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VIA REGULATIONS.GOV

March 27, 2023

Appliance and Equipment Standards Program
U.S. Department of Energy
Building Technologies Office
Mailstop EE-5B
1000 Independence Avenue SW
Washington, DC 20585-0121

RE: Docket No. EERE-2019-BT-STD-0018

Dear Docket Clerk:

On behalf of the more than 140,000 members of the National Association of Home Builders of the United States (NAHB), we are pleased to submit these comments in response to the U.S. Department of Energy's ("DOE") Notice of Proposed Rulemaking regarding Energy Conservation Program: Energy Conservation Standards for Distribution Transformers that was published in the Federal Register on January 11, 2023.[1] Because NAHB members depend on a stable supply of various transformers as part of their residential construction businesses, NAHB is an interested party in this matter and therefore, would like to provide its views on the proposed rulemaking.

NAHB is a Washington, D.C.-based trade association that represents more than 140,000 members who are involved in all segments of the residential construction industry including home building, remodeling, multifamily construction, property management, subcontracting, design, housing finance, building product manufacturing, land development, and other aspects of residential and light commercial construction. NAHB is affiliated with more than 700 state and local home builder associations around the country. NAHB's members construct about 80 percent of the new housing units, making housing a large engine of economic growth in the country.

While NAHB supports efforts to address energy conservation throughout the country, it is concerning that DOE's efforts to change energy efficiency standards in distribution transformers are coinciding with an unprecedent shortage in distribution transformers affecting the ability of NAHB's members and other interested stakeholders from completing, or even starting projects to meet downstream customer demands. The nation is already struggling with significant and seemingly never-ending supply shortages for transformers and their related

[1] Energy Conservation Program: Energy Conservation Standards for Distribution Transformers, U.S. Department of Energy, Notice of Proposed Rulemaking and announcement of public meeting, 88 Fed. Reg. 1722 (Jan. 11, 2023) ("NPRM"). *See also,* Energy Conservation Program: Energy Conservation Standards for Distribution Transformers, U.S. Department of Energy, Notice of proposed rulemaking and extension of public comment period, 88 Fed. Reg. 10,856 (Feb.22, 2023) (extending the comment period by fourteen days to March 27, 2023).

components, and now is not the time to press forward with such a significant rule. Also troubling is that DOE will not publish nor respond to any Attorney General determination on the impact of any lessening of competition until DOE publishes the final rule,[2] leaving affected stakeholders without the opportunity to thoroughly review all documents and information directly related to this rulemaking.

Accordingly, for these and all of the following reasons, NAHB urges DOE to withdraw this proposed rule until such time as these products and their underlying components become more available, and affected stakeholders have the opportunity to fully review supporting documents in the docket. Otherwise, the proposed rule, when final, will just pile on to the issues industry and consumers are already facing.

In the alternative, if DOE does move forward, NAHB strongly urges the agency to fully address supply shortages and the impacts these have on the regulated stakeholders. In addition, NAHB urges DOE to work with other federal agencies to fully review and address the anticompetitive supply constraints this rule will have given the limited number of manufacturers for certain products. The regulated industry and affected downstream consumers such as NAHB's members, homeowners, renters, and ultimately every utility customer (including small businesses) in the United States are all heavily dependent on these products, components, and materials that right now, just do not exist in sufficient quantities.

I. The Benefits of the Proposed Standard Do Not Exceed its Burdens and Accordingly it Must be Withdrawn

DOE has published this NPRM in response to the Energy Policy and Conservation Act, as amended ("EPCA") which prescribes energy conservation standards for various consumer products and certain commercial and industrial equipment.[3] This includes distribution transformers, with EPCA also requiring DOE to "periodically determine whether more stringent, standards would be technologically feasible and economically justified, and would result in significant energy savings."[4] The statute is clear that DOE may not prescribe a standard "if DOE determines by rule that the standard is not technologically feasible or economically justified."[5]

As part of DOE's analysis in determining whether a standard is economically justified, factoring in views and comments received on the proposed standard, EPCA requires DOE to determine whether the benefits of the standard exceed its burdens by, to the greatest extent practicable, considering:

> (I) the economic impact of the standard on the manufacturers and on the consumers of the products subject to such standard;

[2] 88 Fed. Reg. at 1740.
[3] 42 U.S.C. §§ 6291, *et seq.*
[4] 88 Fed. Reg. at 1740; *see also,* 42 U.S.C. § 6295.
[5] 88 Fed. Reg. at 1735; 42 U.S.C. § 6295(o)(a)(B).

> (II) the savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered products which are likely to result from the imposition of the standard;
> (III) the total projected amount of energy, or as applicable, water, savings likely to result directly from the imposition of the standard;
> (IV) any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard;
> (V) the impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard;
> (VI) the need for national energy and water conservation; and
> (VII) other factors the Secretary considers relevant.

42 U.S.C. § 6295(o)(B)(i)(I)-(VII).

For several reasons, NAHB contends that DOE has not met its statutory burden to demonstrate that the benefits of the proposed standard exceed its burdens. The economic impact of the proposed standard on manufacturers and consumers is more significant than DOE has stated. First, with respect to the Life-Cycle Cost ("LCC") calculations, they are educated guesses based on subjective assumptions that support the projections DOE believes would apply. This fact does not conclusively show that said projections are wrong, but DOE's guess is as susceptible to error as any other party's when intangible benefits of a rule, such as those purported to flow to public health and the environment. This is particularly concerning given that health and environmental benefits that DOE has quantified are the factors that "tip the scale" in the proposed rule's favor in the cost-benefit analysis.

Second, DOE's use of the phrase "economically justified" is disingenuous because it is the agency who has defined that term based on flawed economic assumptions. But regardless of who defines that phrase, it is subject to interpretation depending on the outcome the agency seeks to justify. Accordingly, this phrase comprises a subjective determination predicated on subjective assumptions made in the calculations. To qualify as "justified," by definition, a firm conclusion must be drawn regarding the outcome of the regulations relative to the outcome of the no-regulation scenario. This becomes hugely problematic for DOE because of the dynamic interactions among final and proposed rules written by separate agencies.

For instance, DOE uses full-fuel cycle costs ("FCC") in the "improvement" scenario calculation as though these costs will be unaffected by other regulations proposed and finalized by DOE and EPA that are explicitly designed to lower fuel/energy consumption. As the calculations in the proposed rule do not consider these, the difference between FFC costs in the base case and improvement scenario is overstated. The costs and benefits live in a dynamic regulatory environment, not a static one, and should be analyzed accordingly.

Third, even presuming the costs could be "justified," other factors militate against DOE moving forward with this proposed rule. Specifically, there are severe supply shortages of all things related to transformers including the products themselves, components, and raw materials for production. Indeed, since 2021, NAHB has consistently engaged with DOE and other federal agencies at various levels involving the pervasive shortage of transformers and the existential threat to new development, including affordable housing and rebuild efforts in the wake of natural disasters.[6] In an October 2022 letter to The President, with copies to Secretary Granholm, NAHB along with other affected associations requested immediate action due to the severe shortages being faced across the country.

NAHB joined a broad coalition with other critical stakeholders in a letter addressed to Secretary Granholm on February 15, 2023, again focusing on the severe shortages and negative impacts to national security and grid reliability.[7] NAHB hereby incorporates this letter by reference and has attached it to these comments. In its letter, the coalition urged DOE to reconsider its intention to increase energy conservation standards as signaled in the NPRM. In June 2022, Secretary Granholm directed the Electricity Subsector Coordinating Council to set up a "Tiger Team" to examine the supply chain crisis.[8] This team "concluded that current transformer production was not meeting demand—demand that is expected to increase in the foreseeable future . . . Under existing production output capabilities, manufacturers estimate the current order-cycle for most new distribution transformers to be longer than 16 months."[9]

Most recently, NAHB and its members also participated in the Small Business Administration's Office of Advocacy Small Entity Energy Roundtable ("SBA Roundtable") held on March 14, 2023. NAHB and a number of its members again voiced concerns that the shortage of transformers, the different requirements for EV charging in residences, and the overall continuing supply chain shortages of transformers and related components is continuing to inhibit the residential construction industry's ability to complete homes, or even repair homes damaged in natural disasters.

For example, an NAHB member from Ohio pointed out that the supply chain bottlenecks are the worst the member has seen in some time, and the problem is compounded by the fact that there is only one domestic supplier of the steel needed to make transformers. Another SBA Roundtable participant noted that in that person's area, the lead time for a standard transformer is 46 weeks. Another NAHB member commented that delays in getting transformers for new

[6] Letter to Secretary Jennifer Granholm, U.S. Department of Energy from stakeholders American Public Power Association, Edison Electrical Institute, GridWise Alliance, Leading Builders of America, National Association of Home Builders, National Electrical Manufacturers Association, National Rural Electric Cooperative Association (February 15, 2023); Letter to The President of the United States from stakeholders National Association of Home Builders, Associated General Contractors of America, Associated Builders and Contractors, and Independent Electrical Contractors (October 14, 2022).
[7] Letter to Secretary Jennifer Granholm, U.S. Department of Energy from stakeholders American Public Power Association, Edison Electrical Institute, GridWise Alliance, Leading Builders of America, National Association of Home Builders, National Electrical Manufacturers Association, National Rural Electric Cooperative Association (February 15, 2023).
[8] *Id.*
[9] *Id.*

housing is causing the member's company to halt production half-way through the construction because there is no electricity to complete the home and finish the electricity-dependent features. Stopping production when a home is only partially completed means that the existing structure is subject to damage or degradation as it sits unfinished. This could be in the form moisture or mold issues if the heating, ventilation, and air conditioning ("HVAC") system cannot be completed to maintain heating and cooling in the structure. This member reported that in some instances, projects are delayed eight months or more waiting for transformers. Still another small builder-member reported that their company needs a year to catch up on production because of the transformer delays. This member offered several examples of how it has hit their business—customers losing rate-locks on loans, banks requiring interest payments while the house sits idle and unfinished, and loss of contracted sales because the homes cannot be completed.

NAHB is concerned that DOE has not considered the additional costs and impacts on small businesses into its "justification" for the proposed rule. More than 80 percent of home builders falling within the U.S. Small Business Administration's (SBA) definition of a small business. To qualify as a small business, SBA has established ceilings of $39.5 million for all types of builders (including residential remodelers), $30 million for land subdivision, and $16.5 million for specialty trade contractors.[10] According to the Economic Census data, at least 96 percent of builder, 94 percent of land developer, and 98 percent of specialty trade contractor establishments are considered small by these SBA standards.[11] Therefore, NAHB has concerns that not only will its members be further damaged by this rule, but all of the other small businesses relying on a consistent supply of transformers will similarly be affected.

DOE is not required to move forward if, in its determination, changing the efficiency standards for transformers does not meet the statutory requirements. Given current supply chain issues, NAHB notes that under the assessment criteria for determining technological feasibility, DOE fails to fully consider the existing adverse impact this rule will have on product utility or availability.[12] Further, DOE has failed to meet its burden establishing economic justification. Therefore, DOE should withdraw the proposed rule.

[10] U. S. Small Business Administration, Table of Small Business Size Standards Matched to North American Industry Classification System Codes (available at https://www.sba.gov/sites/default/files/2019-08/SBA%20Table%20of%20Size%20Standards_Effective%20Aug%2019%2C%202019_Rev.pdf) (last visited March 27, 2023).
[11] Natalia Siniavskaia, Ph.D., *Home Building Census*, National Association of Home Builders (July 1, 2021) (available at https://www.nahb.org/-/media/NAHB/news-and-economics/docs/housing-economics-plus/special-studies/2021/special-study-home-building-census-july-2021.pdf) (last visited March 27, 2023).
[12] As part of DOE's determination that particular technology options are technologically feasible, it further evaluates each technology option using "additional screening criteria: (1) practicability to manufacture, install, and service; (2) adverse impacts on product utility or availability; (3) adverse impacts on health or safety, and (4) unique-pathway proprietary technologies." 88 Fed. Reg. at 1738 (citing 10 C.F.R. 431.4; Sections 6(c)(3)(ii)-(v) and 7(b)(2)-(5) of the Process Rule).

II. DOE's Proposed Rule is Misguided Given the Severe Supply Chain Shortages of Transformers, Related Components, and Raw Materials

Lack of adequate competition is compounded by severe disruptions in the supply chain for these and other products, which continue to create significant issues for downstream stakeholders and to date, remain unresolved. Continuing shortages remain unresolved and significantly impede industry efforts to meet requirements of even minimal user needs. Even DOE recognizes concerns with the lack of competition. EPCA requires the Attorney General to provide DOE a written determination of whether the proposed standard is likely to lessen competition.[13] But moving forward with this proposed rulemaking will not ease supply or competition concerns. Instead, it will exacerbate an already trying situation.

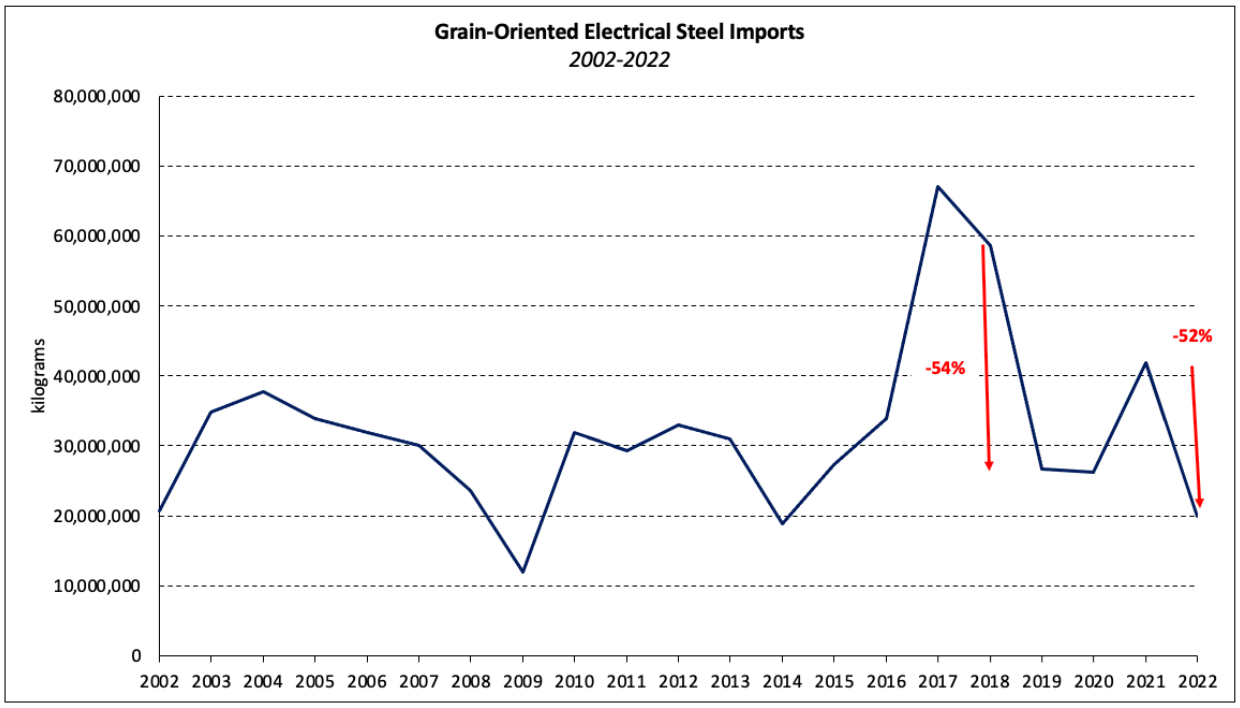
For example, a decline in imports of finished transformers has added exponentially to the problems being experienced by end users. Prior to the pandemic, the United States relied on imports for 82% of its large transformers. The number of high-capacity transformers has fallen substantially due to both the pandemic as well as restrictive trade policy. Imports of transformers rated for 50kVA-500kVA has fallen from 1.6 million in 2018 to 537,000 in 2022. Mexico has exported more than twice as many units to the United States in 2022 than the next largest international supplier, France, but the number of units exported is still 66% lower than it was in 2018.

Imports of transformers rated 16kVA-50kVA has shown a similar downward trend, declining 150,000 units—or 33%—between 2021 and 2022. The two-year total fell nearly one-third between 2018/2019 and 2021/2022. Vietnam, Mexico, and China were the leading source countries in 2022. Consequently, vastly reduced imports into the United States are exacerbating the current transformer crisis across the country.

Restrictive trade policy has also decimated the available supply of GOES in the US. Without electrical steel, transformers cannot be made. Without transformers, new residential development cannot occur, adversely affecting roughly one-sixth of the US economy.

With only one domestic producer of GOES, the US has historically, necessarily relied on imports from around the world. The deleterious effects of the Section 232 tariffs placed on steel imports in mid-2018 is shown in the chart below.

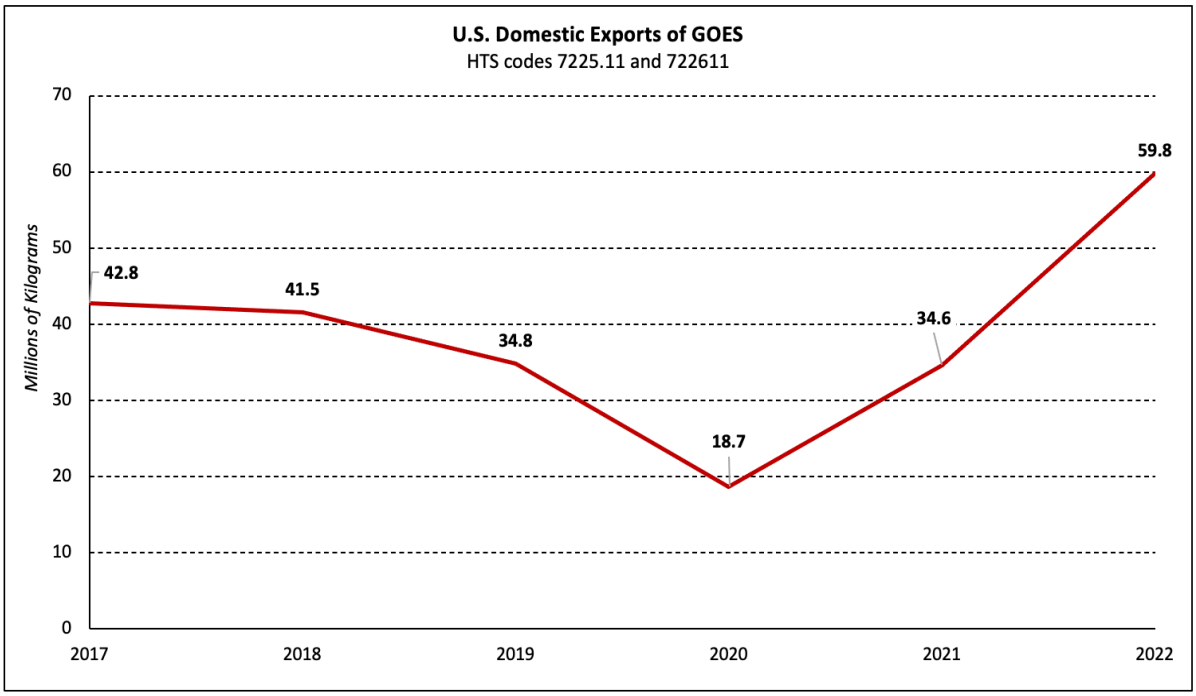
[13] 88 Fed. Reg. at 1735, 1740, 1756 (regarding availability of GOES, and shifting manufacturing to auto industry).



In early 2022, the US agreed to replace the 25 percent tariff on steel with a tariff-rate quota for Japan, which accounted for 23 million kilograms of GOES imports in 2021—55% of the total. As a result, Japanese imports plummeted 57 percent to 9.9 million kilograms in 2022. Similarly, imports from South Korea—the second-largest foreign source of GOES—decreased 62 percent in 2022.[14]

While GOES imports have fallen in recent years, United States exports of GOES have increased substantially. Between 2020 and 2022, exports of GOES more than tripled from 19 million kilograms to 60 million kilograms. Although 2020 was a low point for GOES exports, the 60 million kilograms exported in 2022 was still 50% higher than the 2017-2019 average.[15]

[14] U.S. International Trade Commission, DataWeb retrieval tool; NAHB calculations.
[15] *Id.*



Based on this data, it is clear that trade issues persist on a number of fronts, with steel imports to the United States still negatively impacted. One supplier of GOES in the United States should have raised flags for DOE that competition at the domestic level is nonexistent and any changes in the status of the one supplier will have ripple effects across the country. Accordingly, DOE should reassess its position and appreciate that simply increasing GOES imports to the United States is not as straightforward as the proposed text in the NPRM would have the regulated community and consumers believe.

III. NAHB's Responses to Issues on Which DOE Seeks Comment

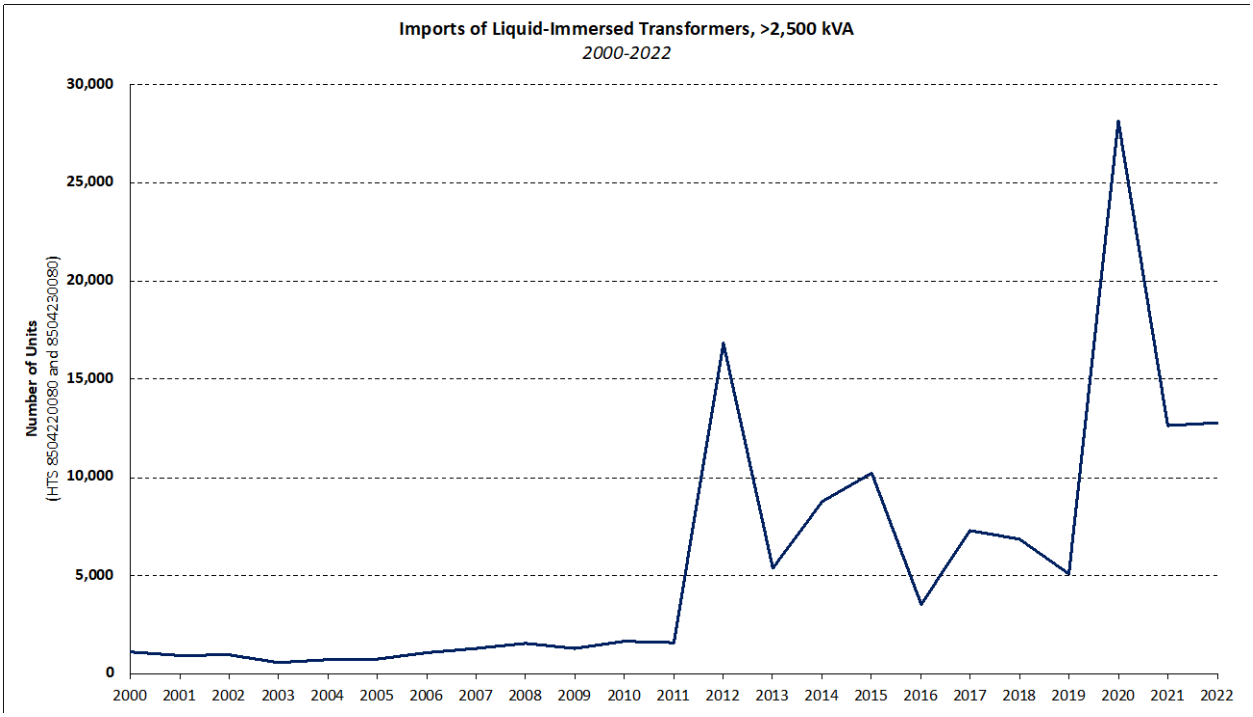
In addition to general requests for comments found throughout the NPRM, DOE also identified fifty-one questions it seeks comment on from stakeholders.[16] NAHB offers the following comments on those specific questions that it identified as having impacts on NAHB's members who rely on transformers and related components in residential construction.

DOE Question 9: DOE requests comment and data as to the number of shipments of three-phase, liquid-immersed, distribution transformers greater than 2,500 kVA that would meet the in-scope voltage limitations and the distribution of efficiencies of those units.

NAHB Response: Publicly available data shows that demand for liquid-immersed transformers has surged over the past decade. The three-year moving average number of imports of liquid-

[16] 88 Fed. Reg. at 1852 - 1854. NAHB notes that DOE included a total of 51 specific questions in which it requests comments and data from interested parties.

immersed transformers greater than 2,500 kVA increased 564 percent between 2002 and 2012, and another 167 percent between 2012 and 2022.



The significance of this is twofold. First, the peaks in 2012 and 2020 show that demand is cyclical rather than constant. This is to be expected given the decades-long useful life of a distribution transformer. Second, it shows the likely magnitude of effects the regulation would have on the import market and on the millions of residences serviced upstream by such distribution transformers.

Given that the supply and availability of these and other transformer-related products are inadequate to meet current requirements, NAHB questions whether requiring manufacturers to change production requirements to meet minimal energy efficiency increases is warranted. NAHB is not alone in its view as numerous commenters in the Docket have identified shortages in supply chains and ever lengthening wait times for products.

DOE Question 27: DOE requests comment on the current and future market pressures influencing the price of GOES. Specifically, DOE is interested in the barriers to, and costs associated with converting a factory production line from GOES to NOES.

NAHB Response: The difficulty of converting a production line from NOES to GOES is evidenced by U.S. factories that have changed the product focus of their electrical steel mills. For instance, US Steel's Big River Steel plant began with a focus on motor lamination steels for the needs of electric vehicles (EV) manufacturers.

However, the company recently shifted capital expenditures to convert and expand the production line to non-grain oriented electrical steels which are used in EV manufacturing and are of a higher quality than lamination steels.[17] The cost of converting and expanding the existing lines to NOES production will have cost $450 million over three years once the line is operational in fall 2023.[18]

All costs have been paid using cash from Big River Steel, which US Steel purchased in 2019. Therefore, in addition to requiring a massive investment up front, that investment requires liquidity that only the largest firms with high market buying power can afford the evolution.

The firm could have converted a line to GOES, but lines capable of producing GOES require more processing steps than NOES lines and cost more to operate. This is because GOES manufacturing requires preliminary annealing before cold rolling (which NOES does not) as well as a second annealing furnace later in the process that requires more heat than the NOES annealing furnace.[19]

Accordingly, NAHB questions whether requiring these shifts is economically feasible for any but the largest manufacturers. This is particularly problematic given the lack of domestic steel producers. Unless DOE is able to incentivize domestic factories to return to manufacturing in the United States or convince domestic steel producers to convert existing production lines to a specialty material such as electrical steel, it is a nonstarter for domestic companies, and ultimately consumers who depend on these products.

DOE Question 28: DOE further requests comment regarding how the prices of both GOES and amorphous are expected to change in the immediate and distant future.

NAHB Response: Amorphous metals are used in aerospace, medical device, electric motor parts, and robotics.[20]

See, infra. NAHB Response to Question 31.

QUESTION 31: DOE requests comment on how a potentially limited supply of transformer core steel, both of amorphous and GOES, may affect core steel price and availability. DOE seeks comment on any factors which uniquely affect specific steel grades (e.g., amorphous, M-grades, hib, dr, pdr).

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[17] Grace Asenov, Cleveland Cliffs New NOES Line Reflects Rising Demand for Electrical Steels, Fastmarkets (Dec. 15, 2022) (available at https://www.fastmarkets.com/insights/cleveland-cliffs-new-noes-line-reflects-rising-demand-for-electrical-steels) (last visited March 25, 2023).
[18] Mark Burgess, USS to Build NGO Line at Big River Steel (June 9, 2021) (available at https://www.fastmarkets.com/insights/uss-to-build-ngo-line-at-big-river-steel) (last visited March 25, 2023).
[19] Posco Products, Manufacturing Process (available at http://product.posco.com/homepage/product/eng/jsp/process/s91p2000720e.jsp) (last visited March 25, 2023).
[20] Industries and Applications of Amorphous Metals, Heraeus Amloy (available at https://www.heraeus.com/en/landingspages/hat/markets_hat/markets.html#anchor_2) (last visited March 25, 2023).

NAHB Response: Both amorphous and grain-oriented electrical steel ("GOES") will continue to experience increasing demand both domestically and internationally. Demand for amorphous metals will be driven by global electric grid modernizations as well as increased demand for higher efficiency industrial motors. However, amorphous metals are not suited to EV motors as its responsiveness to changes in input power is quite low.[21] However, amorphous metals are extremely well suited for other applications in EV manufacturing and will experience increased demand with that segment of the automotive market in addition to use in high efficiency, high-cost transformers.

Energy rationing policies in China caused a global deficit of electrical steel as the country accounts for more than 70 percent of worldwide production.[22] This resulted in increasing prices in 2021-2022. Prices began to stabilize as China's output normalized but are expected to increase as demand for both GOES and NOES increases in large part due to regulations and infrastructure plans developed by the world's advanced economies in recent years.

DOE Question 39: For this NOPR, DOE reiterates its request for the following information. DOE requests data and feedback on the size limitations of pad-mounted distribution transformers. Specifically, what sizes, voltages, or other features are currently unable to fit on current pads, and the dimension of these pads. DOE seeks data on the typical concrete pad dimensions for 50 and 500 kVA single-; and 500, and 1500 kVA three-phase distribution transformers. DOE seeks data on the typical service lifetimes of supporting concrete pads.

NAHB Response: Analysis of size limitations should not be constrained by technical factors alone. Location should be considered as well—particularly placement in residential developments as typical end-use distribution transformer services between 10-20 single-family homes.

New residential construction is operating under the most restrictive land/lot constraints in history. As a result, typical lot size has declined and, by extension so has the amount of available land for pad-mounted transformers. Regardless of neighborhood demographics, larger pad mounted transformers may adversely affect the neighborhood aesthetic, lowering home values relative to what they might have been.

DOE Question 48: DOE requests comment on the estimated potential domestic employment impacts on distribution transformer manufacturers presented in this NOPR.

NAHB Response: Transformer manufacturing is a relatively labor-intensive process and involves a great deal of training. Any regulation that would necessitate a change in

[21] Development of Motor with Amorphous Metals, Hitachi (Nov. 18, 2018) (available at https://www.hitachi.com/rd/sc/story/amorphous/index.html#:~:text=Amorphous%20metals%20have%20physical%20properties,suited%20for%20high%2Defficiency%20motors) (last visited March 25, 2023).
[22] Silicon Metal: The Supply and Price of an Essential Raw Material, The Supply Chain Brain (Feb. 21, 2023) (available at https://www.supplychainbrain.com/articles/36640-watch-silicon-metal-the-supply-and-price-of-an-essential-raw-material) (last visited March 25, 2023).

manufacturing processes will cause an increase in labor costs for manufacturers both large and small. DOE must also consider the possibility that requiring a new manufacturing process for more efficient transformers may actually require fewer workers.

DOE Question 49: DOE requests comment on the potential availability of either amorphous steel, grain-oriented electrical steel, or any other materials that may be needed to meet any of the analyzed energy conservation standards in this rulemaking. More specifically, DOE requests comment on steel manufacturers' ability to increase supply of amorphous steel in reaction to increased demand for amorphous steel as a result of increased energy conservation standards for distribution transformers.

NAHB Response: More than 40 percent of electrical steel manufacturing costs are attributable to energy consumption.[23] The DOE should consider the high heat required for GOES production and high heat with rapid cooling processes used to produce amorphous ferroalloys.

Based on the information in the NPRM, it does not appear DOE has fully considered this impact, and accordingly, NAHB contends that because these further costs have not been fully considered in the overall alleged benefits DOE has identified. Therefore, DOE should reassess its data as part of its overall decision to require increased energy conservation standards for distribution transformers.

DOE Question 51: Additionally, DOE welcomes comments on other issues relevant to the conduct of this rulemaking that may not specifically be identified in this document.

NAHB Response: NAHB's response to this question is more fully discussed in the foregoing comments.

IV. Conclusion

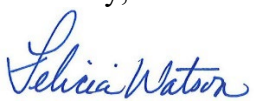
While NAHB appreciates DOE's efforts to meet the requirements of EPCA and to determine whether more stringent standards would be technologically feasible and economically justified, and would result in significant energy savings, NAHB remains concerned that DOE underestimates the costs of compliance and the unintended consequences that these new standards will have on manufacturers and customers of these products. It is critically important that DOE recognize the full impact of its proposal and the wide-reaching consequences these changes will have not only on the industry, but end users. Despite acknowledging that in some instances, there is only one manufacturer, DOE completely discounts that by stating that product can be imported. DOE's position ignores the supply chain constraints that continue to occur on a global level. If the United States is having trouble sourcing products, it should be obvious that other countries are as well.

[23] *Id.* (available at https://www.supplychainbrain.com/articles/36640-watch-silicon-metal-the-supply-and-price-of-an-essential-raw-material) (last visited March 25, 2023).

NAHB is further concerned that, while acknowledging that all consumers will incur some costs, DOE does not fully comprehend nor address the specific cost increases this rulemaking will have on the industry, and consumers who rely on the ability to secure decent and affordable housing in the future.

If you have any questions or require further information, please contact Felicia Watson via email (fwatson@nahb.org) or phone (202.266.8229), and David Logan via email (dlogan@nahb.org) or phone (202.266.8448).

Sincerely,



Felicia Watson
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National Association of Home Builders
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David Logan
Director, Tax & Trade Policy Analysis
National Association of Home Builders
of the United States

Attachment

ATTACHMENT

February 15, 2023

Secretary Jennifer Granholm
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Madam Secretary:

On behalf of a broad coalition representing critical stakeholders in the distribution transformer supply chain, we seek your immediate attention on an issue that could significantly impact national security and grid reliability. We write to strongly urge the Department of Energy (DOE) to reconsider its intention to increase energy conservation standards for distribution transformers, as signaled in its recent Notice of Proposed Rulemaking (NOPR).[i]

Our coalition, comprised of the National Electrical Manufacturers Association (NEMA), American Public Power Association (APPA), National Rural Electric Cooperative Association (NRECA), Edison Electrical Institute (EEI), Leading Builders of America (LBA), National Association of Homebuilders (NAHB), and GridWise Alliance (GridWise), is an assemblage of organizations whose members are at the forefront of the clean energy transition. Utilities and energy service providers, represented by APPA, EEI, and NRECA, provide electricity to all Americans. LBA and NAHB represent homebuilders constructing affordable and energy-efficient communities. Grid component manufacturers, represented by NEMA and GridWise, produce the critical equipment, including distribution transformers, needed to ensure its safe and reliable delivery.

Since 2021, our organizations have been communicating with DOE regarding the severe and ongoing supply chain challenges that have prolonged and complicated distribution transformer production and availability. The inability to quickly manufacture and deliver these critical components threatens the ability of the electric sector to service current and planned housing markets, swiftly recover and restore service following natural disasters, and deliver the benefits of economy-wide electrification.

Last June, working with electric service providers, you directed the Electricity Subsector Coordinating Council to establish a “Tiger Team” to examine the supply chain crisis. It concluded that current transformer production is not meeting demand—demand that is expected to increase for the foreseeable future. Moreover, both the electric and manufacturing sectors have raised awareness of the risks caused by lengthy lead-times in the production, procurement, and deployment of transformers. Under existing production output capabilities, manufacturers estimate the current order-cycle for most new distribution transformers to be longer than 16 months.

The Administration also recognized the severity of this crisis by issuing the June 6, 2022, Presidential Determination through the Defense Production Act (DPA) to prioritize the domestic production of transformers to bolster grid resiliency and national security. In response to that Determination and a subsequent Request for Information issued by DOE, manufacturers provided numerous recommendations on how best to scale up production. One such proposal included the standardization of “emergency-use” products, or transformers built to lower energy conservation standards to meet DPA expectations of greater output.[ii] Similarly, in a joint letter to you by APPA and NRECA on October 19, 2022, these organizations encouraged DOE to

reprioritize some Inflation Reduction Act funds under the DPA designated for heat pumps to distribution transformer production, including labor recruitment and retention.[iii]

Despite this information and our organizations' close work with DOE to explore short and long-term solutions to this crisis, on January 11, 2023, the Department issued a NOPR that would, through its various requirements, further exacerbate the supply chain situation. The proposed rule would dictate that manufacturers increase the efficiency of distribution transformers by a mere tenth of a percentage point.

DOE *already* mandates distribution transformers be manufactured to incredibly high efficiency standards. Currently, NEMA calculates a three-phase liquid-immersed distribution transformer with a kilovolt-ampere (kVA) output rating of 2500 is already 99.53% efficient; a similar single-phase type with a kVA of 833 is 99.55% efficient.[iv] Importantly, due to the intricate ways transformers are designed and assembled, increasing their efficiency even by a fraction of a percentage point could add months to an already lengthy order-cycle.

Our organizations agree that energy efficiency standards play an important role in reaching decarbonization benchmarks while transitioning our nation to a clean and increasingly electrified economy. However, as proposed, the rule would delay the realization of these benefits by worsening supply chain complications already well known to DOE.

Additionally, the proposed rule would require manufacturers to transition to a different type of steel, which is largely untested, less flexible, and more expensive.[v] Further, the existing supply chain of this alternative steel is very limited and mostly foreign-sourced. This rule would impose unnecessary cost burdens and further delay the delivery of such critical products. Simply put, this DOE proposal does nothing to address, and is likely to exacerbate, the current distribution transformer shortage crisis.

Given the unprecedented demand for distribution transformers, our organizations urge DOE to maintain the current efficiency levels required of these products. Getting these already highly efficient products into the market more quickly should be the highest priority and will result in the realization of electrification benefits much sooner—benefits that will far outweigh any gains achieved through a fractional percentage increase in efficiency.

Thank you for your time and consideration of this issue. We welcome the opportunity to discuss this with you further and appreciate your leadership in this area.

Sincerely,

American Public Power Association
Edison Electrical Institute
GridWise Alliance
Leading Builders of America
National Association of Home Builders
National Electrical Manufacturers Association
National Rural Electric Cooperative Association

CC: Rep. Kevin McCarthy – Speaker of the U.S. House of Representatives
Rep. Hakeem Jeffries – U.S. House Minority Leader
Sen. Charles Schumer – U.S. Senate Majority Leader
Sen. Mitch McConnell – U.S. Senate Minority Leader

Rep. Cathy McMorris Rogers – Chair, Energy and Commerce Committee
Rep. Frank Pallone – Ranking Member, Energy and Commerce Committee
Rep. Kay Granger – Chair, Appropriations Committee
Rep. Rosa DeLauro – Ranking Member, Appropriations Committee
Sen. Patty Murray – Chair, Appropriations Committee
Sen. Susan Collins – Ranking Member, Appropriations Committee
Sen. Joe Manchin – Chair, Energy and Natural Resources Committee
Sen. John Barrasso – Ranking Member, Energy and Natural Resources Committee
Alejandro Moreno – Asst. Sec. (Acting), Energy Efficiency & Renewable Energy, DOE
John Podesta – Sr. Advisor to the President: Clean Energy Innovation & Implementation
Elizabeth Sherwood-Randall – White House Homeland Security Advisor

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[i] *Energy Conservation Program: Energy Conservation Standards for Distribution Transformers*, 88 *Fed. Reg.* 1722 (Jan. 11, 2023).
[ii] https://www.nema.org/docs/default-source/advocacy-document-library/nema-gridwise-comments-doe-dpa-rfi-11.30.22.pdf?sfvrsn=2969fc7b_4
[iii] https://www.cooperative.com/news/Documents/Trades%20Letter%20Supply%20Chain%20DPA%20Final.pdf
[iv] https://www.nema.org/docs/default-source/nema-documents-libraries/doe-transformer-efficiency-regs.pdf?sfvrsn=8253222a_0

[v] U.S. Dep't of Energy, DOE Proposes New Efficiency Standards For Distribution Transformers, https://www.energy.gov/articles/doe-proposes-new-efficiency-standards-distribution-transformers (DOE explains that "[a]lmost all transformers produced under the new standard would feature amorphous steel cores").