Power and Lighting.
- B. Commercial Buildings must comply with C406 Additional Efficiency Package (Chose one of 8 options MANDATORY).
- C. Tenant Spaces must comply with C406.1.1 (either one of the following).
- D. Where the shell building is not in compliance, tenant spaces must comply with one of the following additional energy efficiency packages:
 - a. C406.2; or C406.3; or C406.4; or C406.6; or C406.7.
 - b. Where the shell building is in compliance, comply with C406.5 On-Site Renewable Energy.

PART VI - COMMISSIONING REQUIREMENTS:

A New York State Licensed Architect or Engineer (Registered Design Professional) may perform commissioning and submit the **Preliminary Report of Commissioning** to the building owner or authorized agent.

- A. The preliminary report should include an itemization of deficiencies found that have not been corrected by the time of the report, list of deferred tests not accomplished because of climatic conditions, and conditions necessary for scheduling of deferred tests. The report should address the following in particular:
 - a. Mechanical, and service hot water commissioning – Air system balancing, hydronic systems balancing per C408.2.2.
 - b. Functional Performance Testing of Equipment and Controls per C408.2.3.
 - c. Lighting System Controls Functional Testing per C408.3.
- B. **ASHRAE - Duct Leakage Test Results** - If applicable to the project. For ducts designed to operate in excess of Three (3) in water gauge and all ductwork outside conditioned space per Section C403.11.
- C. **Pressure Testing of the Envelope Test Results**, (under Section C402.5; if applicable).

The Preliminary Report of Commissioning shall be submitted by the Architect, Engineer or the certified commissioning agent. The items listed must address all the items in the Commissioning Plan submitted at the time of application. The preliminary commissioning report must be provided to the building owner or owner’s agent. A letter of transmittal from the owner or agent verifying receipt of the preliminary commissioning report must be received by TOI prior to any Use & Occupancy inspections.

Final building occupancy approval shall not be granted until TOI receives a letter of transmittal from the building owner verifying receipt of the preliminary commissioning report. The Final Report of Commissioning is to be provided to the owner. **All documentation required by C408.2.5 shall be provided to the building owner or owner’s agent within 90 days of occupancy. All reports shall be made available to DPS upon request.*

Final building occupancy approval shall not be granted until TOI receives COMcheck Post Construction Compliance Statement; the *Post Construction Compliance Statement* shall be derived directly from the COMcheck compliance documentation (inspection checklist) submitted at the time of permit application.

If using AHRAE 90.1 2016, provide commissioning plan and report on the plans and specifications as per section 6.7.2.4 and appendix E.

2020 NYSUC, 2020 NYSMC and 2020 NYSFGC. Calculations for occupant and building ventilation shall be provided as per section NYSMC 403. Calculations for combustion and dilution air shall be provided as per NYSMC Chapter 7, NFPA 31 for oil fired equipment. For gas fired equipment, provide calculations as per NYSFGC section 304.1.