
Case Nos. 14-2147, 14-2159, and 14-2334 (consolidated)

***IN THE
UNITED STATES COURT OF APPEALS
FOR THE SEVENTH CIRCUIT***

ZERO ZONE, INC., AIR-CONDITIONING, HEATING AND
REFRIGERATION INSTITUTE, AND NORTH AMERICAN
ASSOCIATION OF FOOD EQUIPMENT MANUFACTURERS,

Petitioners,

v.

UNITED STATES DEPARTMENT OF ENERGY, et al.,

Respondents.

**ON PETITION FOR REVIEW OF A REGULATION OF THE
UNITED STATES DEPARTMENT OF ENERGY**

Agency No. EERE-2010-BT-STD-0003

**REPLY BRIEF OF PETITIONER NORTH AMERICAN
ASSOCIATION OF FOOD EQUIPMENT MANUFACTURERS**

Jeffrey S. Longworth
BARNES & THORNBURG LLP
1717 Pennsylvania Avenue, N.W.
Suite 500
Washington, D.C. 20006-4623
Phone (202) 408-6918
FAX (202) 289-1330
jlongworth@btlaw.com

Attorneys for Petitioner North
American Association of Food
Equipment Manufacturers

Table of Contents

ARGUMENT.....	1
I. INTRODUCTION	1
II. DOE ILLOGICALLY DISMISSES CUMULATIVE REGULATORY BURDENS.....	2
A. DOE Illogically Blinded Itself to EPA’s SNAP Rule and its Obvious Impacts.....	3
1. DOE clearly was on notice that the only two refrigerants modeled in the CRE rule were on EPA’s “chopping block.”	4
2. The Government flip-flops on whether European data about alternative refrigerants are useful.....	5
3. DOE should have modeled more appropriate refrigerants to set the new CRE standards.	8
B. DOE Similarly Ignores ENERGY STAR as a Source of Innovative Energy Efficiency Technologies and Research in the U.S.	9
III. DOE’S ECONOMIC ANALYSIS IS DISMISSIVE OF MARKETPLACE COMPLEXITIES.....	10
A. DOE’s Failure to Evaluate Potential Counter-Productive Incentives was Arbitrary and Capricious	10
B. DOE Failed to Properly Evaluate Customer Behavior by not Considering Equipment Substitution	14
IV. DOE’S ENGINEERING ANALYSIS IS FLAWED	16
A. Overall “Utility” of the Engineering Analysis	16
B. Validation.....	18
C. Equipment Classes and Offsets	19
D. Compressors.....	21
E. Insulation.....	23
V. REGULATORY FLEXIBILITY ACT.....	25
CONCLUSION	27
CERTIFICATE OF SERVICE	28
CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS.....	29

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Associated Fisheries of Maine, Inc. v. Daley</i> , 127 F.3d 104 (1st Cir. 1997)	26
<i>BCCA Appeal Group v. EPA</i> , 355 F.3d 817 (5th Cir. 2003)	18, 19
<i>Columbia Falls Aluminum Co. v. EPA</i> (139 F.3d 914 (D.C. Cir. 1998)	18
<i>Morales v. Yeutter</i> (952 F.2d 954 (7th Cir. 1991))	9
<i>Nat’l Ass’n of Psychiatric Health Sys. v. Shalala</i> , 120 F. Supp. 2d 33 (D.D.C. 2000)	26
<i>National Lime Ass’n. v. Environmental Protection Agency</i> , 627 F.2d 416 (D.C. Cir. 1980)	9, 11
<i>Public Citizen, Inc. v. NHTSA</i> , 374 F.3d 1251 (D.C. Cir. 2004).....	14
<i>Small Refiner Lead Phase-Down Task Force v. EPA</i> , 705 F.2d 506 (D.C. Cir. 1983)	8
<i>USA Group Loan Servs. v. Riley</i> , 82 F.3d 708 (7th Cir. 1996)	8, 9, 15, 16
Statutes	
5 U.S.C. § 603(c).....	25
5 U.S.C. § 604(a)(6)	25
42 U.S.C. § 6295(o)(1)	16
42 U.S.C. § 6295(o)(3)	16
42 U.S.C. § 6295(p)(1)	25
42 U.S.C. § 6295(t).....	25

Rules

10 C.F.R. Part 430, Appendix A to Subpart C (4)(a)(4) and (5)(b)..... 23

68 Fed. Reg. 7,990..... 26

68 Fed. Reg. 7,993..... 26

79 Fed. Reg. 17,760..... 21

79 Fed. Reg. 17734..... 13

79 Fed. Reg. 17736..... 24

79 Fed. Reg. Table I.1 21

80 Fed. Reg. 42,870..... 3

80 Fed. Reg. 42,921..... 6

80 Fed. Reg. 42,922..... 7

ARGUMENT

I. INTRODUCTION

DOE's Response Brief reflects the overall problems and concerns that NAFEM has experienced throughout the CRE rulemaking; DOE recasts valid industry comments, dismissing them as superficial minutiae even though closer inspection reveals that DOE's work product (despite NAFEM's and its members' substantive comments throughout) lacks the level of expert analysis necessary to justify the highly technical CRE rulemaking. In each instance, a more detailed analysis exposes DOE's unreasonable or arbitrary conclusions. Thus, this Court should vacate DOE's final CRE standards or, in the alternative, remand the rulemaking back to DOE. For example:

1. DOE knew that EPA was working to ban certain commonly available refrigerants, including the only two that DOE modeled to develop new energy efficiency standards. It dismisses NAFEM's assertions as speculative and irrelevant, dismissing EPA's ongoing rulemaking. Conversely, DOE's response is a mix of arbitrary conclusions about acceptable/unacceptable information, a misunderstanding about alternative refrigerant research/available information, and failure to acknowledge that even EPA's "predictions" are based on an analysis that directly conflicts with how DOE's standards are set.
2. With regards to ENERGY STAR, DOE ignores the practical realities of how ENERGY STAR technology advances and new CRE rules would interplay in the market.
3. DOE has failed to explain how energy savings would result from standards that encourage use of less energy efficient products. DOE refuses to admit that certain smaller volume product standards incentivize production of less energy efficient equipment. DOE similarly ignores and refuses to evaluate the effects on the marketplace the significantly more stringent standards will have for certain product categories.
4. DOE's engineering spreadsheet places arbitrary constraints on manufacturers' ability to use it and prejudiced the public from providing

meaningful comments that could have helped DOE ensure an appropriate reality check for its standards.

5. DOE has failed to cure inconsistencies raised by NAFEM and its member companies during the rulemaking regarding corrections to DOE's engineering spreadsheet:
 - a. DOE refuses to provide any meaningful validation of its engineering model despite the challenges raised about its real-world applicability.
 - b. DOE ignores information in the record that justifies more appropriate product categories, while failing to explain illogical offset factors for certain existing categories.
 - c. DOE relies on unsubstantiated assumptions to arbitrarily predict future compressor energy efficiency.
 - d. DOE continues to fail to understand and correct significant potential loss of utility for certain product lines by forcing new products to incorporate increase insulation thickness.
6. DOE misapplies its governing statute to assert that it was limited in its ability to consider the type or range of small business impact-lessening alternatives mandated by the Regulatory Flexibility Act. But in fact, those assertions simply expose DOE's cursory, perfunctory, and inadequate effort to comply with the RFA.

NAFEM also adopts the arguments in the reply brief of Petitioners Zero Zone, Inc. and AHRI. Additionally, NAFEM concurs with their analysis of and conclusion that the court should strike the amicus brief filed by New York University Institute for Policy Integrity as it is an improper amicus submission.

II. DOE ILLOGICALLY DISMISSES CUMULATIVE REGULATORY BURDENS

NAFEM demonstrated that DOE was aware of, but specifically concluded to dismiss, two important cumulative regulatory burdens directly impacting the viability and justifications for the CRE final standards. *See* NAFEM Br. at § I. DOE's brief essentially repeats prior reasons for dismissing impacts associated with

the U.S. Environmental Protection Agency's ("EPA") Significant New Alternatives Policy ("SNAP") rulemaking¹ that limits future availability of the *only* two refrigerants DOE modeled for the CRE final standards, or for considering important technologies and data related to EPA's and DOE's joint ENERGY STAR program. *See* DOE Br. at 20-24. In fact, DOE's brief raises more questions than it answers regarding its decision-making.

A. DOE Illogically Blinded Itself to EPA's SNAP Rule and its Obvious Impacts.

NAFEM's opening brief set forth facts and analyses regarding DOE's extensive knowledge about and disregard for other rulemakings within the Executive Branch that directly conflict with DOE's understanding of the regulated community, refrigerant availability/performance and the viability of its CRE standards. NAFEM Br. at 18-22. NAFEM referenced appropriate comments, data, and related submissions that DOE should have considered before finalizing the CRE rule. *Id.* In particular, NAFEM questioned DOE's inexcusable decision not to model alternative refrigerants, knowing that the only two modeled refrigerants were subject to being banned by EPA, DOE's sister agency on many matters.

DOE's response is a confusing mix of seemingly random conclusions that boast about the agency's "technical expertise" but actually contains no underlying substance this Court can rely upon. In essence, DOE ignores EPA's SNAP rulemaking, refusing to "predict" trends in the refrigerants market. It then claims it was handcuffed by the industry's failure to provide "necessary information" from

¹ 80 Fed. Reg. 42,870 (July 20, 2015).

which it could model any other refrigerants other than R-134a and R-404a. DOE Br. at 20. In fact, DOE had more than adequate notice regarding EPA's intent and the record reflects it had as much information about alternative refrigerants as the industry possessed at the time.

1. DOE clearly was on notice that the only two refrigerants modeled in the CRE rule were on EPA's "chopping block."

DOE clearly was on notice that EPA was working to ban future use of common refrigerants such as R-134a and R-404a (the only two modeled by DOE). NAFEM Br. at 18-21. A reasonable response to such notice, for an agency boasting about its highly technical capability, should have been to model one or several of the alternative refrigerants that DOE otherwise asserts were available even if it lacked information about them. DOE blames NAFEM for failing "to suggest what data should have been used." DOE Br. at 14, 21. But NAFEM had provided all of its information about the current market availability (or unavailability) of alternative refrigerants and had raised concerns regarding impacts on energy efficiency related to conversions away from R-134a and R-404a. *See e.g.*, NAFEM Br. at 22. NAFEM is not duty-bound to perform DOE's research for standards setting.

Now, DOE claims that modeling other refrigerants was impossible because it lacked appropriate data. Setting future energy conservation standards based solely on refrigerants that soon will be unavailable, while claiming it lacks information to appropriately review alternative refrigerants, without then delaying final agency action until such information becomes available, hardly warrants deference as "considered judgment."

2. The Government flip-flops on whether European data about alternative refrigerants are useful.

NAFEM identified comments that reveal the negative impacts on energy efficiency from converting to “alternative refrigerants,” including information from European manufacturers that already had started making such conversions. NAFEM Br. at 22. But DOE now states that it does not accept European data or research due to “a number of factors driving the basic design” of the equipment (including voltage and frequencies) that DOE asserts makes such comparisons irrelevant. DOE Br. at 21. Refrigerant conversions do require ancillary modifications to some components (such as compressors, blowers, etc.). But, when making refrigerant conversion-based energy efficiency comparisons for a product for use within a single market, electrical energy source, voltage or frequency is constant and thus irrelevant. DOE ought to be able to ascertain important information from the redesign of a product in Europe that is converted to an alternative refrigerant, regardless of the electrical system that runs the product. Certain products also are manufactured for use in both Europe and the U.S. because they contain internal voltage and frequency converters. Hence, European experience is highly relevant and probative, especially when it demonstrates that energy efficiency is negatively impacted by refrigerant conversion as set forth in NAFEM’s comments to DOE.

After discounting EPA’s SNAP rulemaking in one paragraph of its brief, DOE then relies on EPA’s SNAP preamble, taken out of context, to “prove” that banning R-134a and R-404a, according to EPA information that “shows promise,” will

actually improve energy efficiency DOE Br. at 22 (quoting EPA's SNAP rule (80 Fed. Reg. at 42,921)). DOE boldly implies to this Court that while it did not have appropriate information to model alternative refrigerants before setting its final standards, EPA somehow has obtained sufficient information that now vindicates DOE's prior conclusions. DOE's brief first dismisses the entire SNAP rulemaking but then twists it to conveniently confirm its prior speculations that alternative refrigerant conversion does not justify additional modeling. The facts do not support that conclusion, nor does DOE's brief offer any credible defense.

In fact, EPA's SNAP rulemaking reveals the fundamental and continuing problems with DOE's conclusions. First, in its proper context, EPA's quote is contained in a discussion relating to EPA's practice *not* to include energy efficiency in its risk analysis. EPA understands that:

[E]nergy efficiency of any given piece of equipment is in part affected by the choice of refrigerant and the particular thermodynamic and thermophysical properties that refrigerant possesses.

80 Fed. Reg. at 42,921.

Next, EPA's primary docket citation for the quote DOE cites regarding the energy efficiencies improvements was a comment letter submitted to EPA by the partisan advocacy group that originally petitioned EPA for a rulemaking in hopes it would ban refrigerants, such as R-134a and R-404a. *Id.* (primary citation EPA-HQ-OAR-2014-0198-0134).² Further, most of the examples of refrigeration equipment –

² That advocacy group, Environmental Investigation Agency, Inc. has as one of its principle goals to focus on “phasing out, and ending illegal trade in, industrial gases that act as global warmers and deplete the Earth's protective ozone layer.” <http://eia-global.org/campaigns/hfcs-super-greenhouse-gases> (last accessed August 18, 2015).

at least that which most closely resembles equipment produced by NAFEM members – referenced in that comment letter were designed and sold in Europe or abroad and otherwise fall into DOE’s new category that does “not provide sufficient information to support further analysis.” DOE Br. at 23.

EPA also explains that its assertions regarding improved energy efficiency for replacing R-404a are based on “theoretical and prototype testing” of equipment on a “store-wide” basis and not on individual refrigeration products. 80 Fed. Reg. at 42,922. EPA states that predicted energy efficiency of alternative refrigerants to R-404a *decreases* for low-temperature equipment, but research shows energy efficiency can improve for medium-temperature equipment. And, because EPA assumes that individual supermarkets employ more medium-temperature equipment than low-temperature equipment, average energy efficiency for the supermarket as a whole is “expected” to improve. *Id.* But DOE’s standards do not allow for companies to “average” their energy efficiencies across product lines; each piece of equipment must separately meet DOE’s energy efficiency standards. Therefore, EPA’s predictions are irrelevant to the CRE rulemaking and DOE’s reliance on that single quote lacks credibility.

3. DOE should have modeled more appropriate refrigerants to set the new CRE standards.

All of DOE's responses to NAFEM's brief regarding its understanding about and refusal to address conflicts created between its CRE rulemaking and EPA's SNAP rulemaking lack merit. Further, closer analysis of DOE's assertions and *post hoc* references to EPA's SNAP rulemaking demonstrate the lack of substance. DOE's assertion that industry failed to provide relevant evidence is false and misplaced.³ In fact, commenters have provided DOE with extensive data, insight, and technical expertise in response to "the agency's repeated requests to manufacturers for relevant information." DOE Br. at 23.

DOE discredits the specific information that NAFEM and its members provided for arbitrary reasons (*e.g.*, DOE will not accept information that came from experience/research in Europe, but will quote EPA's conclusions based on the same or similar information). DOE improperly cites *USA Group Loan Servs. v. Riley*, 82 F.3d 708, 713-14 (7th Cir. 1996) (quoting *Morales v. Yeutter*, (952 F.2d 954, 960 (7th Cir. 1991)) repeatedly throughout its brief for the general proposition that if industry objects to parts of a proposed rule, it also must provide the requisite evidence for the agency to fix its proposal, implying that DOE could propose anything and the burden then shifts to industry to fix the entire proposal or live with the consequences. That is not the law in *USA Group Loan Servs.*, nor in the

³ DOE's reliance on *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) is misplaced. That case and the quote relied upon by DOE analyzes whether an agency rulemaking has provided adequate notice and does not address whether industry has a duty to supply evidence in response to that notice.

related quote from *Morales*. Specifically with regard to the quote from *Morales*, this Court was analyzing how it might weigh criticisms of an agency's proposed rule when the moving party withholds or fails to provide evidence that it has or could readily obtain but that might be unavailable to the agency ("The plaintiffs [sod farmers] would be on solid ground if they had submitted statistics concerning fluctuations in the number of seasonal workers employed by sod farmers."). *Id.* NAFEM and its members provided extensive data and comments that DOE ignored or dismissed at its peril.

A case that firmly establishes an agency's obligation to justify its final standard of performance is *National Lime Ass'n. v. Environmental Protection Agency*, 627 F.2d 416, 443 (D.C. Cir. 1980) ("EPA must affirmatively show that its standard reflects consideration of the range of relevant variables that may affect emissions in different plants.").

DOE's brief is a mix of irrelevant, unsubstantiated and inapplicable statements about energy efficiency in EPA's SNAP rulemaking; the same one it dismissed as "speculative." At best, DOE's response is confusing, if not contradictory. In any case, it does not reflect the type of "considered judgment" that commands court deference, but rather arbitrary decision-making that instead warrants vacatur or remand with a stay of the rule's effectiveness until these issues are fixed.

B. DOE Similarly Ignores ENERGY STAR as a Source of Innovative Energy Efficiency Technologies and Research in the U.S.

ENERGY STAR is a joint DOE/EPA program that uses third-party certification and on-going testing protocols to create significant energy efficiency technological

innovation and environmental protection.⁴ After 20 years of development and implementation, ENERGY STAR is a powerful American market driver, and, despite DOE's aspersions, it is "voluntary" pretty much in name only.⁵ ENERGY STAR represents the "best of the best" by mandating that new, more stringent ENERGY STAR energy efficiency standards be developed as soon as 25 percent of the existing units in the marketplace achieve ENERGY STAR efficiency standards.⁶

But DOE dismisses ENERGY STAR as having "no bearing" on its rulemaking process as a source of information for technological feasibility or economic justification. *See* DOE Br. at 26. DOE fails to recognize the value in comments by NAFEM and its members' regarding lessons learned and important technological considerations based on ENERGY STAR that reflect important energy efficiency realities. *See* NAFEM Br. at 23-25.

III. DOE'S ECONOMIC ANALYSIS IS DISMISSIVE OF MARKETPLACE COMPLEXITIES

A. DOE's Failure to Evaluate Potential Counter-Productive Incentives was Arbitrary and Capricious

DOE relied upon a narrow approach of analyzing a theoretical, one-size-fits-all unit that leads to absurd results. DOE responds to NAFEM's demonstration that

⁴ *See* <https://www.energystar.gov/about/> (last accessed August 14, 2015) (Through December 2013, ENERGY STAR related energy efficiency certified products/technologies have prevented more than 2.1 billion metric tons of greenhouse gas emissions at a savings of \$295 billion.).

⁵ *Id.* (Of the households that knowingly purchased an ENERGY STAR certified product, about 75% credited the label as an important factor in their decision. The latest Good Housekeeping internal reader audit shows that at 92%, ENERGY STAR is now tied with Good Housekeeping in terms of brand influence.).

⁶ *See e.g.* Commercial Refrigerators & Freezers Specification Version 3.0 (http://www.energystar.gov/products/spec/commercial_refrigerators_freezers_specification_version_3_0_pd) website last accessed August 14, 2015.

DOE's standards irrationally "allow greater energy use for those [units] with solid doors versus those with transparent doors" (*see* DOE Br. at 27), by accusing NAFEM of arriving "at that conclusion by inserting into the energy-conservation-standards formulas for the selected equipment classes a volume (7 cubic feet) that is not representative of commercial units in the market." *Id.* at 32. DOE recognizes, that "[u]nder the revised standard levels, the allowed energy use of the solid-door unit in NAFEM's example does not exceed that of the transparent-door unit until the volume of the units is reduced to 10 cubic feet." *Id.* at n.6. DOE amazingly concludes that 10ft³ units are not representative of commercial refrigeration equipment actually on the market. *Id.*

While there are many larger models in the market, there are a significant number of 10ft³ models that serve an important role in the market, both now and at the time of the rulemaking.⁷ NAFEM is not trying to skew the data as DOE has aspersed; it is trying to get DOE to recognize the complexity of the industry that it is regulating, and the ramifications of DOE not understanding the impacts of its rules is significant.

⁷ DOE maintains its own Compliance Certification Management System, or "CCMS," database. This is the database into which manufacturers are required to input its certification of compliance with CRE rules for each of the models it offers in the marketplace. As of August 1, 2015 roughly 20% of all products listed in the Equipment Classes VCT.SC.M and VCS.SC.M are under 10ft³, with many at approximately 7ft³. *See* downloaded search results for "Refrigeration Equipment – Commercial, Single Compartment" available at: <http://www.regulations.doe.gov/certification-data/CCMS-81578120193.html> (last accessed Aug. 11, 2015). Commenters urged DOE to review this data before promulgating a new rule. *See* n. 11, *infra*. Moreover, the ENERGY STAR database that would have been available during the time of the rule-making would also have shown a number of models that were 10ft³ or less.

DOE states it established the baseline design specifications by:

reviewing available manufacturer data for equipment models offered across the range of available units within a given class. DOE focused this review on units exhibiting sizes and design characteristics that DOE had found through its market research to be most representative of the highest shipment volume offerings at the baseline for each equipment class analyzed.

Doc. #102, Final TSD at 5-14 – 5-15. DOE gives no further information about why certain sizes are “most representative” – *i.e.* they never say [x]% of the marketplace has products in this category at [y] internal volume. DOE only analyzed the rule using what it determined was a representative unit. It refused to consider various sized units, only a single, theoretical “representative” one.

In sum, the problem is that vertical, self-contained refrigerators with volumes of 10ft³ or less, are allowed more energy use if they have solid doors than if they have transparent doors, an absurdity that DOE refuses to admit is evidence of a flawed rulemaking process. As NAFEM stated in its Opening Brief, this reflects a 63% reduction in energy allowed for transparent doors. NAFEM Br. at 27-28. This will be very difficult to achieve and will incentivize users to repair existing models or move to other cabinets, such as open cabinets, with higher overall energy use. *Id.* DOE cannot properly carry out its statutory duty to evaluate whether actual energy savings will result from the new standards when it does not evaluate potential perverse incentives that could affect an unspecified number of units in this category. For example, if these small units are 49% of the marketplace, maybe DOE would not consider it “representative” but that would certainly have an impact on whether energy savings actually result or that maximum energy efficiency is

achieved. The bottom line is that transparent doors serve an important function in the marketplace, but DOE's rules promote solid doors that will require more opening and closing . . . and energy loss.

DOE's dismissal of these smaller capacity models in the marketplace without any analysis or discussion is astounding. This is especially true when this perverse incentive did not exist under the previous rule, did not exist in the proposed rule and does not exist under ENERGY STAR.⁸ Using the 2010 standards, transparent doors were allowed more energy use than solid doors, as one would expect. *See* NAFEM Br. at 27 (table showing allowed energy use comparison between 2010 and 2017 standards for transparent and solid doors). One gets the same results from applying the proposed standards for these equipment classes. *See* 79 Fed. Reg. 17734 at Table II.3. Additionally, DOE/EPA make allowances for these smaller size cabinets under ENERGY STAR, which avoids the problem created by DOE's CRE rules. *See* NAFEM Br. at n.9.

It is arbitrary and capricious for DOE to not evaluate the effects on energy savings calculations from the perverse incentives provided by the new regulations for this product category.

⁸ In fact, DOE is challenged in arguing that these final standards are a logical outgrowth of its proposal or that it provided industry with appropriate notice when industry never had an opportunity to identify or comment on this absurd result.

B. DOE Failed to Properly Evaluate Customer Behavior by not Considering Equipment Substitution

NAFEM has effectively asserted that DOE did not account for changes in customer purchasing behavior and potential interactions between product categories. DOE's response is inadequate.

First, NAFEM has demonstrated that some energy use reductions are so substantial that they encourage continued use of older or otherwise less energy efficient models (*see* NAFEM Br. at 27-30). In response, DOE assumes that end-users will conduct sophisticated cost/benefit calculations, concluding that such "predictions regarding the actions of regulated entities are precisely the type of policy judgments that courts routinely and quite correctly leave to administrative agencies." Resp. Br. at 27 (citing *Public Citizen, Inc. v. NHTSA*, 374 F.3d 1251, 1260-61 (D.C. Cir. 2004)). It is not, however, the actions of "regulated entities" that are at issue here; the end-users, or customers, are not the "regulated entity." NAFEM's key point was the effect on customers and the choices the public would make based on the impacts on price and availability of new products that meet DOE's final standards. DOE never evaluated the effects its regulations would generate in customer behavior; it just assumed an outcome that it otherwise cannot demonstrate is reasonable. *See* NAFEM Br. at 31-34.

Second, DOE failed to address issues regarding interactions between product categories (*see id.*), and instead provides a *post-hoc* rationalization "the fact that equipment utility is the primary driver of consumer decisions regarding equipment

type serves to limit the likelihood or product substitution.” DOE Br. at 31. There is no information to support that statement in the record. NAFEM has raised and briefed the issue, and until its brief DOE has repeatedly stated it “did not have sufficient information.” *See* NAFEM Br. at 31-34.

Even DOE’s *post-hoc* rationalization does nothing to rehabilitate the unreasonable outcome created by the new standards for horizontal freezers that now would encourage open top units instead of more energy efficient transparent doors. Those models with transparent doors are now subject to standards that are almost 82% more stringent than before, while open tops are only reduced by less than one percent. NAFEM Br. at 28. DOE’s response is to point out that “the baseline for these classes were established at different times and through different process.” DOE Br. at 67. But that response shows a lack of understanding that its illogical outcome for horizontal freezers moving forward will focus on producing and selling more open top units due to significantly lower cost, even though promoting transparent door models would result in significantly higher energy efficiency benefits. *See* NAFEM Br. at 29-29.

Moreover, DOE erroneously relies on *USA Group Loan Servs.*, 82 F.3d at 714, for its position that NAFEM should supply DOE with data to support comments regarding interactions between product classes. In that case, the government prescribed: “regulations applicable to third party servicers . . . to establish minimum standards with respect to sound management and accountability” related to student loans. *Id.* at 711. The servicers argued unsuccessfully that the

government should have conducted or commissioned studies on the challenged portions of regulations would have on the servicers, the entities that are the actual target of the regulations. *Id.* at 714. In contrast, NAFEM, and other commenters, are arguing that DOE needed to consider the behavior of customers, the end-users of the product, not the manufacturers who are the target of the regulation. DOE made unjustified and irrational assumptions in its National Impacts Analysis, and it cannot blame NAFEM for the agency's inability to document appropriate reasons. *See* NAFEM Br. at 33-34.

Finally, DOE blames NAFEM for not demonstrating that a less stringent standard would result in greater overall energy savings as a result of the substitution effects. Resp. Br. at 27-28. This is misdirected. The statute dictates DOE must demonstrate that its proposed standards result in overall energy savings and that responsibility cannot rationally be shifted to NAFEM. 42 U.S.C. § 6295(o)(1). If DOE cannot make its demonstration, the statute prohibits DOE from promulgating such a rule. 42 U.S.C. § 6295(o)(3).

IV. DOE'S ENGINEERING ANALYSIS IS FLAWED

The DOE's flawed engineering analysis resulted in arbitrary and capricious standards.

A. Overall "Utility" of the Engineering Analysis

DOE asserts that NAFEM misunderstands the engineering spreadsheet's purpose and operation. Conversely, NAFEM understands the complexities and ramifications that DOE would rather gloss over. DOE created a single

representative unit with a precise total display area or volume and then altered component characteristics to predict energy use at varying technical standard levels. *See* DOE Br. at 39. DOE attempts to limit comment on the spreadsheets to an exercise essentially checking DOE's math. Manufacturers, on the other hand, assert that the true value of the spreadsheets (that derived the final standards) is in putting real world values from their products to see if they will meet the standards. DOE's prohibition to allowing that process or engaging in such a dialogue was prejudicial to NAFEM's members. *See* DOE Br. at 38.

Having access to a single equation for allowed energy use in each category is not sufficient information or notice. *See* DOE Br. at 40. Regulated entities are handcuffed in assessing a products' energy efficiency if they cannot input real world and varied component information based on the size, volume, temperature, etc. DOE used the spreadsheet to calculate energy for its chosen theoretical representative unit; regulated entities should likewise be able to use it to evaluate their actual products.

DOE only agreed to industry demands after the comment period closed. *See* NAFEM Br. at 39. Moreover, DOE's response to comments inherently requires that manufactures perform this exercise. In its efforts to placate concerns regarding its choice of screened-in technologies to include increased insulation thickness, DOE states that product modifications other than increasing insulation thickness may be used to reach the new allowed energy use standards. *See* section IV.E., *infra*. Without being able to fully manipulate the model, regulated entities were

prejudiced and not able to provide full meaningful comment on the insulation issue by not being afforded the opportunity to evaluate what this would mean for their products and how and if energy efficiencies could be ensured through sufficient changes in the other components.⁹

B. Validation

DOE's statement that "NAFEM errs in suggesting that DOE was required to validate the results of its engineering spreadsheet" lacks credibility or integrity. DOE Br. at 40. Commenters criticized the engineering model and its dependence upon only theoretical constructs, its flawed assumptions about the technologies incorporated therein (*e.g.* compressors and insulation), and its inapplicability to real-world products. *See* NAFEM Br. at §III.B. DOE errs in rejecting key holdings that agencies must validate their models where underlying assumptions and applicability to real-world situations are questioned. *See BCCA Appeal Group v. EPA*, 355 F.3d 817 (5th Cir. 2003) (upholding use of model when a battery of validation tests performed addressed the concerns that the air model both under and over-estimated ozone levels); *see also Columbia Falls Aluminum Co. v. EPA* (139 F.3d 914 (D.C. Cir. 1998) (disapproving agency use of model when the test used to determine waste treatment standards did not reflect actual conditions).

⁹ DOE references a few commenters that addressed the engineering spreadsheet to show entities were not prejudiced by the late timing of DOE releasing it for public review (DOE Br. at 38), but this ignores that one of these very comments stressed to DOE that they were only based on a "limited review." *See* Doc. # 65-A1, Traulsen comments at 2 ("A limited review of the DOE's 'CRE_Engineering_Spreadsheet' has found a number of errors in the evaluations which place the values of identified technologies used for the various tiers in question.").

DOE's Response Brief and its general assertion that it subjected "a number" of models and found they were "in agreement" is not a valid, reasoned explanation or response to the particular concerns raised by commenters. *Compare BCCA*, 355 F.3d at 834. It is arbitrary and capricious for DOE to rely on a questioned model without appropriate validation.

C. Equipment Classes and Offsets

NAFEM clearly identified that the existing equipment classes do not account for the varying functionality within the given classes. *See* NAFEM Br. at III.C.1. For example, DOE did not analyze cabinets that have reach-in and pass-through capabilities.¹⁰ *Id.* at 44; *see also* Doc. #65-A1, Traulsen Comments at 12 ("Traulsen believes that, with respect to the currently defined 'classes of equipment' structure used by DOE in its analysis, that there are subcategories of equipment types DOE failed to adequately take into account, including upright units (1-, 2-, and 3-section; Reach-In; Pass-Thru; Roll-In; and Roll-In / Pass-Thru) and under-counter units (categorized by length in inches and application.")). Traulsen provided detailed analyses for product subclasses were not properly addressed by the categories offered by DOE, and Traulsen even proposed standards for alternative subclasses. Doc. #65-A1, Traulsen Comments at App. B. DOE dismissed those comments and that it had properly accounted for all product types, assertions that are clearly contradicted by the administrative record. *Id.*, DOE Br. at 42.

¹⁰ NAFEM also points out that the product categories do not account for the performance differences that occur with smaller volume products. *See* section III.A., *infra*. Either of these functionality or size characteristics could be used to develop representative product categories.

DOE never directly addresses issues regarding functionality that were posed by commenters in the administrative record and reiterated by NAFEM. *Id.* at 44. DOE has not answered concerns regarding how pass-through and reach-in cases, among other subclasses, are accounted for in its standards development process.

DOE's only substantive response to NAFEM's concerns about product classifications and associated offsets is to repeat that it created forty-nine classes, which should be enough. DOE's logic is flawed because having a multitude of product classes does not mean DOE has established or properly assessed appropriate product classifications. DOE Br. at 42. DOE's alternative response is to claim nobody has previously challenged its classification designations in prior rulemakings. DOE Br. at 42-43. Absence of past legal challenge is irrelevant to *this* rulemaking and this petition for review.¹¹ Here, DOE has not properly evaluated its thirty-eight product classes used in its 2009 rulemaking and the eleven classes from the Energy Policy Act of 2005.

In addition, this rulemaking demands much more stringent and advanced technologies and it is critical that DOE explain how it finalized the offset numbers for each specific classification in this rulemaking. DOE reliance on the "weight of history" (DOE Br. at 43) and its unsupported "beliefs" in developing new standards is arbitrary and unsupported. *See* NAFEM Br. at 44-45.

¹¹At least one commenter urged DOE to evaluate the success of the 2009 energy efficiency targets for various categories before it promulgated new standards. *See* Doc. # 65-A1, Traulsen comments at 2 ("The results of the last MDEC targets have not been properly validated for success against current MDEC values due to the delay in the availability of the DOE certification website. Even referencing other public regulatory databases of 'common' products leaves the majority of secondary product class CRE undocumented and unknown. The scope was expanded without empirical data to support such a change.").

DOE also fails to substantively response to NAFEM's assertion that the offsets are illogical when compared between categories. *See* NAFEM Br. at 43 (showing that DOE has set the offsets for vertical, self-contained refrigerators and freezers to be virtually identical). For a self-contained refrigerator, a transparent door model has an offset factor that is approximately 50% smaller than a solid door model. 79 Fed. Reg. at Table I.1 (comparing VCT.SC.M and VCS.SC.M). But remote refrigerators with transparent doors are afforded an offset that is seven times higher than for solid doors. 79 Fed. Reg. at Table I.1 (comparing VCT.RC.M and VCS.RC.M). Whether a product is self-contained or remote has no impact on the relative energy efficiencies of transparent versus solid doors. This outcome is entirely illogical and DOE is mute when asked to justify its arbitrary and capricious conclusions.

D. Compressors

NAFEM also commented and briefed DOE's failure to justify efficiency gain conclusions for compressors. DOE responded that it addressed such comments by reducing proposed efficiency gains from 10% to 2%, which does not provide justification for its 2% efficiency conclusions. Instead, DOE "assumed" a 2% future improvement "premised on marginal improvements to the existing class of [compressors] for commercial refrigeration applications." DOE Br. at 46. DOE admits that it relied solely on a single company's (Danfoss) comments without seeking further substantiation or concurrence. 79 Fed. Reg. at 17,760 ("DOE implemented the suggestion of Danfoss, a major supplier, which stated that a 2%

increase in performance over today's standard offerings, with a corresponding cost increase of 5%, is attainable.”). DOE's 2% assumption regarding future “marginal improvements” completely conflicts with its obligation to rely only on current technologies in its Screening Analysis, a concern raised by NAFEM that DOE has failed to answer. *See* NAFEM Br. at 47. On this issue, DOE relies on the industry expertise of a single company as demonstrated at its public hearing:

MR. WEBER: Well, the assumption for compressors of an improvement trend was based on discussions with the manufacturing community and the validation of the manufacturing community, who the Department feels to be the real experts on this. So if you feel that that trend won't continue, if you feel that is not a valid assumption, we invite that comment.

Doc. #62, Hearing Transcript at 73 (comments of Mr. Weber, representative of DOE contractor Navigant). But even Danfoss admits that, unlike with refrigerants, DOE was looking only at what “might be possible” for compressors and not what was widely available:

MR. WILKINS: Robert Wilkins, Danfoss. Just to add a little emphasis on this refrigerant, I think this is really a critical issue. These technologies are here and available today. *It's not like the compressor issue, where you are kind of playing on the [claim] of what might be possible to achieve.* [Refrigerants are] approved by EPA. And they are widely available around the world.

Id. at 126 (emphasis added).

A 2% improvement is significant. Compressor design involves complex technology and the single manufacturer that DOE relied upon only thinks 2% improvement “might be possible.” This Court should not defer to DOE's

unsubstantiated assumption regarding future technologies.¹² *See* NAFEM Br. at 47. DOE's actions are unjustified and indefensible.

E. Insulation

DOE's decision to increase energy efficiency demands by increasing insulation thickness is a critical issue with significant market impacts, as NAFEM has set forth. NAFEM Br. at 4. NAFEM has identified that future refrigerator units must maintain not only the same size footprint as existing models (to slide into existing constructed locations), they must also retain the same interior dimensions to accommodate millions of racks, trays, pans, and other functional items that have been designed and sold separately to fit into such units at bakeries, restaurants, etc. Whether a chosen technology will have an adverse impact on utility is something that DOE is statutorily obligated to consider. *See* 10 C.F.R. Part 430, Appendix A to Subpart C, (4)(a)(4) and (5)(b). DOE's Response Brief dismisses the issue by asserting that other technologies could be modified instead of increasing insulation thicknesses in order to meet stringent new standards. DOE Br. at 47.

DOE cannot identify any other technologies that would substitute for increasing insulation thickness. For example, if a manufacturer does not increase insulation thickness in its vertical freezers (self-contained with solid doors "VCS.SC.L"), the

¹² Indeed, there have been no major offerings of more efficient compressors since the rule was promulgated over a year ago. Moreover, the type of refrigerants being used greatly affects compressor performance and design. The changes in allowed refrigerants under the new SNAP regulation discussed in Section II.A, *supra*, will impact any potential changes in compressor efficiency.

resulting engineering spreadsheet results fail to meet the new standards.¹³ To avoid a loss of utility (maintaining existing footprint and volume requirements), manufacturers are then forced to make-up for lost insulation thickness through improvements to other technologies. But, DOE already has assumed the maximum improvement for the other relevant technologies, 79 Fed. Reg. at 17736, leaving manufacturers with no technologically feasible measures to employ.¹⁴ Currently, the options would be to change footprint, volume dimensions, or not produce replacement units, all of which are inappropriate and unlawful, yet DOE remains dismissive of this issue.

In sum, if energy efficiency standards for certain classes of products demand thicker foam insulation, but internal volume and external footprint must remain the same before and after the standards are implemented, the agency cannot defend its claim that it has fully responded to comments. DOE states it found increased insulation thickness in the marketplace, but continues to refuse to disclose if this is in applications where changing volume or footprint would be detrimental to product utility. It cannot claim that it has identified alternative technologies and certainly has not provided any analysis of potential loss of equipment utility for a large sector of the industry. This failure is arbitrary, capricious, and contrary to law.

¹³ This can be evaluated by removing the “1/2” insulation” option on the “Design Option Ordering” tab in the engineering spreadsheet for evaluating the category of VCS.SC.L.

¹⁴ Moreover, this analysis is only for the DOE-chosen representative unit, and as discussed in Section IV.A., *supra*, the engineering spreadsheet does not allow regulated entities to change the spreadsheet to calculate what these effects would be on the actual size models they manufacture and sell.

V. REGULATORY FLEXIBILITY ACT

NAFEM states that DOE failed to conduct an appropriate Regulatory Flexibility Act (“RFA”) analysis consistent with 5 U.S.C. §§ 603(c) and 604(a)(6). *See* NAFEM Br. at 51. NAFEM quoted the statute as well as appropriate Small Business Administration Office of Advocacy guidance to federal agencies regarding the scope and types of alternative approaches (including but not limited to exempting small businesses as appropriate) that DOE should have considered in performing its RFA analysis. DOE dismisses these assertions as too generalized and inconsistent with the EPCA. DOE Br. at 51. According to DOE, it cannot reasonably consider exempting any small businesses because it must come up with a “single national standard for each class” of equipment, and that Congress limited DOE’s small business exceptions through 42 U.S.C. § 6295(t). *Id.* But neither assertion is applicable to or relevant to DOE’s obligations under the RFA.

First, DOE fails to recognize that EPCA specifically authorizes the agency to promulgate energy efficiency standards for certain types or classes of products that are *not* maximum improvements in energy efficiency, provided DOE justifies the reasons for a rule with less than maximum standards. 42 U.S.C. § 6295(p)(1). In addition, DOE has never before claimed that EPCA limits the options the agency can consider during an RFA analysis. In fact, the EPCA provision cited by DOE (42 U.S.C. § 6295(t)) relates to a process Congress established for a small manufacturer to seek temporary relief from already established standards, *post hoc*. It is illogical for DOE to consider that a limitation on its RFA analysis or the various options it should consider while developing a rulemaking such as CRE.

Further, DOE has adopted procedures and policies “to ensure that the potential impacts of its draft rules on small businesses . . . are properly considered during the rulemaking process.” 68 Fed. Reg. 7,990 (Feb. 19, 2003). It recognizes that the “level, scope and complexity” of its RFA review will vary “depending on the characteristics and composition of the industry to be regulated and the nature” of the rulemaking requirements. *Id.* at 7,992. In fact, DOE recognizes that a more exacting standard should be applied to “new energy efficiency standards.” *Id.* Moreover, the DOE RFA policy states that DOE must consider the elements set forth in the SBA guidance NAFEM cited in its opening brief, NAFEM Br. at 51-52, including specifically those “significant alternatives” for small businesses such as differing compliance timetables, simplified compliance, and “exemption from coverage of the rule, or any part thereof, for small entities.” 68 Fed. Reg. at 7,993.

DOE dismisses any challenge to RFA as “purely procedural” but NAFEM believes otherwise. The question before this Court is whether DOE’s RFA analysis, option selection, and ultimate conclusions were the result of a “good faith effort to canvass major options and weigh their probable effects.” *Nat’l Ass’n of Psychiatric Health Sys. v. Shalala*, 120 F. Supp. 2d 33, 44 (D.D.C. 2000) (quoting *Associated Fisheries of Maine, Inc. v. Daley*, 127 F.3d 104, 116 (1st Cir. 1997)). Wrongful reliance on EPCA, and a clear lack of consistency with its own RFA policies and procedures with regard to types of options to consider and actual consideration, opens the door for this Court’s review.

CONCLUSION

For all of these reasons, the Court should rule that DOE violated the APA and the EPCA in promulgating the Final Rule, and enter an order vacating the Final Rule; or in the alternative, remand the Final Rule to DOE for reconsideration and further review and comment with a corresponding stay of the effective date, and for all relief the Court deems fair and just.

Dated: August 19, 2015

s/ Jeffrey S. Longworth
Jeffrey S. Longworth
BARNES & THORNBURG LLP
1717 Pennsylvania Avenue, N.W.
Suite 500
Washington, D.C. 20006-4623
Phone (202) 408-6918

Attorneys for Petitioner the North
American Association of Food
Equipment Manufacturers

CERTIFICATE OF SERVICE

The undersigned, counsel for Petitioner North American Association of Food Equipment Manufacturers, hereby certifies that on August 19, 2015, a true and correct copy of the Reply Brief of Petitioners North American Association of Food Equipment Manufacturers, was filed electronically and will therefore be served electronically upon all counsel of record.

s/ Jeffrey S. Longworth

Jeffrey S. Longworth
Barnes & Thornburg LLP
1717 Pennsylvania Avenue, N.W. Suite 500
Washington, D.C. 20006-4623
Phone (202) 408-6918

Attorneys for Petitioner the North
American Association of Food
Equipment Manufacturers

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION,
TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS

1. This brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B) because this brief contains 6,944 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii).

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and Cir. Rule 32(b) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Office Word 2003 in 12-point Century type.

s/ Jeffrey S. Longworth
Jeffrey S. Longworth
BARNES & THORNBURG LLP
1717 Pennsylvania Avenue, N.W.
Suite 500
Washington, D.C. 20006-4623
Phone (202) 408-6918

Attorneys for Petitioner the North
American Association of Food
Equipment Manufacturers