

Information regulations at 10 CFR 1004.11.

## VII. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this preliminary determination.

Issued in Washington, DC, on August 26, 2010.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

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## DEPARTMENT OF ENERGY

[Docket No. EERE-2010-BT-DET-0030]

RIN 1904-AC17

### Updating State Residential Building Energy Efficiency Codes

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Notice of proposed determination.

**SUMMARY:** The Department of Energy (DOE or Department) has preliminarily determined that the 2009 version of the International Code Council (ICC) International Energy Conservation Code (IECC) would achieve greater energy efficiency in low-rise residential buildings than the 2006 IECC. Also, DOE has preliminarily determined that the 2006 version of the IECC would achieve greater energy efficiency than the 2003 IECC. Finally, DOE has preliminarily determined that the 2003 version of the IECC would not achieve greater energy efficiency than the 2000 IECC. If these determinations are finalized, States would be required to file certification statements to DOE that they have reviewed the provisions of their residential building code regarding energy efficiency and made a determination as to whether to update their code to meet or exceed the most recent code with an affirmative determination, the 2009 IECC. Additionally, this Notice provides guidance to States on how the codes have changed from previous versions, how to submit certifications, and how to request extensions of the deadline to submit certifications, should the preliminary determinations be adopted as final.

**DATES:** Comments on the preliminary determinations must be provided by October 4, 2010.

**ADDRESSES:** You may submit comments, identified by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *E-mail:* [ronald.majette@ee.doe.gov](mailto:ronald.majette@ee.doe.gov). Include RIN 1904-AC17 in the subject line of the message.

- *Postal Mail:* Mr. Ronald B. Majette, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Forrestal Building, Mail Station EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Please submit one signed paper original.

- *Hand Delivery/Courier:* Mr. Ronald B. Majette, U.S. Department of Energy, Federal Energy Management Program, Room 6003, 1000 Independence Avenue, SW., Washington, DC 20585-0121.

*Instructions:* All submissions must include the agency name, Department of Energy, and docket number, EERE-2010-BT-DET-0030, or Regulatory Information Number (RIN), 1904-AC17, for this rulemaking.

**FOR FURTHER INFORMATION CONTACT:** Mr. Ronald B. Majette, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Forrestal Building, Mail Station EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121, 202-586-7935. For legal issues contact Chris Calamita, U.S. Department of Energy, Office of the General Counsel, Forrestal Building, GC-72, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9507, *e-mail:* [Christopher.Calamita@hq.doe.gov](mailto:Christopher.Calamita@hq.doe.gov).

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## I. Introduction

### A. Statutory Requirements

Title III of the Energy Conservation and Production Act, as amended (ECPA), establishes requirements for the Building Energy Standards Program. (42 U.S.C. 6831-6837) Section 304(b) of ECPA, as amended, provides that when the 1992 Model Energy Code, or any successor to that code, is revised, the Secretary of the Department of Energy must determine, not later than 12 months after the revision, whether the revised code would improve energy efficiency in residential buildings and must publish notice of the determination in the **Federal Register**. (42 U.S.C. 6833(a)(5)(A)) The Department, following precedent set by the International Code Council (ICC) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) considers high-rise (greater than three stories) multifamily residential buildings and hotel, motel, and other transient residential building types of any height as commercial buildings for energy code purposes. Low-rise residential buildings include one- and two-family detached and attached buildings, duplexes, townhouses, row houses, and low-rise multifamily buildings (not greater than three stories) such as condominiums and garden apartments.

If the Secretary determines that the revision would improve energy efficiency then, not later than 2 years after the date of the publication of the affirmative determination, each State is required to certify that it has compared its residential building code regarding energy efficiency to the revised code and made a determination whether it is appropriate to revise its code to meet or exceed the provisions of the successor code. (42 U.S.C. 6833(a)(5)(B)) State determinations are to be made: (1) After public notice and hearing; (2) in writing; (3) based upon findings included in such determination and upon evidence presented at the hearing; and (4) available to the public. (See, 42 U.S.C. 6833(a)(5)(C)) In addition, if a State determines that it is not appropriate to revise its residential building code, the State is required to submit to the Secretary, in writing, the reasons, which

are to be made available to the public. (See, 42 U.S.C. 6833(a)(5)(C))

### B. Background

The International Code Council's (ICC) International Energy Conservation Code (IECC) establishes national energy efficiency requirements for buildings. In 1997, the Council of American Building Officials (CABO) was incorporated into the ICC and the Model Energy Code (MEC) was renamed to the IECC. A previous **Federal Register** notice, 59 FR 36173, July 15, 1994, announced the Secretary's determination that the 1993 MEC increased energy efficiency relative to the 1992 MEC for residential buildings. Similarly, another **Federal Register** notice, 61 FR 64727, December 6, 1996, announced the Secretary's determination that the 1995 MEC is an improvement over the 1993 MEC. Finally, **Federal Register** notice 66 FR 1964, January 10, 2001, simultaneously announced the Secretary's determination that the 1998 IECC is an improvement over the 1995 MEC and the 2000 IECC is an improvement over the 1998 IECC.

### C. DOE's Preliminary Determination Statement

#### 2003 IECC

The Department of Energy's review and evaluation found that there are not significant differences in energy efficiency between the 2003 edition and the 2000 edition of the IECC. Although there are a few changes that would modestly improve the energy efficiency of residential buildings, there are a number of changes that reduce energy efficiency in certain situations. Most of the changes to the IECC between the 2000 and 2003 editions would not affect energy efficiency but rather make the code simpler and clearer for designers, builders, and code compliance officials to understand and use. Based on these findings, the Department has preliminarily concluded that the 2003 edition of the IECC should not receive an affirmative determination under Section 304(b) of EPCA. The Department preliminarily concludes that there is a slight improvement in energy efficiency for many residential buildings, but this improvement is not sufficient to merit an affirmative determination. It should be noted that DOE is not concluding that the energy efficiency of the 2003 IECC is less stringent than the 2000 IECC.

#### 2006 IECC

The residential portion of the 2006 IECC has been extensively changed from that the 2003 IECC. However, the most

significant changes to the code between 2003 and 2006 simplify the code format rather than fundamentally changing the overall (national average) energy efficiency of the code. Multifamily buildings, which in the past have had separate, less stringent thermal requirements, are an exception. By eliminating the separate requirements, the 2006 IECC increased the energy efficiency of multifamily buildings.

Although the most significant 2006 changes did not directly target efficiency improvements, the new format of the code does result in some energy efficiency differences. The requirements for any given building may have increased or decreased based on the specific location (climate) and building design. The Department has preliminarily found that overall the 2006 IECC has a small improvement in energy efficiency compared to the 2003 IECC. The Department preliminarily concludes that the 2006 edition of the IECC should receive an affirmative determination under Section 304(b) of EPCA.

#### 2009 IECC

The 2009 IECC has substantial revisions compared to the 2006 IECC. Many of these revisions appear to directly improve energy efficiency, and the sum results of all changes appear to result in a significant increase in code stringency. Therefore, the Department preliminarily concludes that the 2009 edition of the IECC should receive an affirmative determination under Section 304(b) of EPCA.

## II. Discussion of Changes in the 2003, 2006, and 2009 IECC

### A. 2003 IECC Compared With the 2000 IECC

As a whole, the 2003 IECC's provisions for energy efficiency in residential buildings appear largely unchanged from the 2000 IECC. There are some changes in the code that can have a modest effect on energy efficiency. These are discussed below. In addition, there is a variety of minor changes intended to make the code more concise, more complete, and better organized, but not more or less stringent. For example, more specific requirements have been added for steel roofs/ceilings and floors to correspond to those already in the code for steel walls. Another example is the relocation of the 51 pages of state maps from the middle of the code to the back of the code. Additionally, the performance path in Chapter 4 of the 2003 IECC contains a variety of modest improvements compared to the 2000

IECC, which creates more concise requirements.

### Changes in the 2003 IECC That Improve Energy Efficiency

#### 1. Increased Duct Insulation Requirements

Duct insulation requirements generally increased in the 2003 IECC. The 2003 IECC requirements are shown in Table 1. These are somewhat difficult to compare to the 2000 IECC requirements because the latter are more complex, differing between ducts in unconditioned spaces and ducts completely exterior to the building and distinguishing requirements by the design temperature difference between the duct air and the space in which the ducts are located. The 2000 IECC requirements for ducts in unconditioned spaces are shown in Table 2. Assuming typical supply air temperatures of 55 degrees F for cooling and 95 degrees F for heating (for heat pumps), the 2000 IECC insulation requirement for supply ducts in unconditioned spaces is R-5 (minimum) for nearly all cases. Insulation required by the 2000 IECC for return ducts in unconditioned spaces will generally be R-3.3 in warmer climates and R-5 in colder climates.

For the very common case of supply ducts in attics, and the case that is likely to have the greatest impact on energy use, the 2003 IECC always requires at least R-8, which exceeds the 2000 IECC's R-5 requirement. For supply ducts in other unconditioned spaces, the 2003 IECC's requirements exceed the 2000 IECC's requirements in all cases except very warm locations (less than 1500 heating degree-days), where the 2003 IECC requires R-4 compared to the 2000 IECC's requirement of R-5. Because supply ducts transport air in its hottest (or coldest) condition, insulation has its greatest impact on these ducts. The 2003 IECC is almost always more stringent than the 2000 IECC for supply ducts. This includes all supply ducts in attics and, based on the distribution of population<sup>1</sup>, more than 80% of ducts in other unconditioned spaces.

Requirements for return ducts in attics are slightly more stringent in the 2003 IECC (R-4 vs R-3.3) in the warmest climates, slightly less stringent (R-4 vs R-5) in mid climates, and slightly more stringent (R-6 vs R-5) in the coldest climates.

<sup>1</sup> Estimated from USGS Population Places data that allows mapping of population to climate ([http://geonames.usgs.gov/domestic/download\\_data.htm](http://geonames.usgs.gov/domestic/download_data.htm)).

Research<sup>2</sup> showing the impact on heating and cooling energy use due to duct insulation is summarized in Table

3. Based on this research, the Department estimates that improved duct insulation in the 2003 IECC will

reduce heating and cooling energy use by about 1%.

TABLE 1—DUCT INSULATION REQUIREMENTS IN THE 2003 IECC

Annual heating degree days base 65°F	Insulation R-value (h · ft <sup>2</sup> · °F)/Btu			
	Ducts in unconditioned attics or outside building		Ducts in unconditioned basements, crawl spaces, and other unconditioned spaces	
	Supply	Return	Supply	Return
Below 1,500 .....	8	4	4	0
1,500 to 3,500 .....	8	4	6	2
3,501 to 7,500 .....	8	4	8	2
Above 7,500 .....	11	6	11	2

TABLE 2—INSULATION REQUIREMENTS (R-VALUE, h-ft<sup>2</sup>-F/BTU) FOR DUCTS IN UNCONDITIONED SPACES IN THE 2000 IECC

Design Temperature Difference (TD) between air temperature in duct and space in which duct is located (degrees F)	Cooling	Heating
TD ≤ 15 .....	None required .....	None required.
40 ≥ TD > 15 .....	3.3 .....	3.3.
TD > 40 .....	5.0 .....	5.0.

TABLE 3—HEATING AND COOLING ENERGY SAVINGS (PERCENT) FROM INCREASED DUCT INSULATION  
[Atlanta, Natural Gas Heating]

	Attic	Basement	Crawlspace
R-4 to R-6 .....	2.3	1.6	1.8
R-6 to R-8 .....	1.4	0.9	1.1

## 2. Minor Changes to “Systems Analysis” Performance Compliance Method

There are two changes that can increase the stringency of the performance path in Chapter 4 of the 2003 IECC in certain cases. First, any house proposed to use electric resistance heating must have equal or lower calculated energy use than a hypothetical “standard design” that uses a more efficient electric air source heat pump. This change makes the performance approach much more stringent for designs that have electric resistance heating. However, compliance can be achieved for these designs using the prescriptive compliance methods in Chapters 5 and 6, thereby bypassing the increased stringency of the performance path.

Second, a provision has also been added requiring that the least efficient orientation in terms of energy use be assumed for a proposed group of residences with identical designs. Therefore, in a development where the same design is built on multiple lots facing various directions, the compliance analysis must be based on the least advantageous orientation. In

most of the United States, this is the orientation that points the most window area toward a westerly direction, maximizing solar heat gains in summer afternoons and therefore increasing air conditioning energy use. Because proposed building designs must have a calculated annual energy use equal to or less than that of a home with window area equally distributed toward the four cardinal directions, the requirement to assume the least efficient orientation effectively makes the code more stringent because the increased energy use from the least efficient orientation must be offset by improved energy efficiency. This requirement in the 2003 IECC will have only modest average impact because it affects only the performance approach and identical house designs used repeatedly in a development.

### B. Changes in the 2003 IECC That Decrease Energy Efficiency

#### 1. Sunroom Additions

A special set of requirements has been added to Table 502.2.5 of the 2003 IECC for sunroom additions having a floor area of less than 500 ft<sup>2</sup> (46.5 m<sup>2</sup>). Sunroom additions are permitted to

have ceiling, wall insulation, and window U-factor requirements that are typically less stringent than the requirements for all other types of residential construction. These special requirements for sunrooms only apply to additions to existing dwellings, not to sunrooms that are built as part of a new dwelling. In the 2000 IECC, there were no special requirements for sunroom additions; they had to meet the same requirements as other residential construction. To qualify for the less stringent requirements in the 2003 IECC, the sunroom addition must be capable of being controlled as a separately heated and cooled zone. Additionally, new walls, doors or windows between the sunroom and the house must meet the envelope requirements of the IECC. Finally, the glazing area must exceed 40% of the gross area of the exterior walls and roof to qualify as a sunroom in the IECC.

Testing with the DOE-2 simulation tool indicates that for a 500 ft<sup>2</sup> sunroom, the less stringent 2003 requirements could add about \$200 to the annual energy costs in Chicago if the sunroom is both heated and cooled all year. Impacts are much smaller in Houston,

<sup>2</sup> Tiedler, B., R. Lucas, M. Modera, J. Miller. 1996. Impact of Residential Duct Insulation on

HVAC Energy Use and Life-Cycle Costs to

Consumers. American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

about \$10 added energy costs. However, this increase in energy consumption is mitigated (on average) by several factors. First, the requirements apply to a very small fraction of all new residential construction. The Wall Street Journal Online (June 3, 2003) reports three billion dollars worth of sunroom construction each year, or less than one percent of all residential construction expenditures. But that fraction includes new construction as well as additions, so the fraction representing sunroom additions is less than 1%. Second, it is expected that many sunrooms will not be maintained at comfort conditions all year, further reducing the overall impact. Finally, because the 2003 IECC requires that the sunroom be thermally isolated from the rest of the house and that walls, windows, and doors between the sunroom and house meet the code's envelope requirements, the thermal impact when these spaces are not actively conditioned is negligible. Therefore, the overall impact of this reduction in stringency to national energy use is expected to be extremely small.

## 2. Climate Zone Maps

The IECC contains prescriptive envelope requirements (insulation R-values and glazing U-factors) in Chapter 6 and Section 502.2.4 of the code. In the 2000 IECC, only the heating degree-days for the city where the housing was to be built could be used to determine the applicable prescriptive envelope requirements. In the 2003 IECC, the heating degree-days can still be used to determine the requirements, but additionally the designer/builder can use the climate zones provided in the state maps in the IECC. For most locations, the Chapter 3 climate zones and heating degree-days lead to the exact same requirements. Using the climate zones in the maps instead of the heating degree-days will allow about 10% of cities nationwide to have a less stringent set of prescriptive requirements. However, about 20% of cities nationwide will have more stringent requirements when the climate zones are used with the prescriptive requirements. If the designer/builders select to use the climate zone maps in the 10% of cities where it lowers requirements but not in the 20% of locations where it raises requirements, the 2003 code effectively is less stringent. However, DOE believes code users will make use of the climate zone maps even in many of the locations where they raise requirements. It is doubtful most code users will go through the level of effort of determining which method of

determining climate based requirements may give less stringent requirements. In fact, DOE believes most users will not even be aware of these differences, but will prefer the climate zone maps because of their simplicity. The REScheck compliance materials developed by the U.S. Department of Energy utilize the same heating degree day based requirements for both the 2000 and 2003 IECC.

## 3. Increased U-Factor for Skylight Replacements

The maximum U-factor for skylight replacements in existing buildings (Section 502.2.5 of the IECC) is raised from a U-factor of 0.50 to a U-factor of 0.60 for locations above 1,999 heating degree-days. A higher U-factor reduces energy efficiency.

## C. Net Impact on Energy Efficiency

The change in the 2003 IECC that is expected to have the greatest impact on energy efficiency for the nation is the improved duct insulation because a majority of new residential buildings have ducts that pass through attics, crawl spaces, unheated basements and other spaces where the IECC requires duct insulation. The improved duct insulation in the 2003 IECC is estimated to save about 1% of heating and cooling costs.

The "Systems Analysis" performance compliance method is a less commonly used compliance method and the modest energy savings from the improvements in this optional compliance method can easily be bypassed by choosing a different compliance method. Because this approach is optional, it is impossible to calculate the cumulative effect these code changes will have on energy efficiency. DOE believes that the changes to the system analysis method are insufficient to sway the decision on whether the determination is affirmative or not.

The changes that reduce energy efficiency for sunroom additions and skylight replacements are not considered to have substantial impacts on national energy use as they do not apply to new buildings and only apply to specific types or retrofits and additions to existing buildings. The skylight U-factor change is only a modest reduction in energy efficiency and sunroom additions are a small fraction of the residential construction market.

The addition of the climate zone maps in the 2003 IECC as an option to using city-specific heating degree-day data allows for the possibility of preferentially lowering thermal

envelope requirements in about 10% of all national locations. However, it is difficult to exploit this change because the code user must perform relatively complex calculations rather than using the popular and user-friendly REScheck software.

DOE preliminarily concludes the improved duct insulation will slightly improve energy efficiency in most houses. However, the reductions in energy efficiency for skylight replacements and sunroom additions are expected to at least partially offset these savings from a national energy total use perspective. The vast majority of all requirements in the IECC are unchanged from 2000 to 2003. For these reasons, DOE initially finds insufficient improvements in the 2003 to merit an affirmative determination.

## B. 2006 IECC Compared With the 2003 IECC

The residential portion of the IECC in general and the building thermal envelope (ceilings, walls, doors, windows, foundations, etc.) requirements in particular were completely restructured from 2003 to 2006. This resulted in the code becoming much shorter and simpler, its volume reduced from 38 pages to 9 pages. The climate basis on which envelope requirements depend was completely reworked. The 2003 IECC has envelope requirements that vary continuously with heating degree-days (HDD),<sup>3</sup> or with 17 HDD zones (geographically-defined based on counties, roughly following 500-HDD bins). In contrast, the 2006 IECC has eight geographically-defined climate zones with all borders set on county boundaries.

A major change to envelope requirements was the combining of separate requirements for two building categories (one- and two-family dwellings, and all other low-rise residential buildings). The 2006 IECC requirements are the same for all low-rise residential building types, which has the effect of increasing the energy efficiency of the other low-rise buildings. Also eliminated were nine related tables that provided predefined packages of thermal transmittance prescriptive requirements (glazing, ceiling-roof, exterior wall, floor over unconditioned space, basement and crawl space walls, and floor slab on grade) for different window to wall area ratios (WWR). In their place, the 2006 IECC provides a single table of predefined packages of thermal

<sup>3</sup> Some compliance paths defined requirements based on 17 "zones" based on HDD ranges.

transmittance prescriptive requirements that do not vary with WWR.

Table 4 shows a comparison of major prescriptive envelope requirements for a single-family house at a typical 15%

WWR. The requirements for the 2003 IECC will differ from those shown in Table 4 for other WWRs and for multifamily buildings. The 2006 IECC climate zones do not exactly map to the

2003 IECC zones. Table 5 shows a more detailed estimate of how residential construction maps from the 2006 IECC compare to the 2003 IECC climate zones.

TABLE 4—COMPARISON OF THE 2003 IECC AND 2006 IECC ENVELOPE THERMAL COMPONENT PRESCRIPTIVE CRITERIA FOR ONE- AND TWO-FAMILY DWELLINGS AT 15% WINDOW AREA

IECC climate zone		Heating degree days	Maximum		Minimum					
2003	2006		Glazing U-factor		Ceiling R-value		Wall R-value		Floor R-value	
			2003	2006	2003	2006	2003	2006	2003	2006
1 .....	1 2	0–499 .....	Any	1.20	R–13	R–30	R–11	R–13	R–11	R–13
2 .....	2	500–999 .....	0.90	0.75	R–19	R–30	R–11	R–13	R–11	R–13
3 .....		1,000–1,499 .....	0.75	0.75	R–19	R–30	R–11	R–13	R–11	R–13
4 .....		1,500–1,999 .....	0.75	0.75	R–26	R–30	R–13	R–13	R–11	R–13
5 .....	3	2,000–2,499 .....	0.65	0.65	R–30	R–30	R–13	R–13	R–11	R–19
6 .....		2,500–2,999 .....	0.60	0.65	R–30	R–30	R–13	R–13	R–19	R–19
7 .....		3,000–3,499 .....	0.55	0.65	R–30	R–30	R–13	R–13	R–19	R–19
8 .....	4	3,500–3,999 .....	0.50	0.40	R–30	R–38	R–13	R–13	R–19	R–19
9 .....		4,000–4,499 .....	0.45	0.40	R–38	R–38	R–13	R–13	R–19	R–19
10 .....		4,500–4,999 .....	0.45	0.40	R–38	R–38	R–16	R–13	R–19	R–19
11 .....	5	5,000–5,499 .....	0.45	0.35	R–38	R–38	R–18	R–19	R–19	R–19/30
12 .....		5,500–5,999 .....	0.40	0.35	R–38	R–38	R–18	R–19	R–21	R–19/30
13 .....		6,000–6,499 .....	0.35	0.35	R–38	R–38	R–18	R–19	R–21	R–19/30
14 .....		6,500–6,999 .....	0.35	0.35	R–49	R–38	R–21	R–19	R–21	R–19/30
15 .....	5 6	7,000–8,499 .....	0.35	0.35	R–49	R–38/49	R–21	R–19	R–21	R–21
16 .....	6	8,500–8,999 .....	0.35	0.35	R–49	R–49	R–21	R–21	R–21	R–21
17 .....	7	9,000–12,999 .....	0.35	0.35	R–49	R–49	R–21	R–21	R–21	R–21

IECC climate zone		Heating degree days	Minimum					
2003	2006		Basement wall R-value		Slab perimeter R-value and depth feet		Crawl space wall R-value	
			2003	2006	2003	2006	2003	2006
1 .....	1 2	0–499 .....	R–0	R–0	R–0	R–0	R–0	R–0
2 .....	2	500–999 .....	R–0	R–0	R–0	R–0	R–4	R–0
3 .....		1,000–1,499 .....	R–0	R–0	R–0	R–0	R–5	R–0
4 .....		1,500–1,999 .....	R–5	R–0	R–0	R–0	R–5	R–0
5 .....	3	2,000–2,499 .....	R–5	R–10/13	R–0	R–0	R–6	R–5
6 .....		2,500–2,999 .....	R–6	R–10/13	R–4,2	R–0	R–7	R–5
7 .....		3,000–3,499 .....	R–7	R–10/13	R–4,2	R–0	R–8	R–5

IECC climate zone		Heating degree days	Minimum					
2003	2006		Basement wall R-value		Slab perimeter R-value and depth feet		Crawl space wall R-value	
			2003	2006	2003	2006	2003	2006
8	4	3,500–3,999	R-8	R-10/13	R-5,2	R-10,2	R-10	R-10
9		4,000–4,499	R-8	R-10/13	R-5,2	R-10,2	R-11	R-10
10		4,500–4,999	R-9	R-10/13	R-6,2	R-10,2	R-17	R-10
11	5	5,000–5,499	R-9	R-10/13	R-6,2	R-10,2	R-17	R-10
12		5,500–5,999	R-10	R-10/13	R-9,4	R-10,2	R-19	R-10
13		6,000–6,499	R-10	R-10/13	R-9,4	R-10,2	R-20	R-10
14		6,500–6,999	R-11	R-10/13	R-11,4	R-10,2	R-20	R-10
15	5 6	7,000–8,499	R-11	R-10/13	R-13,4	R-10,2	R-20	R-10
16	6	8,500–8,999	R-18	R-10/13	R-14,4	R-10,4	R-20	R-10
17	7	9,000–12,999	R-19	R-10/13	R-18	R-10,4	R-20	R-10

TABLE 5—PERCENTAGE OF HOMES IN EACH 2006 IECC CLIMATE ZONE THAT WOULD HAVE BEEN IN EACH 2003 IECC CLIMATE ZONE

2003 IECC climate zone	2006 IECC climate zone						
	1	2	3	4 except marine	5 and marine 4	6	7 & 8
1	100	5	0	0	0	0	0
2	0	20	0	0	0	0	0
3	0	40	22	0	0	0	0
4	0	31	10	0	0	0	0
5	0	3	18	0	0	0	0
6	0	0	28	0	0	0	0
7	0	0	16	4	0	0	0
8	0	0	6	9	0	0	0
9	0	0	0	13	1	0	0
10	0	0	0	28	6	0	0
11	0	0	0	41	8	0	0
12	0	0	0	5	28	0	0
13	0	0	0	0	31	0	0
14	0	0	0	0	20	12	0
15	0	0	0	0	6	81	3
16	0	0	0	0	0	5	6
17	0	0	0	0	0	2	85
18	0	0	0	0	0	0	5
19	0	0	0	0	0	0	2

The Department has conducted an analysis and has preliminarily found that the 2006 IECC would modestly increase energy efficiency on an overall national average basis. This analysis is summarized below; a technical support document published in conjunction

with this Notice contains the full results. The Department stresses that this increased energy efficiency is based on an average across all new residential buildings. The analysis identified combinations of locations and building design where the 2006 IECC would

slightly reduce energy efficiency; however, the analysis indicates that the reductions would be more than offset by cases where energy efficiency is improved.

Table 6 provides the overall results of the comparative analysis of the

prescriptive envelope requirements of the 2006 IECC and the 2003 IECC. The DOE-2 energy simulation software was used to calculate these values. The 2006 IECC has a 1% average overall national energy savings. The table shows

combined results for single-family and multifamily construction accounting for weighted average building characteristics. Table 6 illustrates significant regional differences that are primarily a result of the revised climate

zones. In most climates, the two codes are very nearly equivalent. In climate zone 5, the 2006 IECC shows a substantial improvement (about 5%). In climate zone 3, the 2003 IECC is more energy efficient (by about 5%).

TABLE 6—ANNUAL ENERGY SAVINGS (MBTU) OF 2006 IECC COMPARED TO 2003 IECC FOR PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS

2006 IECC Climate zone	Foundation type				Average	Percent savings
	Heated basement	Crawl space	Slab-on-grade	Unheated basement		
Zone 1 .....	0.5	0.4	0.3	0.4	0.3	2
Zone 2 .....	-0.1	1.4	0.9	-0.1	0.9	3
Zone 3 .....	-8.6	-1	-3.3	-1.5	-3.4	-5
Zone 4 .....	2	0.8	0.6	0.7	1.1	1
Zone 5 .....	5.5	7.3	4.2	6.3	5.7	5
Zone 6 .....	1.1	3.3	0	2.3	1.4	1
Zone 7 .....	-2	4.5	0.4	3.4	-0.4	0
Average .....	2.4	2.7	-0.3	3.3	1	1

The analysis underlying the results in Table 6 does not account for all changes in the IECC from 2003 to 2006. For example, the 2006 IECC requires increased duct insulation in certain cases. On the other hand, the 2006 IECC is missing requirements for pool heater controls (on-off switch) and pool covers contained in the 2003 IECC. However, these and a few other miscellaneous changes do not appear to alter a determination that the 2006 IECC has a modest improvement in overall energy efficiency compared to the 2003 IECC. The Department expects all heated pools to have an on-off switch, basic pool covers are dependent on the diligent occupant behavior for removing/covering the pool, and many homes do not have a pool or may not heat their pool. Furthermore, the 2003 IECC allows the pool cover requirement to be bypassed if 20% of the heating energy is provided by solar heat from the sun striking the pool surface.

There was one particular issue that received the most extensive debate during the 2006 IECC development process. This issue was how the 2006 IECC sets requirements based on the window area of a home. There was considerable concern because a residential building with unlimited windows (e.g., an "all glass" house) can be built without any penalty under the 2006 IECC. This is not the case in the 2003 IECC, where, as the WWR becomes higher, the code requires improved performance of windows and/or wall insulation. However, this effect is offset in two ways. First, while the 2003 IECC becomes more stringent at high WWRs, it also becomes less stringent at low WWRs, whereas the 2006 IECC does not. Second, the 2006 IECC increased the

baseline efficiency requirements (U-factor) of glazing to almost equal then-current Energy Star levels in most locations. The Department's analysis of the IECC's requirements related to window area indicate that the 2006 code is not weaker than the 2003 IECC when the distribution of window areas in all residential buildings is accounted for.

A major factor influencing the Department's preliminary determination of improved efficiency in the 2006 IECC is the improvement in energy efficiency for multifamily housing. The building envelope requirements in 2006 IECC are identical for all residential building types. This is not the case in the 2003 IECC where the requirements for multifamily building types are considerably less stringent than those for one and two-family dwellings. This is shown in the wall requirements in Figure 502.2(1) of the 2003 IECC. While multifamily residential construction has a much smaller market share than single-family in terms of number of dwelling units, there is a nearly universal improvement in requirements for multifamily buildings regardless of building design or climate zone. As indicated below in the certification discussion, high-rise (greater than three stories) multifamily residential buildings and hotel, motel, and other transient residential building types of any height as commercial buildings for energy code purposes. However, the building envelope revisions in 2006 IECC would impact residential buildings such as townhouses, row houses, and low-rise multifamily buildings (not greater than three stories) such as condominiums and garden apartments.

### C. 2009 IECC Compared With the 2006 IECC

Each of the major changes in the 2009 IECC that impact energy efficiency is examined individually below. All but one of the changes appear to improve energy efficiency.

#### 1. Changes That Improve Energy Efficiency

##### Lighting

The 2009 IECC has a major new requirement that a minimum of 50% of all lamps (bulbs, tubes, etc.) be "high efficacy," which is defined to include compact fluorescent lights (CFLs), T-8 or smaller diameter fluorescent tubes, or other products achieving comparable or better lumen-per-watt ratings. Traditional incandescent bulbs do not meet this requirement. The 2006 IECC had no lighting requirements for residential buildings. The Department estimates that lighting consumed 11.6% of all primary energy use in residential buildings in 2006 and that the requirement in the 2009 IECC could reduce lighting energy use by about 25%.

##### Building Envelope Thermal Measures

The 2009 IECC has a number of changes that improve energy efficiency in the building envelope. There are direct increases in prescriptive building envelope requirements in Tables 402.1.1 and 402.1.3 of the IECC. Table 7 shows these changes. Additionally, there were a number of minor improvements, including establishing an area limit of 24 ft<sup>2</sup> on the door exemption from U-factor requirements.

TABLE 7—IMPROVEMENTS IN PRESCRIPTIVE ENVELOPE REQUIREMENTS

Component	2006 IECC	2009 IECC
Maximum fenestration U-factor (excluding sky-lights).	Zone 2: 0.75 ..... Zone 3: 0.65 ..... Zone 4: 0.40 .....	Zone 2: 0.65. Zone 3: 0.50. Zone 4: 0.35. 0.30.
Maximum fenestration solar heat gain coefficient (SHGC) in Zones 1 through 3.		
Basement wall insulation in Zones 6 through 8	R-13 cavity or R-10 continuous insulation .....	R-19 cavity or R-15 continuous insulation.
Basement wall insulation in northern section of Zone 3.	No insulation required .....	R-13 cavity or R-5 continuous insulation.
Wood-Frame wall insulation (all but basements) in Zones 5 and 6.	R-19 .....	R-20.
Floor insulation in Zones 7 and 8 .....	R-30 .....	R-38.

### Building Envelope Air Leakage

Although the fundamental requirement to seal all potential sources of leaks has not changed, the air leakage control specifications in Section 402.4 of the 2009 IECC are considerably more detailed than in the 2006 edition, requiring either a comprehensive inspection against a checklist of component sealing criteria or a whole-building pressurization test. There is a new requirement that fireplaces have gasketed doors to limit air leakage. Additionally, compliance with Standard ASTM E283 is now required to limit air leakage through recessed light fixtures. The 2006 IECC only required recessed light fixtures to be sealed but did not require compliance with the ASTM standard. This testing of fixtures is expected to help eliminate energy consuming leaks through these fixtures, which can be a very common method of lighting in kitchens and other rooms in new houses.

### Duct Leakage Limits and Testing Requirement

The 2009 IECC contains a new requirement that buildings with ducts that pass outside the conditioned space (for example, if ducts are in unconditioned attics, garages or crawlspaces) have the ducts pressure tested and shown to have a maximum leakage rate below specified limits. While the 2006 IECC also requires ducts to be sealed, the addition of a specific leakage limit verified by a pressure test in each new home or retrofit is expected to substantially reduce leakage in many if not most cases.

Testing of completed homes in Washington State where prescriptive code requirements for duct sealing apply without any testing to confirm compliance, “showed no significant improvement” over non-code homes.<sup>4</sup>

<sup>4</sup> Washington State University. 2001. *Washington State Energy Code Duct Leakage Study Report*. WSUCEEP01105. Washington State University

Another study from Washington State concluded: “Comparisons to air leakage rates reported elsewhere for homes built before the implementation of the 1991 WSEC show no significant improvement by the general population” despite years of training emphasizing duct sealing.<sup>5</sup>

Numerous other studies around the nation show substantial duct leakage in new homes, including those in states with codes requiring duct sealing. For example, a 2001 study of 186 houses built under the Model Energy Code in Massachusetts reported “serious problems were found in the quality of duct sealing in about 80% of these houses”.<sup>6</sup> Pressurization tests in 22 of these houses found an average leakage to the outside of the house of 183 cfm, or 21.6% of the system flow, at a pressure of 25 Pascals.

The energy savings of improved duct sealing are very substantial. A California study estimated a sales-weighted state annual average savings from duct sealing of 38 therms and 239 kWh for a 1761 ft<sup>2</sup> house.<sup>7</sup> This is based on an estimated 12% improvement in duct efficiency based on previous studies indicating a 12–15% improvement potential. The Department preliminarily concludes that the 2009 IECC’s requirement that duct air leakage meet an upper limit and be verified by a pressure test will save significant energy compared to the 2006 and prior editions of the IECC.

Cooperative Extension Energy Program, Olympia, Washington.

<sup>5</sup> Hales, D., A. Gordon, and M. Lubliner. 2003. *Duct Leakage in New Washington State Residences: Findings and Conclusions*. ASHRAE Transactions. KC-2003-1-3.

<sup>6</sup> Xenergy. 2001. *Impact Analysis Of The Massachusetts 1998 Residential Energy Code Revisions*. [http://www.mass.gov/Eeops/docs/dps/inf/inf\\_bbrs\\_impact\\_analysis\\_final.pdf](http://www.mass.gov/Eeops/docs/dps/inf/inf_bbrs_impact_analysis_final.pdf).

<sup>7</sup> Hammon, R. W., and M. P. Modera. 1999. “Improving the Efficiency of Air Distribution Systems in New California Homes-Updated Report.” Consol. Stockton, California. [http://www.energy.ca.gov/title24/ducttape/documents/IMPROVE\\_EFFICIENCY\\_RES.PDF](http://www.energy.ca.gov/title24/ducttape/documents/IMPROVE_EFFICIENCY_RES.PDF).

### Improvement in Other Requirements

1. There are a number of changes to the “simulated performance alternative” compliance path in the 2009 IECC. The glazing area in the baseline “standard reference design” was reduced from a maximum of 18% of the conditioned floor area to 15%. This results in increased energy efficiency for any proposed design having a glazing area of more than 15%. Because use of this compliance path is completely optional, these savings will only occur when the user chooses this compliance path. Another change does not directly alter code stringency in the performance path but may ultimately result in some energy savings is the removal of the option to trade high-efficiency HVAC equipment for reductions in other requirements in the code, such as reduced envelope insulation. Because building envelopes have substantially longer lives than HVAC and/or water heating equipment, energy savings from envelope improvements may persist for many more years than comparable equipment improvements. Also, because high-efficiency equipment is already the predominant choice in many markets, disallowing envelope/equipment trade-offs is likely to result in improved overall efficiency in many situations.

### 2. Changes That Reduce Energy Efficiency

There is only one change in the 2009 IECC that directly reduces energy efficiency. Insulation requirements for many ducts outside the building thermal envelope are reduced from R-8 to R-6; exceptions are supply ducts in attics, which must still have R-8 insulation, and ducts in floor trusses, which retain the 2006 code’s R-6 requirement.

### 3. Net Impact on Energy Efficiency

The Department has conducted an energy simulation analysis of 2009 IECC compared to the 2006 using the DOE–

2 simulation tool to model<sup>8</sup> a two-story, single-family house with a crawl space foundation and a conditioned floor area of 2,400 ft<sup>2</sup>. It was assumed that the house had 8.5-ft high ceilings, a ceiling area (bordering the unconditioned attic) of 1,200 ft<sup>2</sup>, a gross exterior wall area of 2,380 ft<sup>2</sup>, and a window area of 357 ft<sup>2</sup> (15% of the wall area) equally oriented north, south, east, and west. Heating with a natural gas furnace (\$1.20/therm)

and central electric air conditioning (\$.12/kWh) were assumed.

High-efficacy lighting was assumed to increase from 10% to 50% of all lighting within the building, reducing lighting energy use by 26%, or \$74 a year. Savings attributable to the lighting requirements in the IECC will decrease as Federal law requires improved light bulbs in 2012 to 2014. Improved duct sealing was assumed to save 10% of the

heating and cooling costs. Figure 1 shows the estimated annual energy cost savings resulting from the 2009 IECC changes for 14 diverse climates and for the national average. Actual savings will vary depending on many factors, including how well ducts are currently sealed in the absence of any testing requirements.

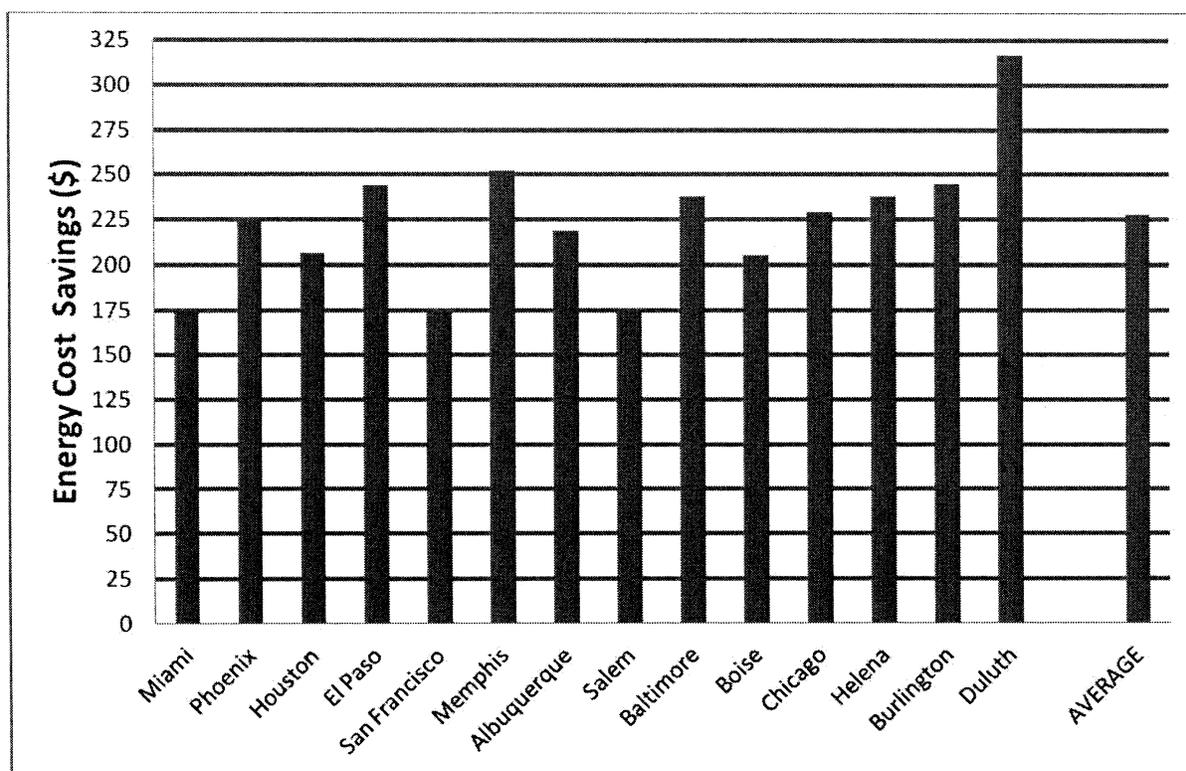


Figure 1. Annual Energy Cost Savings of 2009 IECC Compared to the 2006 IECC for a 2400 ft<sup>2</sup> House

### III. Comparison of the 2009 IRC to the 2009 IECC

In the past some states have adopted the 2009 International Residential Code (IRC) in lieu of the 2009 IECC because the IRC provides a comprehensive building construction code (structural, plumbing, electrical, energy, etc.) in a single book for one- and two-family dwellings and townhouses. Consequently, DOE anticipates that some states may wish to adopt the 2009 IRC in lieu of the 2009 IECC. In order to provide technical assistance to States that may wish to adopt the 2009 IRC, DOE has evaluated the 2009 IRC to compare the stringency of its energy provisions with those of the 2009 IECC.

Our analysis indicates that the 2009 IRC *would not* equal or exceed the energy efficiency of the 2009 IECC.

Chapter 11 of the IRC contains energy efficiency provisions. The IRC allows compliance with the IECC as an alternative to complying with Chapter 11. Most of the energy efficiency requirements in the IRC and IECC are identical. However, there are several differences between the two codes that result in the 2009 IRC having reduced energy efficiency compared to the 2009 IECC. All the differences are listed below.

1. The 2009 IECC requires a glazed fenestration solar heat gain coefficient (SHGC) of 0.30 or lower whereas the

2009 IRC requires a higher (less stringent) SHGC of 0.35 or lower, in climate zones 1, 2, and 3. Further, the 2009 IRC allows impact resistant fenestration in zones 1 through 3 to meet an even less stringent SHGC requirement of 0.40 and less stringent U-factor requirements in zones 2 and 3.

2. For basement walls, the 2009 IECC requires either R-15 continuous insulation or R-19 cavity insulation in zones 6-8, whereas the 2009 IRC requires lower (less stringent) R-values in these zones: R-10 continuous or R-15 cavity.

3. The 2009 IECC requires R-38 floors in zones 7 and 8; the 2009 IRC requires only R-30.

<sup>8</sup> The DOE-2 simulation tool is available at <http://doe2.com/>.

4. The 2009 IECC limits the allowance for R-30 insulation in ceilings without attics to 500 ft<sup>2</sup> or 20% of the total insulated ceiling area, whichever is less. The 2009 IRC limits the allowance to 500 ft<sup>2</sup> without regard to the total ceiling area. Thus, under the 2009 IRC some smaller homes will have less efficient ceilings.

The 2009 IRC differs from the 2009 IECC in some ways that, although they do not reduce the stringency of code requirements, have the potential to result in increased energy consumption in certain situations:

1. Both the IRC and IECC allow for “trade-offs” by which the efficiency of one building component can be lowered in trade for higher efficiency in another. The 2009 IECC limits the extent to which glazing properties can be reduced in such trade-offs. The 2009 IECC sets a trade-off “cap” on SHGC at a maximum of 0.50 in climate zones 1, 2, and 3 and a cap on U-factor trade-offs of U–0.48 in zones 4 and 5 and U–0.40 in zones 6, 7, and 8. These caps are not present in the 2009 IRC. As these caps do not increase stringency of the code (but rather restrict trade-off options), there is no direct impact on annual energy consumption or cost. There may, however, be some impacts on occupant comfort and/or resistance to moisture condensation, either of which could

possibly induce occupants to increase energy consumption, for example by raising thermostat set points.

2. The air barrier and insulation inspection requirements differ slightly between the codes. The 2009 IECC requires checking that “Air-permeable insulation is inside of an air barrier” (right column in the first row). The 2009 IRC is missing this, which could result in insulation on the exterior side of an air barrier being exposed to wind-induced air movement that reduces its effective R-value.

3. The definitions of “conditioned space” are different between the two codes, which, depending on local officials’ interpretations, could result in different portions of a building being deemed conditioned and hence subject to the code’s envelope requirements.

4. The three labels “mandatory,” “prescriptive,” and “performance” are used to label many sections in the 2009 IECC, but are not used at all in the 2009 IRC. The provisions that are *mandatory* are always required while *prescriptive* provisions can be traded off as long as overall home energy efficiency is not decreased. Thus the 2009 IRC may permit trading down the efficiency of some components with the potential to induce increased energy consumption as described above.

5. The 2009 IRC (section N1101.1, “Scope”) states that Chapter 11 (Energy

Efficiency) does not apply to portions of the building envelope that do not enclose conditioned space. Section 101.5.2 of the IECC is more specific, exempting only *building thermal envelope provisions* that do not contain conditioned space.

Impact of the Differences Between the 2009 IRC and 2009 IECC

The Department of Energy has performed a limited analysis of potential impact of the differences between the 2009 IECC and 2009 IRC. The analysis involves thermal simulation of home performance in several representative locations using the EnergyGauge (DOE–2)<sup>9</sup> simulation tool on a typical house:

- 2400 ft<sup>2</sup> floor area, two-story
- Natural gas furnace heating at \$1.20/therm
- Central air conditioning electricity at 12 cents/kWh
- Equipment efficiencies at Federal minimum levels
- 360 ft<sup>2</sup> window area equally distributed to the north, east, south, and west building faces, with no exterior shading.

The results are shown in Tables 8 through 10. The 2009 IRC yields a higher annual energy cost in almost all cases.

TABLE 8—ENERGY SAVINGS OF REDUCING SHGC FROM 0.35 TO 0.30 IN CLIMATE ZONES ONE THROUGH THREE

Climate zone	Representative city	Cooling savings	Heating increase	Energy savings
1	Miami	\$29	\$0	\$29
2	Houston	18	9	9
2	Phoenix	20	1	19
3	Atlanta	16	18	–2
3	Jackson MS	19	15	4
3	Memphis	17	17	0
3	Dallas	20	14	6
3	El Paso	18	17	1
3	Las Vegas	16	15	1

TABLE 9—ENERGY SAVINGS OF INCREASING BASEMENT WALL INSULATION FROM R–13 TO R–19 IN CLIMATE ZONES SIX THROUGH EIGHT

Climate zone	Representative city	Energy savings
6	Burlington	\$29
7	Duluth	34
8	Fairbanks	33

<sup>9</sup>EnergyGauge is available at <http://doe2.com/>.

TABLE 10—ENERGY SAVINGS OF INCREASING FLOOR INSULATION FROM R-30 TO R-38 IN CLIMATE ZONES SEVEN AND EIGHT

[Floor over unheated basement]

Climate zone	Representative city	Energy savings
7 .....	Duluth .....	\$13
8 .....	Fairbanks .....	19

#### IV. Filing Certification Statements With DOE

##### A. State Determinations

If today's determinations are finalized, each State would be required to determine the appropriateness of revising the portion of its residential building code regarding energy efficiency to meet or exceed the provisions of the ICC International Energy Conservation Code, 2009 edition. (42 U.S.C. 6833(a)(5)(B)) A State determination for the 2009 IECC would be sufficient to address all of the DOE determinations in this notice. Note that the applicability of any State revisions to new or existing buildings would be governed by the State building codes. However, it is our understanding that generally, the revisions would not apply to existing buildings unless they are undergoing a change that requires a building permit. The determinations would be required to be made not later than two years from the date of notice final determination, unless an extension is provided. The State determination must be: (1) Made after public notice and hearing; (2) in writing; (3) based upon findings and upon the evidence presented at the hearing; and (4) made available to the public. States have considerable discretion with regard to the hearing procedures they use, subject to providing an adequate opportunity for members of the public to be heard and to present relevant information. The Department recommends publication of any notice of public hearing in a newspaper of general circulation.

Section 304(a)(4) of ECPA, as amended, requires that if a State makes a determination that it is not appropriate to revise the energy efficiency provisions of its residential building code, the State must submit to the Secretary, in writing, the reasons for this determination and the statement shall be available to the public. (42 U.S.C. 6833(a)(4))

States should be aware that the Department considers high-rise (greater than three stories) multifamily residential buildings and hotel, motel, and other transient residential building types of any height as commercial buildings for energy code purposes.

Residential buildings include one- and two-family detached and attached buildings, duplexes, townhouses, row houses, and low-rise multifamily buildings (not greater than three stories) such as condominiums and garden apartments.

States should also be aware that the determinations do not apply to Chapter 5 of the 2009 IECC, which addresses commercial buildings as defined above. Therefore, States must certify their evaluations of their State building codes for residential buildings with respect to all provisions of the IECC except for those chapters.

##### B. Requests for Extensions To Certify

Section 304(c) of ECPA, as amended, requires that the Secretary permit an extension of the deadline for complying with the certification requirements described above, if a State can demonstrate that it has made a good faith effort to comply with such requirements and that it has made significant progress toward meeting its certification obligations. (42 U.S.C. 6833(c)) Such demonstrations could include one or more of the following: (1) A plan for response to the requirements stated in Section 304, or (2) a statement that the State has appropriated or requested funds (within State funding procedures) to implement a plan that would respond to the requirements of Section 304 of ECPA.

#### V. Regulatory Analysis

##### A. Review Under Executive Order 12866

Today's action is a significant regulatory action under section 3(f)(1) of Executive Order 12866, "Regulatory Planning and Review" (58 FR 51735; October 4, 1993). Accordingly, today's action was reviewed by the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB).

##### B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires the preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public

comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, "Proper Consideration of Small Entities in Agency Rulemaking," (67 FR 53461; August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process (68 FR 7990). DOE has made its procedures and policies available on the Office of General Counsel's Web site: <http://www.gc.doe.gov>. Today's action on the determination of improved energy efficiency between IECC editions would require States to undertake an analysis of their respective building codes. Today's action does not impact small entities. Therefore, we certify that there is no significant economic impact on a substantial number of small entities.

##### C. Review Under the National Environmental Policy Act of 1969

DOE has preliminarily determined that today's action is covered under the Categorical Exclusion found in DOE's National Environmental Policy Act regulations at paragraph A.6. of Appendix A to subpart D, 10 CFR part 1021. That Categorical Exclusion applies to actions that are strictly procedural, such as rulemaking establishing the administration of grants. Today's action impacts whether States must perform an evaluation of State building codes. The action would not have direct environmental impacts. Accordingly, DOE has not prepared an environmental assessment or an environmental impact statement.

##### D. Review Under Executive Order 13132, "Federalism"

Executive Order 13132, 64 FR 43255 (August 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. Agencies are required to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the

States and carefully assess the necessity for such actions. DOE has examined today's action and has determined that it will not preempt State law and will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Today's action impacts whether States must perform an evaluation of State building codes. No further action is required by Executive Order 13132.

#### *E. Review Under the Unfunded Mandates Reform Act of 1995*

The Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) generally requires Federal agencies to examine closely the impacts of regulatory actions on State, local, and tribal governments. Subsection 101(5) of Title I of that law defines a Federal intergovernmental mandate to include any regulation that would impose upon State, local, or tribal governments an enforceable duty, except a condition of Federal assistance or a duty arising from participating in a voluntary Federal program. Title II of that law requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and tribal governments, in the aggregate, or to the private sector, other than to the extent such actions merely incorporate requirements specifically set forth in a statute. Section 202 of that title requires a Federal agency to perform a detailed assessment of the anticipated costs and benefits of any rule that includes a Federal mandate which may result in costs to State, local, or tribal governments, or to the private sector, of \$100 million or more. Section 204 of that title requires each agency that proposes a rule containing a significant Federal intergovernmental mandate to develop an effective process for obtaining meaningful and timely input from elected officers of State, local, and tribal governments.

Today's action impacts whether States must perform an evaluation of State building codes. Today's action would not impose a Federal mandate on State, local or tribal governments, and it would not result in the expenditure by State, local, and tribal governments in the aggregate, or by the private sector, of \$100 million or more in any one year. Accordingly, no assessment or analysis is required under the Unfunded Mandates Reform Act of 1995.

#### *F. Review Under the Treasury and General Government Appropriations Act of 1999*

Section 654 of the Treasury and General Government Appropriations Act of 1999 (Pub. L. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. Today's action would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

#### *G. Review Under the Treasury and General Government Appropriations Act of 2001*

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516, note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's action under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

#### *H. Review Under Executive Order 13211*

Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to the OMB a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of the Office of Information and Regulatory Affairs (OIRA) as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use, should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

Today's action would not have a significant adverse effect on the supply, distribution, or use of energy and is

therefore not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

#### *I. Review Under Executive Order 13175*

Executive Order 13175, "Consultation and Coordination with Indian tribal Governments" (65 FR 67249; November 9, 2000), requires DOE to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" refers to regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes." Today's regulatory action is not a policy that has "tribal implications" under Executive Order 13175. DOE has reviewed today's action under Executive Order 13175 and has determined that it is consistent with applicable policies of that Executive Order.

## **VI. Public Participation**

The public is invited to submit comments on the preliminary determinations. Comments must be provided by October 4, 2010 using any of the methods described in the **ADDRESSES** section of this notice. If you submit information that you believe to be exempt by law from public disclosure, you should submit one complete copy, as well as one copy from which the information claimed to be exempt by law from public disclosure has been deleted. DOE is responsible for the final determination with regard to disclosure or nondisclosure of the information and for treating it accordingly under the DOE Freedom of Information regulations at 10 CFR 1004.11.

## **VII. Approval of the Office of the Secretary**

The Secretary of Energy has approved publication of these preliminary determinations.

Issued in Washington, DC, on August 26, 2010.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

[FR Doc. 2010-22062 Filed 9-2-10; 8:45 am]

**BILLING CODE 6450-01-P**