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1000 Independence Avenue SW, Washington, DC 20585-0121
Submitted using the Federal eRulemaking Portal at www.regulations.gov


The Polyisocyanurate Insulation Manufacturers Association\(^1\) (PIMA) appreciates the opportunity to comment on the above referenced supplemental notice of proposed rulemaking. PIMA urges the Department of Energy (DOE) to broaden the proposal to include requirements for building alterations in addition to the proposed requirements for the replacement of space and water heating equipment. By addressing only the fuel source of building equipment and focusing on large renovations, the proposed rule is too narrow and misses an opportunity to achieve greater improvements in energy efficiency. Requiring energy efficiency improvements would amplify the rule’s impact and improve its cost effectiveness. This is especially true for improvements to the thermal envelope, which have a direct impact on equipment by reducing a building’s heating and cooling loads. Information in the preamble recognizes the importance of energy efficiency, but there are no stated requirements in the rule. Instead of relying on a patchwork of executive orders and guidance, the rule should require agencies to undertake building energy efficiency improvements.

In the preamble, DOE asks for information on “how to ensure major renovations which do not directly replace on-site fossil fuel using equipment could be incorporated in this rule (e.g., lighting replacement projects that indirectly increase onsite fossil fuel usage through decreased internal gains and higher subsequent heating loads).” In asking for this information, DOE appears to recognize the opportunity for improving building energy-efficiency over time through alterations and replacements that are necessary due to regular building life-cycle events.

To address this opportunity, DOE should modify the proposed rule by amending the federal building energy standards under 10 CFR 433 to require compliance with ASHRAE Standard 90.1-2019 (or better) for alterations in existing buildings or to exceed this standard by 30%, or a level that is determined to be technically feasible and cost effective. The current federal building energy standards do not apply to building alterations, which stands in contrast to standards and codes that have regulated alterations to non-federal buildings for more than two decades. This change would help increase the impact and cost effectiveness of the large fuel switching/electrification projects that are envisioned under the current language of the proposed rule.

\(^1\) www.polyiso.org
This modification to the proposed rule would be in line with recent recommendations from the U.S. General Services Administration’s (GSA) Green Building Advisory Committee (GBAC) regarding a methodology or tool for implementing building decarbonization measures, including electrification or fuel switching. Recognizing the close interaction of building systems, the Committee recommended that:

Priority should be given to energy efficiency before fuel switching alternatives are considered for reducing [greenhouse gas] emissions. The first priority should be to reduce the building component’s energy use, no matter its fuel source. Once the building energy performance has been optimized, fuel switching, and on-site/off-site renewable energy generation should be evaluated to accomplish operational carbon neutrality.

Poor sequencing misses the opportunity to combine efforts or does not address interactive building systems holistically. A long-term plan allows for coordinated efforts that will increase the efficiency of implementing a deep energy retrofit.2

Similarly, New York State recently committed to a climate plan (NY climate plan) that relies heavily on electric heat pumps, with a goal of installing heat pumps in one to two million homes and 10% to 20% of commercial buildings by 2030 and 85% of homes and commercial buildings by 2050. However, unlike DOE’s proposed rule, the NY climate plan emphasizes the need to also improve energy efficiency and building thermal envelopes. The NY climate plan states that “to manage the impacts of widespread electrification on the State’s electric grid, it also will be essential that buildings make significant investment in energy efficiency,” including “widespread improvements to building envelopes.” The plan goes on to explain that simply using heat pumps could result in “expensive system peak electricity demands that would be extremely costly to meet.”3

To illustrate the contributions of building efficiency and envelope improvements, we encourage DOE to consider the impact of energy-efficient roof replacements. Based on the Commercial Buildings Energy Consumption Survey data, roof replacements are the second most common building alteration with an effect on building energy use.4 Roof replacements and other common building alterations can have a significant impact on energy use. However, under the current federal building energy standards (10 CFR 433), low-sloped commercial roofs can be replaced without any upgrade to the insulation. There are several agency guidance documents on the topic, but there are no regulations that apply the requirement uniformly across the entire federal portfolio. It is common for existing low-sloped roofs to be under-insulated by 50% or more compared to current energy code requirements. A recent ICF

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2 GSA Green Building Advisory Committee Advice Letter: Recommendations for Advancing GHG Reductions in Existing Federal Buildings, November 9, 2022, Link HERE.


analysis shows that for several common building types, energy use and on-site natural gas use can be reduced by 2 to 11% and 5 to 33%, respectively, based on building type and climate zone.\(^5\)

In conclusion, we encourage the DOE to amend the proposed rule to require compliance with ASHRAE Standard 90.1-2019 (or better) for alterations in existing buildings. The strategy of exploring energy-efficiency improvements before fuel switching and equipment replacement is proven to drive significant, cost-effective reductions in building energy use and related emissions. DOE has the authority to amend the proposed rule in this manner and in doing so would establish a uniform requirement for regulating alterations in federal buildings.

Please contact PIMA (jkoscher@pima.org; (703) 224-2289) should additional information be helpful.

Respectfully submitted,

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President