



March 27, 2023

VIA ELECTRONIC SUBMISSION

The Honorable Jennifer Granholm
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave SW
Washington, D.C. 20585

Re: Energy Conservation Program: Energy Conservation Standards for Distribution Transformers (88 Fed. Reg. 1722; January 11, 2023).

Dear Secretary Granholm:

On January 11, 2023, the U.S. Department of Energy (DOE) published a proposed rule titled “Energy Conservation Program: Energy Conservation Standards for Distribution Transformers.” The Office of Advocacy (Advocacy) of the U.S. Small Business Administration (SBA) respectfully submits the following comments on the proposed rule. Advocacy is concerned that DOE’s proposed rule does not adequately consider the economic impacts to all impacted small entities. Furthermore, DOE’s rule as proposed is not economically justified under the Energy Policy Conservation Act (EPCA). DOE should consider all the impacts the rule will have on small entities, and reconsider whether the rule as written meets the agency’s stated objectives.

I. Background

A. The Office of Advocacy

Congress established the Office of Advocacy under Pub. L. 94-305 to represent the views of small entities before Federal agencies and Congress. Advocacy is an independent office within the SBA. As such, the views expressed by Advocacy do not necessarily reflect the views of the SBA or the Administration. The Regulatory Flexibility Act (RFA),¹ as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA),² gives small entities a voice in the

¹ 5 U.S.C. §601 et seq.

² Pub. L. 104-121, Title II, 110 Stat. 857 (1996) (codified in various sections of 5 U.S.C. §601 et seq.).

rulemaking process. For all rules that are expected to have a significant economic impact on a substantial number of small entities, the RFA requires federal agencies to assess the impact of the proposed rule on small entities and to consider less burdensome alternatives.

The Small Business Jobs Act of 2010 requires agencies to give every appropriate consideration to comments provided by Advocacy.³ The agency must include a response to these written comments in any explanation or discussion accompanying the final rule's publication in the *Federal Register*, unless the agency certifies that the public interest is not served by doing so.⁴

Advocacy's comments are consistent with Congressional intent underlying the RFA, that "[w]hen adopting regulations to protect the health, safety, and economic welfare of the nation, federal agencies should seek to achieve statutory goals as effectively and efficiently as possible without imposing unnecessary burdens on the public."⁵

B. The Proposed Rule

Under the Energy Policy Conservation Act (EPCA), DOE is required to develop energy conservation standards and test procedures for covered products.⁶ Manufacturers use test procedures to test their products and certify compliance to DOE. EPCA requires that any new or updated standard that DOE implements be designed to achieve maximum improvement in energy efficiency that is technologically feasible and economically justified.⁷ In addition, DOE must also consider certain statutory factors including:

- (1) The economic impact on the manufacturers and consumers.
- (2) Savings in operating costs throughout the estimated life of the covered product.
- (3) The total projected amount of energy savings resulting from the standard.
- (4) Lessening of the utility or performance of the covered products.
- (5) The impact of lessening of competition.
- (6) The need for national conservation.
- (7) Other factors deemed relevant by the Secretary of Energy.⁸

In January 2016, DOE finalized energy conservation standards for distribution transformers that would make the products between 98 and 99 percent efficient according to DOE's own estimates.⁹ On January 11, 2023, DOE published a proposed rule to amend the energy conservation standards for distribution transformers. DOE's proposal would require that distribution transformer equipment meet a threshold energy conservation standard that is higher than 99 percent in some instances. In the proposed rule, DOE argues that distribution

³ Small Business Jobs Act of 2010 (PL. 111-240) §1601.

⁴ *Id.*

⁵ *Id.*

⁶ 42 U.S.C. § 6293. *Also* 42 U.S.C. § 6314.

⁷ 42 U.S.C. §6295 (o) (2) (A).

⁸ 42 U.S.C. § 6295 (o) (2) (B).

⁹ Energy Conservation Program: Energy Conservation Standards for Distribution Transformers, 88 Fed. Reg. 1722, 1737 (January 11, 2023).

transformers would require amorphous steel cores as opposed to the current grain-oriented steel cores to meet these new energy efficiency standards.¹⁰

II. Advocacy's Small Business Concerns

Advocacy visited a small rural electric cooperative in February 2023 and held a small business roundtable on this topic on March 14, 2023.¹¹ During the visit and the roundtable, small entities spoke about several major concerns with the proposed rule. These included burdensome costs that were not considered by DOE, market competition issues with requiring one type of core, and the justification for the proposed rule under EPCA. Some small entities raised concerns about the impact this rule would have on overloaded electrical systems that are trying to keep up with significantly increased demand due to electric vehicles (EVs). Many cited significant challenges and delays due to supply chain shortages. Others spoke about the additional costs that would be incurred from switching to amorphous steel cores. Several also raised concerns about indirect impacts from the proposed rule, including to home-building.¹²

Advocacy's comments on the proposed rule are outlined below.

A. The proposed rule fails to consider all direct economic impacts to small utilities who are required to purchase and use distribution transformers.

DOE's Initial Regulatory Flexibility Act (IRFA) analysis for the proposed rule focuses on the impacts to manufacturers of distribution transformer cores.¹³ In its proposed rule, DOE analyzes the impacts to small manufacturers of distribution transformers but does not mention any other small entities that may be impacted by the rule.¹⁴ While Advocacy appreciates DOE's analysis of small manufacturers and does not dispute that they are directly impacted by the proposed rule, Advocacy argues that small electric utilities would also be impacted. DOE's assertion that the rule only directly impacts manufacturers is incorrect.

¹⁰ *Id.*

¹¹ See SBA Office of Advocacy Small Entity Energy Roundtable (March 14, 2023), <https://advocacy.sba.gov/2023/02/27/small-entity-energy-roundtable-march-14-2023/>.

¹² Small home builders noted that delays in transformer installation have led to significant costs to their projects. Not having power connected in structures that are already built has led to the potential for mold in the home due to poor ventilation in warmer climates/months. Additionally, home builders stated that they cannot close on a home unless the transformer is installed and working, and power is being generated to the home. This creates a "winners and losers" scenario by which utilities are having to pick and choose when and how to connect transformers to a particular development. These delays amount to consumers backing out of home closings, and as a result significant costs to the builders. These indirect, cumulative impacts were not adequately considered by DOE in the rulemaking.

¹³ 88 Fed. Reg. 1722, 1746-47.

¹⁴ *Id.* DOE cites NAICS 335311, "Power, Distribution, and Specialty Transformer Manufacturing" stating that there are approximately seven businesses in total that would be considered small manufacturers of distribution transformers and/or their cores.

This rule is distinguishable from *Mid-Tex Elec. Coop v. FERC*, 773 F.2d 327 (D.C. Cir. 1985) hereinafter (*Mid-Tex*).¹⁵ In *Mid-Tex* the small electrical generation utilities, including rural electric cooperatives, were not considered to be directly impacted by FERC's proposed rule. The court held that, "Reading section 605 [of the Regulatory Flexibility Act] in light of section 603, we conclude that an agency may properly certify . . . when it determines that the rule will not have a significant economic impact on a substantial number of small entities *that are subject to the requirements of the rule.*"¹⁶

DOE's rule does not simply establish conservation standards that the products are to meet. Rather, it requires the use of one part, namely the use of amorphous steel cores, in the manufacturing of compliant distribution transformers.¹⁷ This is because, as DOE itself admits, amorphous steel cores are the only material that can currently meet these new efficiency standards.¹⁸ Small electrical transmission utilities, including rural electrical cooperatives, are directly subject to the requirements of this rule because they must purchase distribution transformers that comply with the energy efficiency standards set by DOE.

Electrical utilities cannot transmit and/or distribute power without a distribution transformer, and DOE's rule states that all distribution transformers that are to be manufactured and sold must comply with these new efficiency standards. If there were other products that utilities could purchase in place of a distribution transformer, or if there were other materials that could be used in the manufacturing of transformer cores, then these entities would not be directly regulated by this rule. Instead, they would have adequate market choices when purchasing necessary products. Under the rule however, utilities have no other substitutes to the amorphous steel core distribution transformers that the rule requires. Therefore, utilities are directly regulated entities within this proposed rule. DOE must conduct a proper analysis of the impacts of the proposed rule on these small entities.¹⁹ Additional discussions about the direct economic impacts to these small entities are discussed below.

B. DOE's rule is statutorily deficient under EPCA.

1. The proposal creates burdensome market competition issues that are not properly considered and justified by DOE.

¹⁵ See *Mid-Tex Elec. Coop v. FERC*, 773 F.2d 327 (D.C. Cir. 1985), in which the court held that the Federal Energy Regulatory Commission (FERC) did not err when it certified a proposed rule would not have a significant economic impact on a substantial number of small entities because no small entities were directly regulated by the rule. In *Mid-Tex*, FERC was regulating how generation utilities include and account for construction work in progress in their rate making activities. The generation utilities were not considered small businesses according to the size standards but had customers that were small entities including small electric cooperatives. These small utilities challenged the rule stating that the impacts to them should have been considered. The court disagreed, stating that rates charged to the customers were set by state actors, not FERC, and concluding that the impacts to the small utilities were therefore not a direct impact and therefore not subject to the requirements of the RFA.

¹⁶ *Id.* at 342 (emphasis added). Citing 5 U.S.C. § 605 and 5 U.S.C. § 603.

¹⁷ 88 Fed. Reg. 1722,1737.

¹⁸ *Id.*

¹⁹ DOE must consider the impacts to NAICS 2211 Electric Power Generation, Transmission, and Distribution and include such analysis in its IRFA.

Under EPCA, DOE must consider statutory factors including, “the impact of any lessening of competition...”²⁰ Advocacy heard from regulated small entities that there is currently only one domestic manufacturer of transformer cores in the United States. According to a report from the U.S. Department of Commerce, the only current domestic supplier of distribution transformers is unable to keep up with the demand for transformers, and other countries including China have stepped in to fill the gap within the market.²¹ As a result of international competition, the only domestic supplier has lost 50 percent of its employees.²²

At the same time, even international supply is insufficient to meet demand. Small entities observed that there are also unprecedented supply shortages that are already harming small utilities. One small utility cited that their main supplier is currently rationing the number of transformers any one entity may purchase. The small utility’s supplier stopped taking new orders in August 2021 because they simply cannot keep up with the demand. Another small entity shared that normal lead times for a particular size of transformer used to be eight to ten weeks. Starting in September 2022, lead times grew to 20-52 weeks. Now, some manufacturers are reporting lead times of approximately 200 weeks.

Small entities also cited soaring costs for transformers. One small rural electric cooperative cited that their actual cost in 2022 for distribution transformers was more than double what they had budgeted. The expense is further complicated by increased demand for the same materials from other industries including renewable energy industries. Given the significant challenges that industries are facing with respect to supply shortages, requiring them to switch to a new product that is not widely available and labor intensive to produce will only further exacerbate an already struggling market. The result may be significant unintended consequences to the domestic electrical grid.

While electric utilities, and manufacturers of electrical utility products are committed to being as energy efficient as possible, additional time is needed to address current increased grid demands. Advocacy encourages DOE to reconsider the timing of the proposed rule and whether the market will be able to keep up with the demand created by this new efficiency standard. DOE may consider delaying the proposed rule all together until the market has addressed demand concerns, and until DOE and industry are confident that supply chain issues are resolved.

2. DOE fails to adequately discuss how the proposed rule is economically justified.

EPCA requires that DOE achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified.²³ In addition, DOE must consider savings in operating costs throughout the lifespan of the product, and the product’s total projected energy

²⁰ *Supra* note 8.

²¹ See U.S. Dep’t of Commerce, *The Effect Of Imports Of Transformers and Transformer Components on the National Security*, (October 15, 2020), <https://www.bis.doc.gov/index.php/documents/section-232-investigations/2790-redacted-goes-report-20210723-ab-redacted/file>.

²² *Id.*

²³ *Supra* note 7.

savings.²⁴ This proposed rule fails to adequately discuss operating costs as compared to the projected energy savings. DOE's proposed rule aims to address energy efficiency losses that occur when there is little to no load on a transformer, a "no-load loss."²⁵ DOE's rule addresses the no-load loss by setting efficiency standards that can only be met with the use of an amorphous steel core within a distribution transformer.²⁶

In speaking with small entities in the industry, Advocacy learned that amorphous steel cores degrade faster than current grain-oriented steel cores. According to rural electric cooperatives, current transformers using grain-oriented steel cores have a lifespan of approximately 45-50 years. On the other hand, amorphous steel core transformers are more susceptible to shock and/or physical trauma from weather events such as wind or shaking. These events cause them to degrade faster over time, resulting in a shorter life span and more frequent changeouts.

Amorphous steel core transformers are also not as capable of handling overloads. One small entity reported that an amorphous steel core maxes out at approximately 80 percent of its capacity rating whereas current traditional steel cores max out at approximately 125 percent of their capacity rating. Increased grid demands due to multiple users run the risk of overload. On a modern electric grid, homes rely on electricity for appliances, heating and cooling, and EV charging, leading to an increase in strain on the grid. Amorphous steel cores are not as well-equipped to handle an overload scenario and may lead to potential electrical outages and safety concerns.

Another key feature of amorphous steel cores is their larger size. Amorphous steel cores are approximately 30 percent larger in size and 40 percent heavier by weight than the current cores used in transformers. One small rural electric cooperative currently has close to 95,000 transformers in service. They stated that if they were asked to comply with this rule, they would have to switch out the wooden poles on which the transformers sit due to their increased size and weight. Estimated costs for wooden poles range anywhere from \$500 to \$1400 per pole depending on labor and material shipping costs. Small utilities are also unsure whether their current equipment (namely trucks and lifts) will handle increased sizes and weights. Many anticipate needing retrofits or additional equipment.

In the rule, DOE asserts that current distribution transformers are anywhere from 97 to over 99 percent efficient.²⁷ The rule aims to address no-load periods to make them more efficient. However, according to small entities with whom Advocacy has spoken, there are fewer no-load periods on transformers. As more Americans work from home or charge their EVs overnight, periods that would normally have less usage are seeing increased electrical use. Small utilities noted that there is very little difference in the total losses realized for current steel cores and amorphous steel cores. DOE should reexamine all the additional costs of the proposed rule as compared to its stated benefits. Given the additional costs outlined above, coupled with the

²⁴ *Supra* note 8.

²⁵ 88 Fed. Reg. 1722, 1746-1749.

²⁶ *Supra* note 10.

²⁷ *Id.* at 1736-1737.

significant shock to the market due to a lack of market competition, DOE's proposed rule is not economically justified at this time and will have a significant economic impact on a substantial number of small entities.

Consumers depend on electricity to conduct everyday tasks and ensure that they have life-saving heating and cooling. They trust their electric utilities to provide reliable and affordable power. Requiring that small entities comply with this burdensome and costly regulation for a product that is already highly energy efficient, and at a time when utilities are already facing enormous constraints in supplying this necessary resource to consumers would set small utilities up for failure.

III. Conclusion

Advocacy is concerned that DOE's proposed rule does not adequately consider the economic impacts to all regulated small entities, namely small electric utilities. Furthermore, DOE's rule as proposed is not economically justified under the Energy Policy Conservation Act (EPCA). Advocacy urges DOE to consider all the impacts the rule will have on small entities, to consider the comments received from small entities on the proposed rule, and to reconsider whether the rule meets the stated objectives of the EPCA.

If you have any questions or require additional information, please contact me or Assistant Chief Counsel Prianka Sharma at (202) 205-6938 or by email at prianka.sharma@sba.gov.

Sincerely,

/s/

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Deputy Chief Counsel
Office of Advocacy
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/s/

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Office of Advocacy
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