

2012 ECCNYS TECHNICAL SUBCOMMITTEE REVIEW OF COMMERCIAL PROVISIONS OF THE IECC-2012
DIVISION OF CODE ENFORCEMENT AND ADMINISTRATION - DEPARTMENT OF STATE

ITEM NO. (✓ - done)	ECCNYS -2010 SECTION	IECC 2012 SECTION	TITLE	SUMMARY
C4-1	New	New Section of IECC	Application	Expanded Scope and guidance for application of <i>Prescriptive path, Performance path, and mandated Additional Efficiency Package options</i> for new and rehabilitation building construction projects, as follows;
C4-2	New	New Section of IECC 401.2(2)	“High efficiency, efficacy, renewable options” for Prescriptive Path (Requires one of the three options)	<p><i>Additional Efficiency Package options</i></p> <p>Section C401.2 (2) requires the Prescriptive approach for commercial buildings to comply with <i>one of Three Additional Efficiency Package options</i>, which mandates</p> <ol style="list-style-type: none"> 1.) Higher HVAC efficiencies. <i>Subcommittee voted unanimously to adjust HVAC boiler efficiencies slightly (downward) to allow for more readily available HVAC equipment.</i> Additionally, if a piece of equipment is rated at 97% at an operating temperature of 140 Deg.F, and the actual design operating temperature needs to be 180 Deg.F, there is absolutely no cost benefit in purchasing the equipment at the 97% efficiency level. 2.) More Stringent Lighting Power Densities low watts per sq. ft. for lighting. <i>Subcommittee voted to retain Lighting Power Densities identified in IECC 2012</i> 3.) Minimum renewable power options. <i>Subcommittee voted to retain levels identified in IECC 2012</i> <i>1.75 BTU or 0.50 watts /sq.ft., OR 3% of the energy used in the building.</i>
C4-3	New	New Section of IECC 401.2(3)	“Total Building Performance”	<p><i>A Additional Efficiency requirement</i></p> <p>The Energy Modeling or Total Building Performance approach (DOE-2 model) shall be 15% more efficient than the standard reference design.</p> <p><i>Subcommittee voted to retain the 15% as in IECC 2012</i></p>

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C4-4	New	New Section of IECC 401.2.1	Application to existing buildings.	Existing building renovations shall comply to the Prescriptive Provisions of the code to the extent of the project renovations, or The Energy Modeling or Total Building Performance approach (DOE-2 model) or Provisions of ASHRAE 90.1-2010. <i>Subcommittee voted to retain the provisions of IECC 2012 (noted above).</i>
C4-5	New	New Section of IECC 402.2.8	Insulation of radiant heating systems.	Insulation of R 3.5 required for all radiant floor heating piping, panels, and under floor <i>Subcommittee voted to retain as in IECC 2012.</i>
C4-6	502.3.1	402.3.1	Fenestration (Prescriptive) Maximum area.	Vertical fenestration (not including opaque doors) shall be limited to 30% 40% of wall area and skylights max. 3% <i>Subcommittee voted to increase the 30% fenestration limit to 40% which is concurrent with ASHRAE 90.1-2010.</i>
C4-7	502.3	C402.2	Fenestration Values (Prescriptive)	<i>Subcommittee voted to reduce U factor requirements for fenestration to be concurrent with ASHRAE 90.1-2010, citing industry difficulties in manufacturing compliant commercial grade window units</i>
C4-8	New	New Section of IECC C402.3.2	Minimum Skylight fenestration area.	Not discussed by <i>Subcommittee, it is noted that ASHRAE 90.1-2010</i> has similar language Enclosed space greater than 10,000 sq. ft., the total daylight zone shall be not less than half the floor area. Not Required in Zone 6 Not Required in spaces where general LPD are less than 0.5 W/ft ² Not Required where existing structures or natural objects block sunlight on at least half the roof for ,more than 1500 daytime hours between 8 am-4 pm. Not Required where daylight zone under <i>rooftop monitors</i> is greater than 50% of the enclosed space floor area.
C4-9	502.4	402.4	Air leakage (Mandatory)	Air barriers requirements have been expanded are more specified to materials and method of assembly more specific to qualification of materials, rated assemblies, and a mandate to be proven via a building blower door test.

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C4-10	503.2.3 HVAC equipment performance requirements	403.2.3.1 Water cooled centrifugal chilling package	Water cooled centrifugal chilling package	<p>IECC 2012 provides a new equation, which provides an adjustment for Centrifugal Chiller which are s not designed to operate at standard test conditions (water temperature) of equipment operation..This adjusts equipment designed to operate outside of AHRI 550/590 test conditions shall adjust full load and NPLV ratings per the formula provided.</p> <p>The Subcommittee took exception to temperature in Centigrade units, The Committee voted to adopt equation in Fahrenheit temperature units</p>
C4-11	503.2.4.3.2 Automatic setback and shutdown capabilities	403.2.4.3.3 Automatic start capabilities	Automatic start capabilities	<p>All HVAC systems shall be provided with “set start time” controls.</p> <p><i>This optimizes the HVAC equipments’ start time to bring the space up to occupied temperature set point.</i></p> <p><i>Subcommittee voted to substitute language for <u>Optimum Start Time controls</u>, (similar to ASHRAE 90.1-2010) replacing “Set Start Time” language from IECC 2012.</i></p>
C4-12	503.2.5.1	403.2.5.1	Demand controlled ventilation (DCV)	Demand controlled ventilation (DCV) for spaces over 500 ft. sq. w/25 people per 1000 ft. sq. (with an economizer, auto modulating outdoor air, or design outdoor air rates > 3000 CFM) – See exceptions
C4-13	503.2.6	403.2.6	Energy recovery ventilation systems	Energy recovery ventilation systems are required when fan systems exceed airflow rates of Table 403.2.6 (see zones 4A-6A). This provision is now based upon the percent of outside air and design airflow rate (in CFM) to determine the applicability of the energy recovery system.

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C4-14	503.3.1	C403.3 (Simple HVAC) C403.3.1 (Economizers) C403.4 (Complex HVAC)	Economizers	<p>Economizers requirements updated, lowers applicable threshold to 33 MBH, adds a new set of exceptions for humidified spaces, residential below 5 times the number above, refrigerated spaces affected, etc., and control limits follow in sub-sections.</p> <p><i>Subcommittee voted to adopt ASHRAE 90.1-2010 language for Economizers, including higher threshold of 54 MBH.</i></p> <p>ISSUE FOUNDWITH IECC 2012; <i>Section C403.4 , Complex HVAC Systems and Equipment does not</i> contain requirement for Air Side Economizers. Air side economizers (for complex systems) must be referenced to Table C403.3.1 (1) in C403.3 Simple HVAC systems and equipment. Note; Current ECCCNY 2010, and also, IECC 2009 include language to reference Air economizers for Simple HVAC systems in this manner. (Exceptions are similar to ASHRAE 90.1-2010)</p> <p><i>Subcommittee voted to adopt</i> language to reference Air economizers for Complex HVAC systems. This reference was inadvertently omitted from the IECC 2012. Language taken from IECC 2009 will be utilized.</p> <p>This reference exists in the current ECCCNY 2010 and the IECC 2009.</p>
C4-15		<i>Sections</i> C403.2.6 C403.2.10.1	<i>Sections</i> C403.2.6 Energy recovery ventilation systems, C403.2.10.1 Allowable fan floor Horsepower	<p><i>Sections</i> C403.2.6 Energy recovery ventilation systems and C403.2.10.1 Allowable fan floor Horsepower, from the <i>Mandatory</i> provisions, to <i>Prescriptive</i> provisions.</p> <p>Reasons; Mandatory and Prescriptive provisions only have a distinction when the building is designed per the Total Building Performance path.(meaning that when the Prescriptive path is chosen, the Mandatory provisions always apply) When the Performance path is chosen, If a building cannot meet all Mandatory requirements, the building could not be built, even if it is demonstrated (by total building performance) that the proposed design would use less energy than a code complaint building which incorporates these features into the design.</p> <p><i>Subcommittee voted to accept this change</i></p>
C4-16			New Section added by Subcommittee C 403.3.3 Control of HVAC systems in Group R-1 Sleeping Rooms	Control of HVAC in Group R-1 Sleeping Rooms. Subcommittee motion was made to include language incorporating HVAC systems controls for Group R-1 sleeping rooms, when rooms are unoccupied. <i>Subcommittee voted to accept this change</i>

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C4-17	505.1	405.1	General [Electrical power and lighting systems] (Mandatory)	The exception for residential dwelling units from the lighting power density table shall be when the dwellings contain a minimum of 75% of high efficacy lamps. This is an alternative to the multi-family limit category of 0.7 watts/ft. sq.
C4-18	505.2.2.2	405.2.2.2	Occupancy sensors	Occupancy sensors required for new building uses spaces listed such as classrooms, employee lunch rooms, private offices, restrooms, storage closets, etc...and spaces less than 300 sq. ft. enclosed floor to ceiling and the control sequence is specified further. (Allows for a 50% reduction of lighting when switched on automatically with a long list of exceptions for full power) The auto control shall turn off lights to all listed spaces within 30 minutes.
C4-19	505.2.2.3	405.2.2.3	Daylight zone control	Daylight zone control zones shall be designed such that the lights in the zone are controlled independent of general lighting controls (see exceptions and controls that follow in subsections)
C4-20	New	New Section of IECC 408	System Commissioning	System HVAC Commissioning for buildings systems where required in 408.2 (see also 403.2.9) where there are many new requirements for documentation and performance testing of air, lighting, and hydronic systems which lead to preliminary and final commissioning reports
				Modifications to the Energy Conservation Construction Code of New York State's application of ASHRAE 90.1 -2010 Provisions
C4-21	Modifications to NYS application of ASHRAE 90.1 -2010 Provisions		Section 8.4 Mandatory provisions 8.4.1 Voltage drop 8.4.1.1 Feeders 8.4.1.2 Branch Circuits	<p>The Subcommittee proposed to move Voltage drop requirements from <i>Mandatory to Prescriptive</i> provisions.</p> <p>Mandatory Voltage drop for Feeders and Branch Circuits are limited to 2% and 3% respectively. In high rise construction, this limit requires a large first cost, and virtually no pay back.</p> <p>The proposal will provide specific language allowing a trade-off using the ASHRAE 90.1 Performance path, <i>Section 11 Energy Cost Budget Method</i>. Additionally, Section 11 Energy Cost Budget Method, Table 11.3 will be modified to reflect <i>base building parameters</i> will include Voltage drop for Feeders and Branch Circuits indicated as mandatory. Appendix G requirements will be revised accordingly.</p> <p>The Subcommittee voted unanimously to accept this change</p> <p><i>Mandatory provisions moved y to Prescriptive provisions</i></p>

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C4-22	Modifications to NYS application of ASHRAE 90.1-2010 Provisions		Automatic Receptacle Control Section 8.4.2 of ASHRAE 90.1-2010	Subcommittee discussed moving Automatic Receptacle Control Section 8.4.2 of ASHRAE 90.1-2010 in its entirety from the mandatory provisions, to prescriptive provisions, creating Section 8.5.2 This language would <i>also</i> be added where appropriate in Energy Modeling, Section 11.3.1, Section 12, and Appendix G. The Subcommittee voted unanimously to accept this change <i>Mandatory provisions moved y to Prescriptive provisions.</i>
C4-23	Modifications to NYS application of ASHRAE 90.1-2010 Provisions		ASHRAE 90.1-2010 Section 9.4.1.4	Subcommittee discussed moving ASHRAE 90.1-2010 Section 9.4.1.4 Automatic Day lighting Controls for Primary Side lighted Areas from the mandatory sections to prescriptive provisions of day lighting controls Section 9.5 and 9.6 such that energy modeling requirement would reflect this change. The Subcommittee voted unanimously to accept this change <i>Mandatory provisions moved y to Prescriptive provisions</i>