

DEPARTMENT OF ENERGY
FINDING OF NO SIGNIFICANT IMPACT

DOE/EA-2165

Final Rule, 10 CFR Part 433, "Energy Efficiency Standards for New Federal Commercial and Multi-Family High-Rise Residential Buildings Baseline Standards Update"

RIN 1904-AE44

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

ACTION: Finding of No Significant Impact

SUMMARY:

DOE is required to establish building energy efficiency standards for all new federal buildings, pursuant to section 305 of the Energy Conservation and Production Act (ECPA), as amended. (42 U.S.C. 6834 (a)(1)). In turn, each federal agency and the Architect of the Capitol must adopt procedures to ensure that new federal buildings will meet or exceed these federal building energy efficiency standards. (42 U.S.C. 6835(a)). The head of a federal agency is barred from expending federal funds for the construction of a new federal building unless the building meets or exceeds the applicable baseline federal building energy standards established under section 305. (42 U.S.C. 6835(b)).

The standards established under section 305(a)(1) of ECPA must contain energy efficiency measures that are technologically feasible and economically justified, and that meet the energy saving and renewable energy specifications in the applicable voluntary consensus energy code specified in section 305(a)(2). (42 U.S.C. 6834(a)(1) - (3)). Under section 305 of ECPA, the referenced voluntary consensus code for federal commercial and high-rise residential buildings is the American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 90.1, hereafter "ASHRAE".

DOE must also establish, by rule, revised federal building energy efficiency performance standards for new federal buildings that require such buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the referenced code (baseline federal building standard), if life-cycle cost-effective. (42 U.S.C. 6834(a)(3)(A)(i)(I)).

The current 10 CFR 433 baseline standard is based on ASHRAE 90.1-2013. ASHRAE has updated the standard twice, first to ASHRAE 90.1-2016 and then to ASHRAE 90.1-2019. Under section 305 of ECPA, not later than one year after the date of approval of each subsequent revision of the ASHRAE Standard 90.1, DOE must determine whether to amend the baseline federal building standards with the revised voluntary standard based on the cost-effectiveness of the revised voluntary standard. (42 U.S.C. 6834(a)(3)(B)). It is this requirement that the Proposed Action seeks to address.

DOE determined that ASHRAE 90.1-2019 would achieve greater energy efficiency than the ASHRAE 90.1-2016 (see 86 FR 40543; July 28, 2021). DOE also determined that the ASHRAE 90.1 2016 version would achieve greater energy efficiency than the prior version (the ASHRAE 90.1-2013 version that is currently referenced in 10 CFR Part 433) (see 83 FR 8463, February 27, 2018). DOE also determined that the ASHRAE 90.1-2019 would be cost effective if applied to new federal commercial and multi-family high-rise residential buildings. While not making updates related to ASHRAE 90.1-2016 in 10 CFR part 433, DOE nonetheless determined that ASHRAE 90.1-2016 would be cost effective if applied to new federal commercial and multi-family high-rise residential buildings. Since the amended ASHRAE 90.1-2019 meets the statutory criteria for DOE to incorporate it as the baseline standard for commercial and multi-family high-rise residential federal buildings, DOE is considering a rule (the Proposed Action) to update the baselined standard to the ASHRAE 90.1-2019.¹ The Proposed Action, if implemented, would require that federal agencies design new federal commercial and high-rise residential buildings to meet ASHRAE 90.1-2019; and, if life-cycle cost effective, achieve energy consumption levels that are at least 30 percent below the levels of ASHRAE 90.1-2019.

Based on the Environmental Assessment (EA) for the Final Rule (DOE/EA-2165), herein incorporated by reference, DOE has determined that revising the Federal building energy efficiency standards to meet ASHRAE 90.1-2019 would not be a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA). Therefore, an environmental impact statement (EIS) is not required, and DOE is issuing this Finding of No Significant Impact (FONSI).

¹ Although ASHRAE published two versions of the ASHRAE 90.1 since 10 CFR Part 433 was last updated, Standard 90.1-2016 and the 90.1-2019, the Proposed Action would update 10 CFR Part 433 to the ASHRAE 90.1-2019 directly, without requiring agencies to comply with the ASHRAE 90.1-2016.

SUPPLEMENTARY INFORMATION

Description of the Proposed Action²

Under the Proposed Action DOE would revise its building energy efficiency baseline standard for all new Federal commercial and multi-family high-rise residential buildings. The Proposed Action would update 10 CFR 433, “Energy Efficiency Standards for New Federal Commercial and Multi-Family High-Rise Residential Buildings,” by replacing ASHRAE Standard 90.1-2013 with the more energy efficient ASHRAE Standard 90.1-2019. The proposed action would also make edits to the Federal Building Energy Efficiency Standards regarding the specific energy load types that must be included when agencies determine if they’re building designs result in energy savings that are 30 percent or more below the ASHRAE 90.1 Standard. The Proposed Action also makes minor technical edits to the Federal Building Energy Efficiency Standards.

Context of Potential Impacts

DOE evaluates the significance of an action in several different contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

It is impossible from a programmatic level to adequately determine which specific areas of the Nation would be most affected under the Proposed Action. Each construction of new federal commercial or multi-family high-rise residential buildings would be considered a site-specific action, and a site specific environmental review would be undertaken for each site by the cognizant federal agency to determine impacts at the local level.

The Proposed Action by itself would not cause any significant adverse effects nationally, regionally, or at the statewide level.

Intensity of Potential Impacts

The following discussion is organized around the ten (10) intensity factors which DOE utilizes to evaluate severity of impact. The intensity of effects considered is in terms of the following:

1. ***Impacts that may be both beneficial and adverse:*** The EA analyzed the impacts of the Proposed Action that may be beneficial and adverse. The beneficial impacts of the Proposed Action will be to reduce outdoor emissions primarily by reducing consumption of fossil fuels. The EA evaluated adverse effects of the Proposed Action separately from beneficial effects, to determine whether such adverse effects would have been significant

² The term "Proposed Action" is a term of art under the National Environment Policy Act. The term refers to: a proposal that contains sufficient details about the intended actions to be taken, or that will result, to allow alternatives to be developed and its environmental impacts meaningfully analyzed. (40 CFR 1508.23).

in their own right, and no such effects were found to be significant. In no cases did the analysis in the EA use beneficial effects to offset the potential significance of any adverse effect. In addition, the EA did not use any long term beneficial effects to offset the potential significance of any short term adverse effects.

The EA analyzed potential adverse impacts to indoor air and determined there would be no impacts to indoor air pollutant levels. The Proposed Action will not result in significant irreversible resource commitments or irretrievable losses of resources. Accordingly, DOE concludes the Proposed Action will not have any significant adverse impacts and that the Proposed Action would have beneficial impacts.

2. ***The degree to which the proposed action affects public health or safety:*** The EA analyzed the degree to which the Proposed Action affects the public health or safety. The EA analyzed impacts of the Proposed Action on indoor air and outdoor air, two resource areas which could potentially affect public health or safety. For the reasons discussed below, DOE has concluded that the Proposed Action will not cause any significant effects on public health or safety.

The Proposed Action is expected to reduce outdoor emissions primarily by reducing consumption of fossil fuels. Cumulative emission reductions for 30 years of construction and operation for federal buildings built during the analysis period (2022 through 2051) were estimated at up to 4,472,870 metric tons of CO₂, up to 6,250 metric tons of NO_x, up to 0.009 metric tons of Hg, up to 30,410 metric tons of CH₄, and up to 38 metric tons of N₂O.³ Emission reductions for halocarbons, CO, PM, and lead are negligible. Under no scenario of future construction would emissions of any of the listed compounds increase.

The Proposed Action would not change mechanical ventilation rates or building sealing requirements. As such, the Proposed Action would have no impact to indoor pollution levels.

The Proposed Action would not be or create a likely target for intentional destructive acts that could further affect public safety.

3. ***Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:*** DOE has concluded that the Proposed Action would not

³ Actual reductions would depend on the level of energy efficiency that is life cycle cost effective for each new building design. For example, under the no action alternative, agencies are required to design all new federal commercial and multi-family high-rise residential buildings at 30 percent more efficient than ASHRAE Standard 90.1-2013, if life cycle cost effective. Under the proposed action, agencies would be required to design buildings that are 30 percent more efficient than ASHRAE Standard 90.1-2019, if life cycle cost effective. A comparison of the no-action alternative to the proposed action yields an estimated 30-year emissions reduction for carbon dioxide of 3,131,010 metric tons. The values shown in the text correspond to buildings that just meet ASHRAE 90.1-2013 and ASHRAE 90.1-2019.

cause any adverse effects on unique characteristics of a geographic area. The intended outcome of the Proposed Action is to update the baseline federal energy efficiency performance standards for the construction of new federal commercial or multi-family high-rise residential buildings, and the Proposed Action is not a site-specific action. All potential impacts within a local geographic area will be analyzed by a completion of a site-specific environmental review by the cognizant federal agency prior to initiating construction of new federal commercial or multi-family high-rise residential buildings that would be subject to the Final Rule.

4. ***The degree to which the effects on the quality of the human environment are likely to be highly controversial:*** DOE has concluded that the effects on the human environment of the Proposed Action are not uncertain; they do not involve unique or unknown risks. DOE published the EA for public comment and received no comments.
5. ***The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:*** DOE has concluded that the effects on the quality of the human environment are not likely to be highly controversial. There is no known credible scientific controversy over the impacts of the Proposed Action. Impacts from the Proposed Action are well known and fully analyzed in the EA. DOE published the EA for public comment and received no comments.
6. ***The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*** DOE has concluded that the Proposed Action is not likely to establish a precedent for future actions with significant effects. The Proposed Action is limited to federal buildings and mandated by specific regulation.
7. ***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:*** DOE has concluded that the Proposed Action, when evaluated together with other past, present, or reasonably foreseeable land disturbing activities in the area, would not result in other cumulatively significant impacts at the local or regional scale. The Proposed Action is not site specific, and established rules are limited to federal buildings. All potential impacts within a local geographic area will be analyzed by a completion of a site-specific environmental review by the cognizant federal agency prior to initiating construction of new federal commercial or multi-family high-rise residential buildings that would be subject to the Final Rule.
8. ***The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources:*** DOE has concluded that the Proposed Action will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places, and there is no loss of significant scientific, cultural, or historical resources. The Proposed Action is not site specific, and established rules are limited to

federal buildings. All potential impacts within a local geographic area will be analyzed by a completion of a site-specific environmental review by the cognizant federal agency prior to initiating construction of new federal low-rise residential buildings that would be subject to the Final Rule.

9. ***The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973:*** DOE has concluded that the Proposed Action will not adversely affect an endangered or threatened species or any critical habitat. The Proposed Action is not site specific, and established rules are limited to federal buildings. All potential impacts within a local geographic area will be analyzed by a completion of a site-specific environmental review by the cognizant federal agency prior to initiating construction of new federal commercial or multi-family high-rise residential buildings that would be subject to the Final Rule.
10. ***Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the human environment:*** DOE has concluded that the Proposed Action does not violate any federal, state, or local law or requirement imposed for the protection of the environment. The Proposed Action is not site specific, and established rules are limited to federal buildings. All potential impacts within a local geographic area will be analyzed by a completion of a site-specific environmental review by the cognizant federal agency prior to initiating construction of new federal commercial or multi-family high-rise residential buildings that would be subject to the Final Rule.

Determination:

Based on the EA and the above considerations, DOE finds that the Proposed Action is not a major action that constitutes a significant effect on the human environment. This finding and decision is based on the consideration of DOE's NEPA implementing regulations (10 CFR Part 1021. Accordingly, the Proposed Action does not require the preparation of an environmental impact statement.

For questions about this FONSI or the Final EA, please contact:
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