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Re: NAMA Comments on DOE's Notice of Data Availability and the Technical Support Document on Commercial Refrigeration Equipment

Docket: EERE-2017-BT-STD-0007

Dear Jeff Marootian, Jeremy Domm, & Kristin Koernig:

The National Automatic Merchandising Association (NAMA) respectfully submits the following comments to the Department of Energy (DOE or Department) on its Notice of Data Availability on Commercial Refrigeration Equipment; EERE-2017-BT-STD-0007

Federal Register Notice: Volume 89, No. 167, Wednesday, August 28, 2024

Energy Conservation Program: Energy Conservation Standards, for Commercial Refrigeration, Freezers, and Refrigerator Freezers.

Founded in 1936, NAMA is the association representing the \$35 billion U.S. convenience services industry, with its core membership being comprised of owners and operators of commercial refrigeration equipment companies. With nearly 1000-member companies – including many of the world's most recognized brands – NAMA provides advocacy, education, and research for its membership. NAMA members include nearly all the U.S. based commercial refrigeration equipment in the categories mentioned above as well as their largest customers. NAMA represents

many types of commercial refrigeration machines, including those under the jurisdiction of DOE in the categories of Commercial Refrigeration Equipment.

Regarding the DOE Notice of Data Availability (NODA) on energy efficiency of Commercial Refrigeration Equipment (CRE), NAMA is presenting testimony and response on behalf of the manufacturers of the machines that provide food and beverages to millions of consumers in a safe and environmentally responsible manner.

NAMA appreciates the opportunity to submit comments on the Federal Register Volume 89, No. 167, August 28, 2024. Notice of Data Availability by the Department of Energy (DOE or Department) regarding future DOE energy conservation standards rulemakings on CRE. The U.S. Energy Policy and Conservation Act, as amended (“EPCA”), authorizes DOE to regulate the energy efficiency of certain industrial equipment. (42 U.S.C. 6295 (v)). Title III, Part B 2 of EPCA established the Energy Conservation Program for Consumer Products Other than Automobiles. These products include Commercial Refrigeration Equipment, the subject of this document.¹

NAMA is responding for the following categories within CRE.

Vertical, Closed, Transparent, Self-Contained, Medium Temperature	VCT/SC/M
Vertical Open, Self-Contained, Medium Temperature	VOP/SC/M
Horizontal Open, Self-Contained, Low Temperature	HZO/SC/L

Major points of concern with the 2024 NODA

- The Department has not allowed sufficient time to review the NODA and TSD.
- There are many inconsistencies between the NODA text and TSD.
- Interagency Working Group Report on Social Cost of Greenhouse Gas is improperly utilized in the NODA
- The NODA contains many elements of incorrect data on energy savings and cost of Design Options. There are still errors in the baseline options.
- The Department acknowledged the separation of “non-large” and “large” units but this is not carried forward to the formulas for the rulemaking.
- No additional data is given on the tear-down analysis.
- NAMA requested additional information on shipments, but this is not in the NODA.
- DOE agreed to send additional information on shipments, particularly addressing refurbished machines. This is not in the NODA.

¹NAMA supports the comments of the Air-Conditioning, Heating and Refrigeration Institute’s (AHRI) and North America Food Equipment Manufacturer’s (NAFEM) on this NODA. We join with these organizations in comments, and we have incorporated their comments by reference. NAMA, AHRI, and NAFEM may comment on separate concerns with the NODA. To the extent that NAMA does not comment on any particular issue on which AHRI and NAFEM provided comments, the absence of NAMA’s comments on the same issue should in no way be construed as NAMA’s lack of concern with the issue or disagreement with the comments from the other organizations.

- DOE seems to want to discuss the effective date, but until there is better data on which to project the cost and energy savings, such discussion is premature.

NAMA will concentrate its comments on the following 17 areas.

1. Many of the products from NAMA members are used by small “mom and pop” groceries and corner convenience stores, as well as small delicatessen restaurants. **For these small users of the equipment, the costs of this regulation will be significantly higher than what DOE projected, and the energy savings much lower.** Many of these groceries and convenience stores operate in urban areas or rural areas which are sometimes described as “food desert” locations. Thus, the impact of this regulation on consumers, especially the citizens least able to afford increases in groceries. The actual purchaser of the equipment may not be the user. The user may never see any energy savings.
2. In the middle of this NODA, DOE issued the NODA and two updates, but seems to have refused our request to extend the time for comments. Thirty (30) days to review and comment is unreasonable.
3. **Having reviewed the NODA and the Technical Support Document (TSD) (revised at least once more) we find several inconsistencies between what is said in the NODA text and what is actually in the TSD.** DOE has said that they have taken many points raised in our responses to the NOPR in 2023 and have made changes. We fail to see where any of the cost or energy efficiency pertaining to our products have been changed in either the NOPR TSD or the NODA TSD. Furthermore, the data on Design Options is still incorrect on both the energy efficiency improvements as well as the cost.
4. **NAMA detailed the many errors that appeared in the ANOPR and preTSD.** None of the errors we pointed out appear to be substantially changed with the September 2024 NODA.
5. In the NODA text in the Federal Register, the Department has taken several sections to describe its questions about the **effective date**. DOE did not ask for comments on this issue. However, NAMA believes the most important element of the NODA and the Final Rule are to provide full and accurate justification for the energy levels chosen for each machine type. That has not been completed in this NODA. Once accurate information is provided to show the true impact of the regulation, we believe an effective date period of an additional 2 years is valid. If accurate information is provided, then one of the most important facts will show that the regulation for CRE products will have little effect on the overall goals of the Department of Energy. If DOE is saying in the NODA that there is little effect to the United States overall energy efficiency goals, then the Department should deliver a no-standard, standard for these products.

6. **Social Cost of Greenhouse Gas Emissions (SC-GHG).** As others have appropriately pointed out, we are concerned with the Department of Energy’s use of the Interagency Working Group’s (IWG) updated SC-GHG estimates along with the actionable suggestions to the federal agencies. The updated IWG report deserves an open discussion on how the 2023 EPA update will be used. The update deserves a transparent process before it is used in a regulatory action. NAMA is a supporter of the open and transparent process in rulemakings. Having DOE use an IWG report that has never been fully peer-reviewed is not part of the open process. The U.S. Government appears before many international trade fora and champion the U.S. Administrative Procedures Act on openness and transparency of Regulatory Cooperation. The U.S. trade negotiators urge other governments to use the principles of openness and transparency in building regulations. Because of the lack of transparency of the 2023 IWG update, DOE should not use this data in the construction of or justification for a rulemaking on Commercial Refrigeration Equipment.
7. The design options for the three categories of products we have outlined still show a **lack of understanding about the baseline**. DOE has stated forcefully that there is “no double counting.” However, if the NODA Design Options contain the same engineering solutions that have been part of the production of CRE products for more than 10 years, then there are no other words to describe it. DOE has double counted the energy savings from the design options in the baseline. The improvement in energy efficiency based on this NODA and NOPR are much greater than reality. The rulemaking contains another major flaw.
8. DOE appears to not understand the **disconnect between national safety standards and state, local and county requirements**. Only a handful of the hundreds of national, state and local building codes have been updated to produce, warehouse, and service units with R-290 or certain types of A2L alternate refrigerants. There is significant work to be done in finalizing these codes, which is highly unlikely before the projected DOE 2027 implementation of the CRE rule. This can cause manufacturers to build two of every model: one with alternate “blend” refrigerants with higher GWP, and models with the R-290 lower GWP refrigerant. DOE does not address this transition in this TSD. In addition, the capital costs do not include the realistic changes that need to be made to products, factories and service.
9. In 2023, NAMA specifically requested that the categories for VCT-SC-Medium units, VOP-SC-Medium Temperature, and HZO-SC, Low Temperature should be split into two categories because the characteristics are considerably different for less than 30 cubic feet than for over. In the NODA, DOE did address our request. However, the analysis on these smaller units have not substantially changed the overall impact. The projected savings of energy is less for smaller units and this is not captured in the final calculations of overall National Impact Analysis. Further, DOE did not change the formulas for the projected standard to show one set of formulas for “non large” and another set of formulas for “large.” The formula for smaller units should show less impact, and reflect that these products do not use as much energy as the larger units. This appears to be a major flaw: on

the one hand, DOE admits that the energy efficiency and costs for design options are different for units over 30 cubic feet but the final energy efficiency formulas have not changed.

10. **DOE based its Engineering Analysis for several categories on design options that save a marginal amount of energy but cost double or triple what DOE projected.** Many of the Design Options which this NODA addresses are simply not available for machines using R-290 in under 30 cu.ft., and we have no reason to believe will exist in 2027-2028 for the types of machines NAMA member's manufacture. **DOE stated in the public hearing of November 2023 that they would make available more information on the tear-down and testing of units. The NODA does not contain any new information on this. Furthermore, all the "testing" was done on older machines.** This is shown in the NODA Table 1.1 Summary.
 - **Testing VCT-SC-M on units purchased in 2020 with R-290 refrigerant**
 - **Testing VOP-SC-M unit purchased in 2019 at 13 cu ft with R-404A refrigerant**
 - **Testing HZO-SC-L units. Small size. No HZO-SC-L units were purchased or tested.**
11. We noted in our remarks to the NOPR that the **shipment numbers** for the Manufacturer's Impact are incorrect and may be off by as much as 50%. In the text of the NODA, DOE acknowledges that the significant impact of refurbished units sold into the marketplace without a change to the basic refrigeration system are much greater than anticipated in 2022 or 2023. DOE stated in the NODA that they have rectified this by using different price analysis. Yes, price is an issue, but the more important issue is that when more refurbished units are put back into place (sold) in place of new units, this means that the impact of the rulemaking is considerably less than what was projected. The benefit of this regulation in Quads of energy savings will be substantially less than what DOE has projected.
12. DOE acknowledged the significant changes to the safety standards (in the U.S., UL 60335-2-89) will greatly increase the costs of testing and more importantly, the time it will take to cycle all models through the testing laboratories. This is true and is a significant burden on the manufacturers. The ASHRAE standards, not only the UL standards, govern the placement of product in the field. The ASHRAE 15 standard still limits self-contained equipment using R-290 to 114 grams of charge. This has not changed. This greatly affects the maximum size of the equipment and the usage in public spaces.
 - Furthermore, the applicable UL standard 60335-2-89 is still undergoing additional changes and updates. The cost of re-designing equipment for lower GWP chemicals, the design changes necessary for safety compliance to low-GWP chemicals, capital improvements to factories, changes to service, and training of factory employees and service providers are a huge burden to smaller manufacturers. There is no mention of this in the NODA or accompanying TSD. The cost estimated in the NODA are off by 3 to 4 times the actual cost. We believe DOE has inaccurately forecast the cost of making model changes. Not only will the Safety Certification changes cost

increase substantially but the cost of DOE testing on 2 (not 1) units for energy efficiency will rise.

13. DOE did acknowledge in the NODA TSD that some costs shown in the TSD for the NOPR were incorrect, and attempted to adjust them with this NODA. But the cost of several of these design options (e.g. Krypton filled doors, Brushless DC condenser fan motors, Argon filled triple pane doors, Occupancy sensors with dimming) are shown as improving efficiency by amounts not proven in our testing, and the cost is significantly higher than what is shown.

14. Several of the design options shown in the TSD may have an impact on the overall machine capacity. Any design option that requires more space inside the machine must reflect the reduction of overall capacity. Larger condensers or evaporators and changes to type of glass resulting in new structural components all reflect on the overall capacity. The external dimensions of a CRE appliance are limited by the height of the building structure in break rooms small grocery stores, or built-in areas. The width and length are limited by the footprint of the machine and integration with other machines (i.e., snack machines) to which CRE are paired. DOE did not discuss the resultant change in Utility or Performance in this TSD document. The use of heavier doors with triple pane glass might save 0.022 kwh/day but raise the price of the machine by more than \$100. And this still does not factor what the industry must spend in re-tooling and design to accommodate triple pane glass.
 - a. It does not include the cost of machinery to install this new heavier door.
 - b. It does not include the structural changes to the cabinet to hold the new doors and not make them fall on the front face when installed, or tip over on a customer.
 - c. It does not include the cost of additional packaging.
 - d. It does not include the increased cost of shipping.Nor did the Department show an increase in the Greenhouse Gas emissions for transportation of machines that are over 100 pounds heavier.

15. At the November 7, 2023, DOE public workshop, several speakers tried to explain to the Department that any changes in the Design Options used as justification will cause significant increases in the cost of the machines. This will cause the purchaser to consider other alternatives. One of these is to simply delay the purchase of new equipment. This results in the DOE objective and reduction of overall U.S. energy consumption to be significantly less than projected. Another of these options is to purchase reconditioned or refurbished machines; which we have explained will not improve the energy use of the existing machines. This further decreases the estimated National Energy Savings from the new DOE standard.

16. At the November 7, 2023, DOE Public Workshop, NAMA requested more specific information on the shipments DOE used to justify this rulemaking. The answer we received is that the Department would provide this information. **It has been 10 months since that**

meeting, and we have yet to see any further information. If we had received the payback analysis, it would be drastically less than what is shown. Then we could make an assessment of what the real value of this rulemaking is to the United States over the next 30 years.

17. NAMA members were extremely surprised and disappointed in the accuracy of the design changes. We offered to work with the Department and were turned down. At the ANOPR stage, we gave the department much of the same information as we did in our comments to the NOPR TSD but the Department did not substantially change the NODA TSD.

We support the comments that AHRI made in their response to the NOPR when they pointed out: “DOE has failed to provide or make available to interested parties all data it relied upon in this rulemaking, in violation of the Administrative Procedure Act (APA). The APA under Section 553 requires an agency to publish a notice of proposed rulemaking (NOPR) with the inclusion of “either the terms or substance of the proposed rule or a description of the subjects and issues involved.”²

There are a number of instances in the NODA for this rulemaking that do not appear to present the data on which the DOE utilized to arrive at the conclusions that are provided. As the U.S. Court of Appeal of the District of Columbia noted in *American Public Gas Association v. U.S. Department of Energy*, an agency is required to allow the public to review and analyze any technical materials that it relies upon in the proposed rule.³

Between DOE and the Department of Commerce, the US Government has data on shipments with which to modify these percentages according to sales-weighted numbers. With accurate data, we believe the effect on the products within the scope of NAMA would be significant. This, of course, would mean that the National Impact Analysis is even less than projected.

Cumulative Regulatory Burden—Included in Regulatory Impact Analysis

Cumulative Regulatory Burden Is Significant. A complete analysis of cumulative regulatory burden must consider the number of products the regulated manufacturers make, in addition to the one being regulated in a particular rule that are subject to proposals to amend standards or to promulgate standards for the first time. Manufacturers of Commercial Refrigeration Equipment (CRE) must comply with regulations from States, such as California, Oregon, Washington, and several other states which have changed the regulations on the retirement of HFC refrigerants.

² AHRI citation of USC § 553

³ Generally, “the ‘technical studies and data’ upon which the agency relies” “must be revealed for public evaluation.” *Chamber of Com. of U.S. v. SEC*, 443 F.3d 890, 899 (D.C. Cir. 2006) (quoting *Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991)). *American Public Gas Association v. U.S. Department of Energy*, 72 F.4th 1324, July 7, 2023.

Manufacturers must also comply with the regulations from US EPA on Ozone Depleting Chemicals, and with new OSHA regulations on workplace safety because of the COVID 19 Pandemic. DOE should not discount the time and resources needed to evaluate and respond to all proposed test procedures and energy conservation standards for multiple products proposed over a short period, as is currently the case. When these rulemakings occur simultaneously, as they are now, and have in the past, the cumulative burden increases dramatically.

Manufacturers of CRE are in the middle of transition from HFC refrigerants to newer, lower GWP refrigerants. This transition must take place across multiple platforms using considerably different components. With a small staff in many of these companies as well as supply chain issues, any additional requirements from DOE would increase the time of full transition, which NAMA believes to be far more impactful to the environment than the implementation of new energy efficiency requirements shown in this rulemaking pTSD.

In addition, the six-year “lock-in” provision in the statutory structure is designed to give manufacturers time to generate sufficient cash flow to recoup any necessary investments and financial costs/returns. See 42 U.S.C. § 6295(m)(4)(B).

When there are multiple regulations on the same product within the six-year lock-in period (such as refrigerant transition and a completely new test procedure on new energy efficiency regulations), the second regulation violates the recoupment assumption inherent in the first one. The existing Government Regulatory Impact Analysis Model (GRIM) does not consider this situation. In fact, the GRIM produces an increase in value from the early write-off of any past investment. The GRIM accelerates depreciation (a non-cash item) due to the early write-off of past investment, lowering tax cash costs. This is a known weakness in the GRIM that was somewhat conceptually difficult to resolve in the earliest versions. Moreover, the spreadsheet technology generally available at that time did not support this type of branching analysis.

The simplest way to resolve this is to do a consolidated analysis for multiple regulations starting from the time of the first regulation. DOE has noted that such an analysis would require counting both the costs/investments and revenues/profits for both products. This is correct and is a feature, not a deficiency. DOE should be analyzing and assessing the change in combined industry value for these products, or for the same product multiple times. Alternatively, if this is not possible, then DOE should incorporate a value reduction factor in the first post-regulation year of the analysis that subtracts the value lost from the remaining years of the previous regulation.

NAMA urges DOE to incorporate the financial results of the current Cumulative Regulatory Burden analysis directly into the Manufacturer Impact Analysis (MIA). This can be done by adding the combined costs of complying with multiple regulations to the Product Conversion Costs in the GRIM model. An appropriate approach would be to include the costs to manufacturers of responding to and monitoring regulations. We mentioned this in our comments to the NOPR and there has been no improvement of the analysis in this NODA.

Regarding this rulemaking specifically, there are several ongoing regulations that impact commercial refrigeration equipment. Many of these are related to the environmental changes

associated with changes to a lower GWP refrigerant, but also include the radical changes to the design of the product to comply with the safety standards in the United States.

As mentioned before, the changes necessary to the state and local building codes are a regulatory burden that needs to be factored into the DOE TSD and NODA..

NAMA appreciates that the Department recognizes this issue and is contemplating some way to align the EPA and DOE dates. Manufacturers need additional time to design and build products that meet these new regulations.

NAMA's members who manufacture CRE equipment also produce Beverage Vending Machines. Thus, there are several rulemakings that are in process at the same time. DOE did not factor these multiple rulemakings into the Cumulative Regulatory Burden.

Conclusion

In summary, NAMA believes that these TSD and NODA documents prepared for this rulemaking do not reflect the state of the industry in 2024 nor the projections for products manufactured after this rule becomes effective. There are factual and structural errors in the NODA and TSD. We are respectfully requesting that DOE conduct a complete revision of all possible energy efficiency changes, the base case, the standards cases, and the economic analysis to show the very real energy efficiency case. If DOE does a full review of the TSD, the projected Quads of energy anticipated from this rulemaking would be significantly smaller and for many classes of consumers, and likely a negative return on investment. Current data already shows that the impact on overall energy use in the U.S. is far smaller than what is projected by DOE.

In the opinion of NAMA members this NODA Technical Support Document is systemically flawed. It appears that DOE did not listen to the comments of industry as stated in response to the preTSD or to the NOPR TSD.

DOE should produce an accurate TSD and support documents to help all stakeholders understand the technical details behind this rulemaking.

When using corrected data, we believe the payback analysis will show that the purchasers and installers of machines under such a set of new requirements will take more than 10 and possibly more than 30 years to ever realize any economic gains from such regulations. In addition, many environmental gains will already be realized by the time the new regulations become effective. In addition, when the Net Present Value is re-calculated using accurate numbers, the payback period will grow significantly.

NAMA and its industry members remain willing and ready to work with the U.S. Department of Energy, Energy Efficiency and Renewable Energy section.

“Under EPCA, any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE determines is **technologically feasible and economically justified.**” In our opinion, the Technical Support Document presented with this NODA does neither.

NAMA appreciates the opportunity to submit these comments on DOE's Notice of Data Analysis for Commercial Refrigeration Equipment and would be glad to discuss these matters in more detail should you so request.

Respectfully Submitted,

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Cc: NAMA Members

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