GEW15-14
602, 602.1, 602.1.1, A106

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Revise as follows:

602 ~~MODELED PERFORMANCE PATHWAY REQUIREMENTS~~ PERFORMANCED-BASED COMPLIANCE

602.1 Performance-based compliance. Compliance for buildings and their sites to be designed on a performance basis shall be determined by predictive modeling of both energy performance and CO_2e emissions. Predictive energy modeling shall use source energy kBtu/sf-y unit measure based on compliance with Section 602.1.1 and ~~CO_2e emissions in Section 602.3. Where a building has mixed uses, all uses shall be included in the performance-based compliance~~ Section 602.1.2. Predictive CO_2e emissions modeling shall be in accordance with Section 602.2.

602.1.1 zEPI. Performance-based designs shall demonstrate a zEPI of not more than ~~51~~ 50 as determined in accordance with Equation 6-1 ~~for energy use reduction and shall demonstrate a CO_2e emissions reduction in accordance with Section 602.2 and Equation 6-2 for CO_2e~~.

zEPI = 57 x (EUIp/EUI) **(Equation 6-1)**

where:

EUIp = the proposed energy use index in source kBtu/sf-y for the proposed design of the building and its site calculated in accordance with Section 602.1.2.
EUI = the base annual energy use index in source kBtu/sf-y for a baseline building and its site calculated in accordance with Section 602.1.2.
57 = a fixed value establishing the relationship between EUI and EUIp and the maximum zEPI.

TABLE A106
ENERGY CONSERVATION AND EFFICIENCY

SECTION	DESCRIPTION	MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED
A102.2	The jurisdiction shall indicate a number between and including 0 and up to and including 10 to establish the minimum total number of project electives that must be satisfied.	—
A106.1	zEPI reduction project electives	☐Yes ☐No
A106.1	Project zEPI is at least 5 points lower than required by Table 302.1	☐1 elective
A106.1	Project zEPI is at least 10 points lower than required by Table 302.1	☐2 electives
A106.1	Project zEPI is at least 15 points lower than required by Table 302.1	☐3 electives
A106.1	Project zEPI is at least 20 points lower than required by Table 302.1	☐4 electives
A106.1	Project zEPI is at least 25 points lower than required by Table 302.1	☐5 electives
A106.1	Project zEPI is at least 30 points lower than required by Table 302.1	☐6 electives
A106.1	Project zEPI is at least 35 points lower than required by Table 302.1	☐7 electives
A106.1	Project zEPI is at least 40 points lower than required by Table 302.1	☐8 electives

A106.1	Project zEPI is at least 45 points lower than required by Table 302.1	☐9 electives	
A106.1	Project zEPI is at least ~~51~~ 50 points lower than required by Table 302.1	☐10 electives	
A106.2	Mechanical systems project elective	☐Yes	☐No
A106.3	Service water heating	☐Yes	☐No
A106.4	Lighting systems	☐Yes	☐No
A106.5	Passive design	☐Yes	☐No
A106.6	Renewable energy systems—5 percent	☐Yes	☐No
A106.6	Renewable energy systems—10 percent	☐Yes	☐No
A106.6	Renewable energy systems—20 percent	☐Yes	☐No

Reason: zEPI is a critical piece of the goals included in the IgCC that focuses the energy performance of buildings and sites on achieving a zero net energy design for buildings. Simply replacing it with a percentage ignores that concept and as everyone knows reductions by a percentage never get you there. zEPI points to a unit on a scale that goes from a theoretical 100 to zero where 100 equal actual performance for existing buildings as identified in the CBECS data based and 57 equals the 2012 IECC.

The 57 on that scale is a fixed number which was assumed as part of the 2012 IgCC to equate to the performance of the 2012 IECC energy performance. The 50 represents a 10% reduction from what the IECC would allow. To truly get to a zero energy performance goal will require adjusting zEPI each code cycle. This change indicates that zEPI should be adjusted to 50, which would lead to steps as follows:

2015 - zEPI = 50
2018 - zEPI = 40
2021 -zEPI = 30
2024 - zEPI = 20
2027 - zEPI = 10
2030 - zEPI = 0

We believe that communities which wish to achieve zero energy design buildings are looking to this code for that approach to clearly be outlined and included in the code.

In addition, a change to Table A106 has been modified to be consistent with this change.

Cost Impact: Will not increase the cost of construction.

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