

CE6-19 Part I

IECC: Part I: Section C101.3

IECC: Part II: Section R101.3(N1101.2)

Proposed Change as Submitted

Proponents: Darren Meyers, P.E., International Energy Conservation Consultants LLC, representing Self (dmeyers@ieccode.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IECC- COMMERCIAL COMMITTEE. PART II WILL BE HEARD BY THE IECC-RESIDENTIAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2018 International Energy Conservation Code

Revise as follows:

C101.3 Intent. This code shall regulate the design and construction of buildings for the effective use and conservation of energy primarily for human comfort over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Reason: Indeed it remains the intent of the IECC to apply to energy using systems designed primarily for human occupancy (i.e., thermal comfort, visual comfort and service hot-water comfort), and -- unless specifically noted to otherwise -- does not apply to energy using systems designed for commercial, business, educational or industrial processes. This interpretation of the IECC, the Code Council has offered in the past remains the same.

While there remain some direct and indirect inferences to commercial, business, educational or industrial process energy uses throughout the IECC, there exist no "explicit" or "all-inclusive" delineations as to energy end uses designe primarily for humans to live, sleep, eat, work, and play in and around buildings and building sites. Some examples of these direct and indirect inferences to commercial, business, educational or industrial process energy uses, include:

1. C402.1.1 Greenhouses.
2. C402.1.2 [*telecommunications*] Equipment buildings.
3. C403.5 Economizers (Prescriptive), Exception 2; "... spaces designed to be humidified above 35°F (1.7°C) dewpoint temperature to satisfy "process needs."
4. C403.5.4.1 Design capacity; for:
 - o "Systems primarily serving computer rooms ...",
 - o "Systems where dehumidification requirements cannot be met using outdoor air temperatures of 50°F (10°C) dry bulb/45°F (7°C) wet bulb and where 100 percent of the expected system cooling load at 45°F (7°C) dry bulb/40°F (4°C) wet bulb is met with evaporative water economizers."
5. C403.7.1 Demand control ventilation (Mandatory), Exception 5; Ventilation provided only for "process loads."
6. C403.10.1 or C403.10.2 for Walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers.
7. C405.3.1 Total connected interior lighting power, Several exemptions:
 - o Lighting for photographic processes,
 - o Lighting for plant growth,
 - o Lighting for food warming, and
 - o Lighting in demonstration equipment for education,
8. C405.4.1 Total connected exterior lighting power, Several exemptions:
 - o Lighting associated with transportation,
 - o Temporary lighting,
 - o Industrial production, material handling and transportation lighting,
 - o Theme element lighting in theme parks.
9. C406.7.1 Load fraction, Exception 2; "Waste heat recovery from ... building equipment, or process equipment."
10. C407.1 Scope; with referent to:
 - o "... receptacle loads and process loads," and
 - o Energy used to recharge or refuel vehicles used for on-road and off-site transportation purposes.

Therefore, as was the case with the 2003 IECC, it is our opinion that niether the 2006 IECC nor it's 2009, 2012, 2015, 2018 or forthcoming 2021 editions are intended to require greenhouses (heated/cooled primarily to preserve the commodity-plants) to meet the envelope provisions of the code.

Section 101.3 the 2006 IECC (our opinion) was inadvertently truncated by the Department of Energy in an effort to improve the utility and enforceability of the IECC vis-a-vis a 'MONSTROUS' scoping and technical content change (see EC48-03/04).

So then, without the proposed language, and interpreted literally, the IECC could indeed be read as limiting the amount of energy put into a blast furnace at a foundry, energy dedicated to civilian booster pumping stations and wastewater treatment facilities keeping our civilian water supply clean, energy to operate fermenting casks at a distillery, energy to run a conveyor at a packaging plant, or even the energy to modulate cabinet temperatures within telecommunication shelters dedicated to switching and signal receiving. However, this is simply not pragmatic and not the case.

Bibliography: A copy of p.1 from the 2003 ICC International Energy Conservation Code.

SECTION 101
GENERAL

101.1 Title. These regulations shall be known as the *Energy Conservation Code* of [NAME OF JURISDICTION], and shall be cited as such. It is referred to herein as "this code."

101.2 Scope. This code establishes minimum prescriptive and performance-related regulations for the design of energy-efficient buildings and structures or portions thereof that provide facilities or shelter for public assembly, educational, business, mercantile, institutional, storage and residential occupancies, as well as those portions of factory and industrial occupancies designed primarily for human occupancy. This code thereby addresses the design of energy-efficient building envelopes and the selection and installation of energy-efficient mechanical, service water-heating, electrical distribution and illumination systems and equipment for the effective use of energy in these buildings and structures.

Exception: Energy conservation systems and components in existing buildings undergoing repair, alteration or additions, and change of occupancy, shall be permitted to comply with the *International Existing Building Code*.

101.2.1 Exempt buildings. Buildings and structures indicated in Sections 101.2.1.1 and 101.2.1.2 shall be exempt from the building envelope provisions of this code, but shall comply with the provisions for building, mechanical, service water heating and lighting systems.

101.2.1.1 Separated buildings. Buildings and structures, or portions thereof separated by building envelope assemblies from the remainder of the building, that have a peak design rate of energy usage less than 3.4 Btu/h per square foot (10.7 W/m²) or 1.0 watt per square foot (10.7 W/m²) of floor area for space conditioning purposes.

101.2.1.2 Unconditioned buildings. Buildings and structures or portions thereof which are neither heated nor cooled.

101.2.2 Applicability. The provisions of this code shall apply to all matters affecting or relating to structures and premises, as set forth in Section 101. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[EB] 101.2.2.1 Existing installations. Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, alteration or abandonment of, nor prevent the continued utilization and maintenance of, an existing building envelope, mechanical, service water-heating, electrical distribution or illumination system lawfully in existence at the time of the adoption of this code.

[EB] 101.2.2.2 Additions, alterations or repairs. Additions, alterations, renovations or repairs to a building en-

velope, mechanical, service water-heating, electrical distribution or illumination system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing system to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause any one of the aforementioned and existing systems to become unsafe, hazardous or overloaded.

[EB] 101.2.2.3 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or movement of buildings or structures shall not be mandatory for existing buildings or structures specifically identified and classified as historically significant by the state or local jurisdiction, listed in *The National Register of Historic Places* or which have been determined to be eligible for such listing.

[EB] 101.2.2.4 Change in occupancy. It shall be unlawful to make a change in the occupancy of any building or structure which would result in an increase in demand for either fossil fuel or electrical energy supply unless such building or structure is made to comply with the requirements of this code or otherwise approved by the authority having jurisdiction. The code official shall certify that such building or structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any increase in demand for either fossil fuel or electrical energy supply or any hazard to the public health, safety or welfare.

101.2.3 Mixed occupancy. When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein. Where minor accessory uses do not occupy more than 10 percent of the area of any floor of a building, the major use shall be considered the building occupancy. Buildings, other than detached one- and two-family dwellings and townhouses, with a height of four or more stories above grade shall be considered commercial buildings for purposes of this code, regardless of the number of floors that are classified as residential occupancy.

101.3 Intent. The provisions of this code shall regulate the design of building envelopes for adequate thermal resistance and low air leakage and the design and selection of mechanical, electrical, service water-heating and illumination systems and equipment which will enable effective use of energy in new building construction. It is intended that these provisions provide flexibility to permit the use of innovative approaches and techniques to achieve effective utilization of energy. This code is not intended to abridge safety, health or environmental requirements under other applicable codes or ordinances.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There is no cost implication aligned with this proposal. Rather, it is an exercise steeped in clarification of the IECC Purpose and Scope. The resulting exclusions would mean the process energies assigned to foundries, booster pumping stations, wastewater treatment facilities, distilleries, packaging plants, greenhouses and telecommunication shelters would be "excluded" from the scope and applicability of the IECC, without the need for explicitly articulated lists or exceptions. No change to stringency is proposed.

Public Hearing Results

Committee Reason: The change does not belong in the Intent statement. If provisions of the code should only apply where the concern is human comfort, then specific regulations or exceptions should be placed at those provisions. There was concern that this would be in conflict with actions taken on CE1-19. (Vote: 15-0)

Individual Consideration Agenda

Public Comment 1:

IECC@: C101.3, C401.3 (New)

Proponents:

Darren Meyers, representing Self (dmeyers@ieccode.com)

requests As Modified by Public Comment

Modify as follows:

2018 International Energy Conservation Code

C101.3 Intent. This code shall regulate the design and construction of buildings for the effective use and conservation of energy primarily for human comfort over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

C401.3 Car wash buildings. Free-standing and appurtenant manual and automatic car wash facilities or portions thereof separated from the remainder of a building by building thermal envelope assemblies complying with this section, shall be exempt from building thermal envelope provisions of Section C402 and the interior lighting control provisions of Sections C405.2.1, C405.2.2, C405.2.3 and interior lighting power provisions of Section C405.3.

Commenter's Reason: The code does not intend to regulate the commercial process of a car wash facilities as it intends buildings where spaces are heated for human comfort and illuminated for the visual acuity of building occupants (to read, work, eat or play). Moreover, the equipment (applicators, blowers, sprayers, washers, scrubbers and conveyors) utilized for the commercial enterprise of car washing tend to break down, freeze or fail, prematurely if they are not provided with a minimum level of heat for operational performance.

This proposal targets car wash facilities, specifically. The level of space conditioning for a car wash facility is not designed for human comfort, but rather to sustain the commercial enterprise and operational performance of a for-profit car wash facility. Vehicle owners do not need the level of illumination necessary to read, work, eat or play during the 2-5 minutes their vehicle is proceeding through wash cycle. Hence, there is no pragmatic reason to require building insulation, window U-factor/SHGC, air-leakage control, interior lighting power, daylight responsive controls, occupancy/vacancy sensing or interior lighting shut-off control for these facilities.

The IECC Commercial Committee asked the proponent to derive specific language from the more general "human comfort" language for the facilities where application of the IECC is not practical, feasible, or would otherwise encumber commerce.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

There is no cost implication aligned with this proposal. The resulting exclusions would mean the process energies assigned to car wash buildings would be "excluded" from the scope and applicability of the IECC. No change to stringency is proposed.

Public Comment 2:

IECC@: C101.3, C402.1.3 (New)

Proponents:

Darren, International Energy Conservation Consultants LLC, representing Self (dmeyers@ieccode.com)

requests As Modified by Public Comment

Modify as follows:

2018 International Energy Conservation Code

C101.3 Intent. This code shall regulate the design and construction of buildings for the effective use and conservation of energy ~~primarily for human comfort~~ over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

C402.1.3 Water treatment buildings. Structures surrounding and covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants (including pumping stations and collector systems) and similar facilities not used for human occupancy shall be exempt from building thermal envelope provisions of Section C402.

Commenter's Reason: The code does not intend to regulate facilities harboring the commercial process of water treatment as it intends buildings where spaces are heated for human comfort. Moreover, the equipment (tanks, stirrers, clarifiers, blowers, separators and sprayers, filters and conveyors) utilized for the private and public enterprise of water treatment tend to break down, freeze or fail, prematurely if they are not provided with a minimum level of heat for operational performance.

This proposal targets water treatment, pumping and booster facilities, specifically. There is no pragmatic reason to require building insulation, window U-factor/SHGC, air-leakage control, day-lighting for these facilities.

The IECC Commercial Committee asked the proponent to derive specific language from the more general "human comfort" language for the facilities where application of the IECC is not practical, feasible, or would otherwise encumber commerce.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

There is no cost implication aligned with this proposal. The resulting exclusions would mean the process energies assigned to water treatment buildings would be "excluded" from the scope and applicability of the IECC. No change to stringency is proposed.

Public Comment# 1734

NOTE: CE6-19 PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY

CE6-19 Part II

IECC: R101.3 (IRC N1101.2)

Proposed Change as Submitted

Proponents: Darren Meyers, P.E., International Energy Conservation Consultants LLC, representing Self (dmeyers@ieccode.com)

2018 International Energy Conservation Code

Revise as follows:

R101.3 (IRC N1101.2) Intent. This code shall regulate the design and construction of *buildings* for the effective use and conservation of energy primarily for human comfort over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Reason: Indeed it remains the intent of the IECC to apply to energy using systems designed primarily for human occupancy (i.e., thermal comfort, visual comfort and service hot-water comfort), and -- unless specifically noted to otherwise -- does not apply to energy using systems designed for commercial, business, educational or industrial processes. This interpretation of the IECC, the Code Council has offered in the past remains the same.

While there remain some direct and indirect inferences to commercial, business, educational or industrial process energy uses throughout the IECC, there exist no "explicit" or "all-inclusive" delineations as to energy end uses designe primarily for humans to live, sleep, eat, work, and play in and around buildings and building sites. Some examples of these direct and indirect inferences to commercial, business, educational or industrial process energy uses, include:

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 - o Lighting for photographic processes,
 - o Lighting for plant growth,
 - o Lighting for food warming, and
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9. C406.7.1 Load fraction, Exception 2; "Waste heat recovery from ... building equipment, or process equipment."
10. C407.1 Scope; with referent to:
 - o "... receptacle loads and process loads," and
 - o Energy used to recharge or refuel vehicles used for on-road and off-site transportation purposes.

Therefore, as was the case with the 2003 IECC, it is our opinion that niether the 2006 IECC nor it's 2009, 2012, 2015, 2018 or forthcoming 2021 editions are intended to require greenhouses (heated/cooled primarily to preserve the commodity-plants) to meet the envelope provisions of the code.

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So then, without the proposed language, and interpreted literally, the IECC could indeed be read as limiting the amount of energy put into a blast furnace at a foundry, energy dedicated to civilian booster pumping stations and wastewater treatment facilities keeping our civilian water supply clean, energy to operate fermenting casks at a distillery, energy to run a conveyor at a packaging plant, or even the energy to modulate cabinet temperatures within telecommunication shelters dedicated to switching and signal receiving. However, this is simply not pragmatic and not the case.

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Exception: Energy conservation systems and components in existing buildings undergoing repair, alteration or additions, and change of occupancy, shall be permitted to comply with the *International Existing Building Code*.

101.2.1 Exempt buildings. Buildings and structures indicated in Sections 101.2.1.1 and 101.2.1.2 shall be exempt from the building envelope provisions of this code, but shall comply with the provisions for building, mechanical, service water heating and lighting systems.

101.2.1.1 Separated buildings. Buildings and structures, or portions thereof separated by building envelope assemblies from the remainder of the building, that have a peak design rate of energy usage less than 3.4 Btu/h per square foot (10.7 W/m²) or 1.0 watt per square foot (10.7 W/m²) of floor area for space conditioning purposes.

101.2.1.2 Unconditioned buildings. Buildings and structures or portions thereof which are neither heated nor cooled.

101.2.2 Applicability. The provisions of this code shall apply to all matters affecting or relating to structures and premises, as set forth in Section 101. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[EB] 101.2.2.1 Existing installations. Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, alteration or abandonment of, nor prevent the continued utilization and maintenance of, an existing building envelope, mechanical, service water-heating, electrical distribution or illumination system lawfully in existence at the time of the adoption of this code.

[EB] 101.2.2.2 Additions, alterations or repairs. Additions, alterations, renovations or repairs to a building en-

velope, mechanical, service water-heating, electrical distribution or illumination system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing system to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause any one of the aforementioned and existing systems to become unsafe, hazardous or overloaded.

[EB] 101.2.2.3 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or movement of buildings or structures shall not be mandatory for existing buildings or structures specifically identified and classified as historically significant by the state or local jurisdiction, listed in *The National Register of Historic Places* or which have been determined to be eligible for such listing.

[EB] 101.2.2.4 Change in occupancy. It shall be unlawful to make a change in the occupancy of any building or structure which would result in an increase in demand for either fossil fuel or electrical energy supply unless such building or structure is made to comply with the requirements of this code or otherwise approved by the authority having jurisdiction. The code official shall certify that such building or structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any increase in demand for either fossil fuel or electrical energy supply or any hazard to the public health, safety or welfare.

101.2.3 Mixed occupancy. When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein. Where minor accessory uses do not occupy more than 10 percent of the area of any floor of a building, the major use shall be considered the building occupancy. Buildings, other than detached one- and two-family dwellings and townhouses, with a height of four or more stories above grade shall be considered commercial buildings for purposes of this code, regardless of the number of floors that are classified as residential occupancy.

101.3 Intent. The provisions of this code shall regulate the design of building envelopes for adequate thermal resistance and low air leakage and the design and selection of mechanical, electrical, service water-heating and illumination systems and equipment which will enable effective use of energy in new building construction. It is intended that these provisions provide flexibility to permit the use of innovative approaches and techniques to achieve effective utilization of energy. This code is not intended to abridge safety, health or environmental requirements under other applicable codes or ordinances.

2003 INTERNATIONAL ENERGY CONSERVATION CODE®

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There is no cost implication aligned with this proposal. Rather, it is an exercise steeped in clarification of the IECC Purpose and Scope. The resulting exclusions would mean the process energies assigned to foundries, booster pumping stations, wastewater treatment facilities, distilleries, packaging plants, greenhouses and telecommunication shelters would be "excluded" from the scope and applicability of the IECC, without the need for explicitly articulated lists or exceptions. No change to stringency is proposed.

Committee Action:

Disapproved

Committee Reason: The term 'human comfort' is not defined. The committee concluded that inserting the term into the Intent statement could affect existing code text and the review of future changes in unforeseen ways. (Vote: 11-0)

Assembly Action:

None

CE6-19 Part II
