

ORAL ARGUMENT HAS NOT YET BEEN SCHEDULED

No. 11-1485

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

AMERICAN PUBLIC GAS ASSOCIATION,
PETITIONER

v.

UNITED STATES DEPARTMENT OF ENERGY,
RESPONDENT

AIR CONDITIONING CONTRACTORS OF AMERICA, ET AL.,
INTERVENORS

On Petition for Review of Orders of the
United States Department of Energy

BRIEF FOR PETITIONER

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May 14, 2012

CERTIFICATE AS TO PARTIES, RULINGS AND RELATED CASES

A. Parties and Amici

Because the rulings under review involve an informal agency rulemaking, there were no parties, intervenors or amici before the agency. The parties, intervenors and amici in this Court are:

American Public Gas Association (Petitioner)
United States Department of Energy (Respondent)
Air-Conditioning, Heating and Refrigeration Institute (Intervenor)
Air Conditioning Contractors of America (Intervenor)
Alliance to Save Energy (Intervenor)
American Council for an Energy-Efficient Economy (Intervenor)
City of New York (Intervenor)
Consumer Federation of America (Intervenor)
Heating, Air-Conditioning & Refrigeration Distributors International (Intervenor)
Massachusetts Union of Public Housing Tenants (Intervenor)
Natural Resources Defense Council (Intervenor)

Rule 26.1 Corporate Disclosure Statement: The American Public Gas Association (APGA) is a non-profit, non-stock corporation organized and existing under the laws of Commonwealth of Virginia, and has its principal place of business at 201 Massachusetts Avenue, N.E., Ste. C-4, Washington, D.C. 20002. APGA is the national, non-profit association of publicly-owned natural gas distribution systems, with some 700 members in 36 states. APGA promotes and advances the interests of publicly-owned natural gas distribution systems, including municipal gas distribution systems, public utility districts, county districts, and other public agencies that have natural gas distribution facilities.

APGA is a trade association within the meaning of Circuit Rule 26.1(b) and thus is exempt from the requirement to list the names of its members that have issued shares or debt securities to the public.

B. Rulings Under Review

1. *Energy Conservation Program: Energy Conservation Standards for Residential Furnaces and Residential Central Air Conditioners and Heat Pumps*, Direct Final Rule, 76 Fed. Reg. 37,408 (Jun. 27, 2011) (to be codified at 10 C.F.R. pt. 430) (R.1); and
2. *Energy Conservation Program: Energy Conservation Standards for Residential Furnaces and Residential Central Air Conditioners and Heat Pumps*, Notice of Effective Date and Compliance Dates for Direct Final Rule, 76 Fed. Reg. 67,037 (Oct. 31, 2011) (to be codified at 10 C.F.R. pt. 430) (R.58).

C. Related Cases

The case on review was not previously before this Court or any other court. Petitioner's counsel is not aware of any other related cases currently pending in this Court or any other court. By way of background, the United States Department of Energy agreed to complete a final rule to consider amendments to the energy conservation standards for residential furnaces pursuant to a voluntary remand of a case that was before the United States Court of Appeals for the Second Circuit, *State of New York et al. v. Dept. of Energy et al.*, 08–0311–ag(L); 08–0312–ag(con) (2d Cir. 2008). See R.1 at 37,415.

Respectfully submitted,

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GLOSSARY

AEO2010	EIA Annual Energy Outlook for 2010
AEO2011	EIA Annual Energy Outlook for 2011
AFUE	Annual fuel use efficiency
AGA	American Gas Association
APGA	American Public Gas Association
DFR	Direct Final Rule issued by DOE (published June 27, 2011)
DOE	Department of Energy
EIA	Energy Information Administration
EPCA	Energy Policy and Conservation Act of 1975, as amended
GTI	Gas Technology Institute
LCC	Life Cycle Costs
Notice	Notice of Effective Date and Compliance Dates for the Direct Final Rule (issued October 24, 2011, and published in the Federal Register on October 31, 2011)
PBP	Payback Period
TSD	Technical Support Documents

JURISDICTION

In prescribing a new efficiency standard for residential gas furnaces for the northern region of the nation in a direct final rule issued June 27, 2011, the Department of Energy (DOE) had subject-matter jurisdiction under of the Energy Policy and Conservation Act of 1975, as amended (EPCA), 42 U.S.C. §6295 (2010).

This Court has jurisdiction to review DOE's action under EPCA §336, 42 U.S.C. §6306(b). The American Public Gas Association (APGA), which has its principal place of business in the District of Columbia, filed a petition for review on December 23, 2011, within 60 days of DOE's Notice of October 24, 2011, setting an effective date for, and declining to withdraw, the direct final rule prescribing the new furnace standard.

ISSUES PRESENTED FOR REVIEW

1. Whether DOE, by adopting a new (90%) efficiency standard for residential gas furnaces in the northern region that can only be met by Category IV (condensing) furnaces, violated EPCA §325(o)(4) by banning Category I (non-condensing) furnaces in the northern region.

2. Whether the new furnace standard was supported by substantial evidence, where DOE's cost-savings projections were materially inflated by multiple erroneous inputs in its predictive models.

3. Whether the furnace standard was arbitrary and capricious because DOE (a) relied on technical-support documents that were not transparent to skilled analysts, much less the general public; (b) relied on a spreadsheet analysis posted after the comment period closed; (c) declined to evaluate the potential for fuel switching; and (d) failed to address relevant arguments and evidence challenging its supporting economic findings.

4. Whether DOE's use of a direct final rule to prescribe a standard that was contested on the merits by multiple relevant parties contravened EPCA §325(p)(4).

STATUTES AND REGULATIONS

The relevant portions of EPCA §§325 and 336, 42 U.S.C. §§6295 and 6306, and of 10 C.F.R. Part 430 are set forth in Addendum A.

STATEMENT OF THE CASE

EPCA §325(p) allows DOE to prescribe new or amended energy-efficiency standards by notice-and-comment rulemaking and, in limited circumstances, by direct final rule.

Subsection 325(p)(4)(A) provides that “[o]n receipt of a statement that is submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates), as determined by the Secretary, and contains

recommendations with respect to an energy ... conservation standard,” the Secretary may, if the recommended standard accords with the statute’s substantive requirements, issue a direct final rule. 42 U.S.C. §6295(p)(4)(A). But the Secretary “shall withdraw the direct final rule if (I) the Secretary receives 1 or more adverse public comments relating to the direct final rule” and “(II) based on the rulemaking record relating to the direct final rule, the Secretary determines that such adverse public comments ... may provide a reasonable basis for withdrawing the direct final rule” 42 U.S.C. §6295(p)(4)(C)(i).

On June 27, 2011, DOE issued a direct final rule (DFR) prescribing energy-efficiency standards for various products, including non-weatherized residential gas furnaces in a 30-state northern region of the nation (R.1 at 37,408). As required by the statute, 42 U.S.C. §6295(p)(4)(B), DOE provided interested parties 110 days to file comments on the DFR, following which it had 10 days to decide whether to withdraw the DFR and proceed by notice-and-comment rulemaking (*id.* at 37,415).

DOE received over 30 comments from multiple relevant industry sectors, including energy suppliers, distributors, contractors, and consumers, opposing the DFR on procedural and substantive grounds.

In its Notice of October 24, 2011, however, DOE determined that these comments “do not provide a reasonable basis for withdrawing the direct final rule,”

which would become effective the next day, with compliance required on May 1, 2013 (R.58 at 67,037).

STATEMENT OF FACTS

A. Use of the Direct Final Rule Process To Issue Efficiency Standards

The DFR’s new 90% furnace standard followed the recommendations of a joint statement submitted by a group consisting primarily of manufacturers of heating and cooling products and energy-efficiency advocates, which DOE called a “consensus agreement” (R.1 at 37,422; *see* R.16). Thirty-two of the 37 comments DOE received on the DFR’s new furnace standard—from various industry sectors, including consumers, energy suppliers, distributors, contractors, and small business owners—opposed the standard. These comments challenged DOE’s use of a direct final rule, maintained that the standard unlawfully banned non-condensing furnaces, and cited numerous errors in DOE’s supporting analysis, including a flawed economic analysis, non-transparent technical support documents, and DOE’s failure to account for the prospect of fuel switching resulting from the new standard.¹

¹ Comments of Sam Patterson, R.13; Garrett Ballengee, Grant Kidwell, R.14; City of Chanute, KS, R.18; Cara Sullivan, R.21; UGI Corporation, R.22; Philadelphia Gas Works, R.23; APGA, R.24; Alexandra Redman, R.25; City Utilities of Springfield, MO, R.26; AGA, R.27-A1; National Fuel Gas Distribution Corporation, R.28; Metropolitan Utilities District, R. 29; AGL Resources, R.31/31-A2; Nicor Gas Company, R.32; CenterPoint Energy, R.33/33-A2; Piedmont Natural Gas Company, R.34; Consolidated Edison Company of New York, R.35;

Seven days after the comment deadline, DOE issued the Notice, which repeated its DFR finding that the “consensus agreement” containing the furnace standard “was made and submitted by interested persons fairly representative of relevant points of view” (R.58 at 67,038) and stated further that “the adverse comments received in response to the direct final rule do not provide a reasonable basis for withdrawing the direct final rule.” (*Id.* at 67,037.)

B. The Impact of the New Efficiency Standard on Category I Furnaces

The DFR prescribes an annual fuel utilization efficiency (AFUE) of 90% for residential gas furnaces in the northern region of the nation, superseding the 80% nationwide standard set in 2007, which remains in effect elsewhere in the nation (R.1 at 37,410, 37,417). The two main residential furnace designs in the United States are the non-condensing (or Category I) furnace and the condensing (or Category IV) furnace (R.12-A30 at 8-B-2). One of the principal objections to the DFR was that the 90% standard would ban non-condensing furnaces in the

Kailee Tkacz, R.37; Cory Eucalitto, R.38; Heating, Airconditioning & Refrigeration Distributors International, R.39/39-A1; Scott Drenkard, David S. Logan, R.40; Jason Farrell, R.41; Northwest Natural Gas Company, R.42; Laclede Gas Company, R.44; Questar Gas Company, R.48; National Propane Gas Association, R.49; Air Conditioning Contractors of America, R.50; Atmos Energy Corporation, R.51; Alabama Gas Corporation, R.54; Senators Chambliss and Landrieu, R.57; Banner Property Management, R.62; and E&A Heating and Air, R.63.

northern region in violation of EPCA §325(o)(4), since only condensing (Category IV) furnaces can meet that new standard.²

A Category I furnace venting system is not pressurized and uses either a masonry chimney (prevalent in the North) or a metal vent, which can be used to common vent with a gas water heater.³ By contrast, a Category IV furnace venting system uses positive pressure (supplied by a blower) and a plastic (PVC) vent that is typically installed horizontally (where possible). But whether vented horizontally or vertically, a Category IV furnace requires pressurized gas-tight venting, separate venting for any companion gas appliances, and a condensate drain to the outside.⁴ A Category I gas furnace cannot be replaced with a Category IV gas furnace without addressing, at significant cost, these venting and condensate-disposal issues.⁵

These significant installation upgrade issues are better understood by reference to the diagram below, which shows a typical Category I furnace and gas water heater (R.12-A30 at 8-B-7). The majority of non-condensing furnace

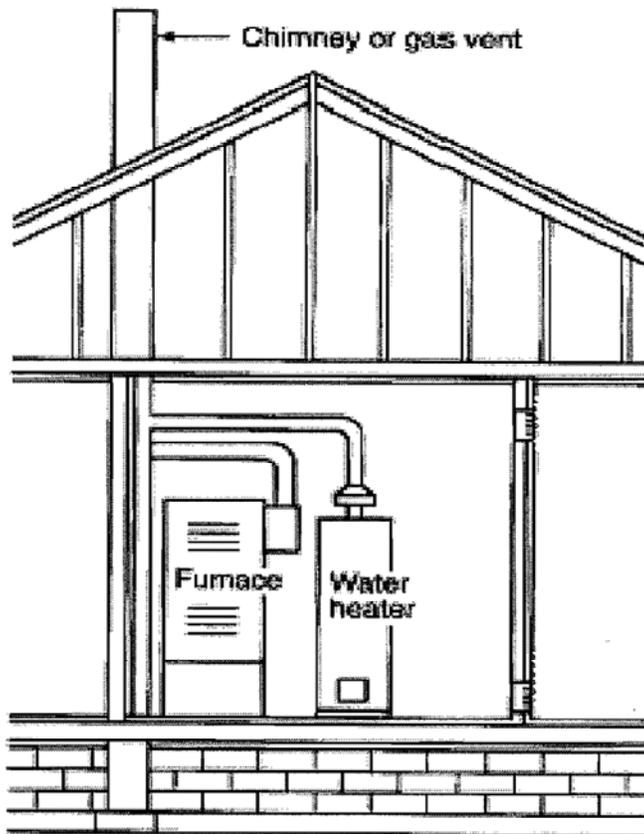
² *E.g.*, R.27-A1 at 5-10; DOE does not dispute these facts; in fact, DOE assumes that in 2016 the majority of replacement installations will be from non-condensing to condensing furnaces (R.12-A30 at 8-B-14).

³ R.12-A30 at 8-B-2—19; R.27-A1 at 5; R.58 at 67,041 n.3.

⁴ *Id.* R.12-A30 at 21-22.

⁵ *E.g.*, R.27-A1 at 5-7.

installations in the northern region are commonly vented with a gas water heater (*id.*, Table 8-B-2.6, at 8-B-9), as illustrated below.



If this Category I furnace is replaced with a Category IV furnace, a dedicated, positive-pressure gas-tight vent must be installed, preferably horizontally through a side-wall if possible (which is often impossible in row houses, townhouses and multi-family dwellings⁶) or vertically through the

⁶ *E.g.*, R.50 at 4-5; R.22 at 2, 5-6; R.23 at 1-2; R.29 at 2; R.31 at 8; R.33 at 3; R.48 at 1; R.27-A1 at 7.

chimney or gas vent, which is even more expensive.⁷ Category IV furnaces cannot be directly vented into chimneys because the condensate can freeze and expand, damaging the chimney or chimney-liner, or can leave acid that erodes the chimney mortar.⁸ A Category IV furnace also requires a separate vent be installed for the water heater, a blower to push the exhaust gas out the furnace vent, and a drain to the outside of the house for the furnace condensate.⁹

The data submitted by commenters show that the likely cost to perform this Category IV replacement installation where there is common venting with a water heater (which is the case in the majority of northern region households¹⁰) is in the neighborhood of \$1500-\$2200 (in addition to the increased purchase price of the Category IV furnace, which is just in excess of \$200).¹¹ DOE, which concedes that “[f]or furnaces, a large cost increase is evident between non-condensing [Category I] and condensing [Category IV] efficiency levels due to the requirement for a secondary heat exchanger,”¹² contends that its estimated average incremental

⁷ *Id.*; see R.12-A30 at 8-B-14—19.

⁸ R.27A-1 at 5; see R.12-A30 at 8-B-9.

⁹ R.12-A30 at 8-B-35.

¹⁰ *Id.*, Table 8-B.2.6 at 8-B-9.

¹¹ R.27-A1 at 7, 16-18; R.44 at 5; R.12-A9, Table 8.2.29, at 8-37; see R.20 at 2.

¹² R.1 at 37,452; see *id.* at 37,473.

cost of \$1,596 is reasonable as it is close to the lower end of AGA’s estimate (R.58 at 67,045).¹³

EPCA §325(o)(4) prohibits banning a covered product class with distinguishing performance-related features. Commenters pointed out that DOE has in the recent past relied on venting characteristics and installation costs in determining whether certain appliances within a group of covered products (e.g., clothes dryers, water heaters, or heat pumps) constitute a separate class under the statute (*e.g.*, R.27-A1 at 6).

In the Notice, DOE did not contest the essential facts recited above or that the new standard would ban non-condensing furnaces in the northern region. Rather, DOE determined that there was no need to prescribe a separate standard for Category I furnaces because both types of furnaces are capable of providing the “same heating function.” (R.58 at 67,041.) DOE did not disagree that Category IV furnaces are more expensive to install due to venting requirements but concluded that this is “an economic impact on consumers that must be considered in the rulemaking’s cost-benefit analysis.” (*Id.* at 67,042.) DOE declined to address its own precedents to the contrary on this issue (*id.*).

¹³ Commenters found the DOE estimated costs to be low based on their own experience (*e.g.*, R.22 at 9-10).

C. The Transparency of the Technical Support Documents

DOE used a computer model to calculate a life-cycle cost (LCC)¹⁴ and payback period (PBP)¹⁵ as the basis for the economic analysis to support the new standard (*e.g.*, R.1 at 37,470). DOE describes this computer model as incorporating Oracle’s “Crystal Ball (a commercially-available software program) [and] relies on a Monte Carlo simulation to incorporate uncertainty and variability into the analysis.” (*Id.*) DOE claims that the “[d]etails of the LCC spreadsheet model, and all of the inputs to the LCC and PBP analyses,” were in its technical support documents (TSDs). (*Id.*)

APGA and the American Gas Association (AGA) retained the Gas Technology Institute (GTI) to analyze the TSDs. GTI’s report (GTI Report, R.24-Att.1) was appended to and incorporated in the comments of APGA.

GTI reported that the spreadsheet in the TSD used a version of Crystal Ball that was not available to the public. Using the publicly available version, GTI was unable even to run the DOE spreadsheet much less conduct any alternative analyses (R.24-Att.1 at 5). Oracle acknowledged that the DOE spreadsheet was not compatible with the current public version of Crystal Ball but provided GTI an

¹⁴ “The LCC is the total consumer expense over the expected life of a product, consisting of purchase and installation costs plus operating costs (expenses for energy use, maintenance, and repair).” (R.1 at 37,470.)

¹⁵ “The PBP is the estimated amount of time (in years) it takes consumers to recover the increased purchase cost (including installation) of a more efficient products through lower operating costs.” (*Id.*)

archival non-public version compatible with the DOE spreadsheet and a modified spreadsheet that ran successfully for certain purposes using the public version (*id.*).

Based on extensive examination of the spreadsheet and the TSDs over a two-month period, GTI analysts were ultimately able to run analyses of the effect on DOE's results of correcting for certain discrete inputs (namely, energy price forecasts, marginal prices, reasonable furnace prices, and expected equipment life) (*id.* at 6). But GTI's efforts to evaluate the impact of installation costs produced anomalous results that could not be tracked or explained without examination of program inputs and results (*id.* and Table 3; *see id.* at 42-44). Likewise, GTI analysts were unable to determine the reason for the unusually large "no impact" numbers in the DOE analysis (*id.* at 11), which was never explained.

APGA on September 12, 2011, sent a letter to DOE explaining these issues in some detail and requesting more time to conduct its analysis and submit comments (R.24-Att.1 at Attachment 4; *see* NPGA request at R.6). DOE responded by letter of September 20, 2011, denying the request on the ground that "DOE lacks authority to extend this statutory deadline" for comments on the DFR (*id.* at Attachment 5 (citing EPCA §325(p)(4)(C))).

On October 7, 2011, APGA submitted a data request that DOE "run and share the suite of scenarios" pointing out that "it is critical that input fields modified to run these cases are identified and documented so that APGA can

complete a full review of how the modified input cases were run.” (R.20 at 1.)

APGA again requested additional time to submit comments (*id.* at 3).

APGA submitted its comments on the DFR on October 13, 2011. The next day, Friday, October 14, DOE responded to APGA’s data request by posting a spreadsheet analysis, without the requested input files and without extending the comment deadline of October 17.¹⁶

Time limitations notwithstanding, APGA submitted a Supplemental Report by GTI on October 17 analyzing the October 14 spreadsheet to the extent time and the absence of input files permitted (R.45-A1/A2). GTI noted significant discrepancies between the baseline 2009 residential average gas prices used in DOE’s analyses versus GTI’s analyses (R.45-A2 at Table 1 and pages 2-3), noted the “significant impact of the assumed input parameters on the results,” and concluded that “[t]he input spreadsheet files are necessary to understand the DOE methodology and exact reasons for the differences.” (*Id.* at 3.)

Then, on October 21, after the end of the comment period and unbeknownst to APGA (and presumably the other parties challenging DOE), DOE posted a *revised* spreadsheet on its web site in lieu of the October 14 spreadsheet; this fact came to light one week before this brief was filed.¹⁷ To be more precise, when

¹⁶ R.64.

¹⁷ DOE counsel informed APGA counsel by email of May 7, 2012, in response to an inquiry about the record status of the October 14 spreadsheet, that (quoting

DOE informed APGA by email on October 14 that the spreadsheet response to the APGA data request was available, it directed APGA to the following web address: http://www1.eere.energy.gov/buildings/appliance_standards/residential/residential_furnaces_cac_hp_direct_final_rule.html. At that web address, under the heading of “APGA Life-Cycle Cost Scenarios” was posted an Excel spreadsheet entitled “APGA Scenario Analysis Spreadsheet.” This was the October 14 spreadsheet to which APGA responded on October 17. That is the exact same web address provided in the Notice (R.58 at note 21) for what DOE now terms its “sensitivity analysis.” At that address today at that same location is a document with the same title (“APGA Scenario Analysis Spreadsheet”) as the document that appeared there on October 14. The difference is that the spreadsheet appearing there now is not the spreadsheet that appeared there on October 14; rather, it is a revised spreadsheet analysis done by DOE and placed there in lieu of the October 14 spreadsheet sometime after October 14 (presumably, according to the email exchange with DOE, on October 21), without notice to the parties.

In the October 24 Notice declining to withdraw the DFR, DOE stated (incorrectly) that it “has made its [DFR] spreadsheet model publicly available on its Web site and no commenter – including AGA and APGA – has questioned the

DOE) “There was a version of the document which was dated 10-13 and posted possibly on 10-14, but it was later revised in response to APGA comment and the version that is now under 10-21 is the revised version.”

methodology underlying the spreadsheet model (as opposed to the data used in the model).” (R.58 at 67,041.) DOE further stated that while it did not have sufficient information to replicate the GTI analyses, it “re-ran its model using the data and assumptions provided by those organizations in their comments.” (*Id.*) This model re-run (which in fact does *not* mimic the data and assumptions provided by APGA/AGA in their comments¹⁸) is the revised spreadsheet that DOE now asserts was posted on October 21 without the requested input files and which DOE now maintains justifies the DFR (R.58 at 67,048). The Notice was silent regarding the substitution of the October 21 spreadsheet for the October 14 spreadsheet.

D. The Economic Analysis Supporting the Standard

DOE acknowledges that EPCA requires that a new efficiency standard must be “economically justified” (EPCA §325(o)(2)(A) and (B)) (*e.g.*, R.1 at 37,415). In the DFR, DOE relied primarily on the LCC and PBP analysis (*e.g.*, R.1 at 37,470). It concluded that the Category IV condensing furnace (compared to the Category I non-condensing furnace) resulted in average LCC savings of \$155 (with a net benefit to 19% of customers, a net cost to 10% of customers, and no impact on 71% of customers) (R.1, Table V.9, at 37,503). These “average” savings were based on a weighted average of LCC savings in the replacement market of \$90

¹⁸ For example, DOE did not use the marginal price analysis done by GTI but rather a homemade marginal price analysis, not shared with the public, based on “newly-available RECS 2005 billing data” (R.58 at 67,044).

(with a net benefit to 16% of customers and net cost to 13% of customers) and of LCC savings in the new construction market of \$343 (with a net benefit to 27% of customers and a net cost to 2% of customers) (*id.*, Table V.17, at 37,507; R.10-A1, Summary Tab).

While constrained by the transparency issues previously noted, the GTI Report analyzed DOE's support for these findings. After correcting four incorrect assumptions in DOE's analysis, GTI reported that the new standard would result in average LCC savings of *negative* \$4, with a net benefit to 11% of customers and a net cost to 18% of customers (R.24-Att.1, Figure 81 at 50). In the replacement market, where DOE projects some 75% of new furnaces will be installed in 2016 (R.12-A30 at 8-B-2) and where condensing furnaces would by fiat replace non-condensing furnaces, the standard would result LCC savings of *negative* \$64, with a net benefit to 7% of customers and a net cost to 21% of customers (R.24-Att.1, Figure 82 at 50). The findings of DOE versus GTI on an average (or composite) basis and for the replacement market and new construction market are summarized in the table below (R.24-Att.1, Table 1 at 1, and Table 12 at 49):

	North Average (Composite)		North Replacement		North New Construction	
	LCC Savings	Payback Period Median/ Avg	LCC Savings	Payback Period Median/ Avg	LCC Savings	Payback Period Median/Avg
DOE Baseline	\$155	10.1 / 12.8	\$90	12.9 / 15.9	\$343	2.5 / 4.3
DOE Baseline, as corrected by GTI	-\$4	16.3 / 20.5	-\$64	20.4 / 25.3	\$172	4.1 / 7.1

The GTI Report found four primary problems with the support for DOE’s findings that were susceptible of analysis. The *first* problem was that the energy prices used by DOE were overstated and did not reflect the most recent available data (*id.* at 7-18). DOE relied on the 2010 Annual Energy Outlook of the DOE Energy Information Administration (AEO2010) for future gas prices, even though AGA had pointed out to DOE in November 2010 that this data would significantly overstate LCC savings since AEO2010 overstated future gas prices by not accounting for the shale gas revolution.¹⁹ Indeed, in December 2010, EIA issued its preliminary AEO2011 report, which materially reduced its projected gas prices due to a large increase in recoverable shale gas reserves.²⁰ The final AEO2011 report, which showed that the AEO2010 report significantly overstated projected gas prices, was issued in April 2011, well before the DFR on June 27, 2011, and the Notice on October 24, 2011.

¹⁹ R.44[STD-0022] at 1-2.

²⁰ Available at <http://www.eia.gov/forecasts/archive/aeo11/er/index.cfm>; *see also* EIA presentation at http://www.eia.gov/neic/speeches/newell_12162010.pdf.

Using the AEO2011 data, the GTI Report showed that the “average” LCC savings dropped from \$155 to \$90 (R.24-Att.1 at 16, Figure 19) and the LCC savings in the replacement market went from \$90 to \$27, with more customers being harmed (16%) than helped (13%) (*id.* at Figure 20).

In the Notice, DOE stated that AEO2011 “was not available at the time the original DFR analysis was conducted.” (R.58 at 67,043.) DOE then stated that, based upon the revised (October 21) spreadsheet, the average LCC benefit of \$155 would be reduced to \$127 if AEO2011 data were used (*id.*). DOE was silent as to the replacement market.

The *second* error in DOE’s analysis reported by GTI was that DOE used average energy prices versus marginal energy prices (R.24-Att.1 at 19-33). GTI explained that an average-price analysis “is inadequate and misleading for efficiency improvement impact calculations.” (*Id.* at 19.) The “shift from an 80% AFUE furnace to a 90% AFUE furnace is a marginal change, and as such requires use of a marginal impact analysis, not an average impact analysis.” (*Id.*) GTI further observed that the use of a marginal (versus average) analysis was especially important “for regional standards because the marginal impact is relevant both for energy prices and for weather-related loads.” (*Id.*)

GTI explained that only by removing the direct fixed costs from the energy price is it possible to assess the marginal impact of the proposed increase in

efficiency, since the primary fixed cost is the customer charge, which is paid by all customers regardless of volume used (*id.*). GTI developed two scenarios to remove estimated direct fixed costs by using available EIA databases: “city-gate” natural gas prices (providing the lower bound of marginal gas prices) and an algorithm that removes a fixed value of 13% of the January average costs from average price projections throughout the year as the estimate of the fixed customer charge (providing the upper bound of marginal gas prices). (*Id.*)

GTI used each of these marginal-price scenarios and the AEO2011 data to correct the DOE analysis. Using the city-gate method (the lower bound), the average LCC savings of \$155 dropped to \$18, with more customers being harmed (17%) than benefitted (12%) (R.24-Att.1 at 22, Figure 30). The LCC savings in the replacement market are *negative* \$43, with far more customers being harmed (20%) than benefitted (8%) (*id.* at Figure 31). Using the second marginal-price scenario (removing the 13% fixed value), again more customers in the replacement market were harmed (17%) than benefitted (11%) (*id.*, Figure 48, at 29).

In the Notice, DOE, while agreeing that “marginal energy prices are in theory preferable when evaluating life-cycle-cost savings associated with standards,” stated that “[a]t the time of the DFR analyses, DOE was unable to obtain marginal gas prices. . . .” (R.58 at 67,044.) DOE “estimated natural gas prices using newly-available RECS 2005 billing data,” and stated, relying upon the

revised (October 21) spreadsheet, that average LCC savings would decline from \$155 to \$128 because of the marginal-pricing issue alone (*id.*). DOE was silent as to the replacement market.

A *third* problem with the DFR analysis reported by GTI concerned the expected lifetime of the equipment (R.24-Att.1 at 36-41). DOE used an average expected lifetime of 23.6 years for non-weatherized gas furnaces (R.1 at 37,477). GTI observed that this number “is in conflict with other industry sources as well as the DOE Multi-Year Program Plan.” (R.24-Att.1 at 36.) In the DOE Multi-Year Program Plan published in 2010, the estimated life of a gas furnace is 16 years.²¹ The average life expectancy of residential gas furnaces estimated by Appliance Magazine is 15 years (with low and high estimates of 12 and 17 years) (*id.*). Data from AEO2011 suggested an average central forced-air furnace life of 17.5 years (*id.*).

GTI used a 16-year life and determined that this change by itself reduced the average LCC savings from \$155 to \$67 and the savings in the replacement market from \$90 to \$6 (*id.* at 38, Table 8), with more customers in the replacement market being harmed (16%) than benefitted (12%) (*id.* at 39, Figure 68).

²¹ DOE Multi-Year Program Plan – Building Regulatory Programs, at 33 (Oct. 2010), available at http://apps1.eere.energy.gov/buildings/publications/pdfs/corporate/regulatory_programs_mypp.pdf.

The DOE response was that its own 2010 analysis (showing a 16-year life) “was an estimate from the published literature rather than the result of empirical analysis.” (R.58 at 67,045.) DOE claimed “the DFR’s estimated average lifetime of 23.7 years for non-weatherized gas furnaces remains the best estimate of that value.” (*Id.*) In any event, DOE used the 16-year lifetime in its revised (October 21) spreadsheet and determined that the average LCC benefits would decline from \$155 to \$72 (*id.*). DOE was silent as to the replacement market.

The *fourth* problem with DOE’s analysis reported by GTI related to equipment costs (R.24-Att.1 at 34-36). The DOE analysis assumes that the prices of condensing furnaces will fall as the cumulative number of such furnaces increases, which is referred to as the learning rate or experience curve (R.1 at 37,517). DOE used a calculated learning rate of 30.6 percent for condensing furnaces for the 1990-2010 timeframe in its analysis to determine the estimated price reduction by 2016, despite the fact that its TSDs showed that using the more current (2000-2010) time frame reflected a learning curve of 19.2 percent (*id.*; R.12-A38, Table 8-J.3.1, at 8-J-8).

GTI noted that “[c]ondensing furnaces have effectively moved from a niche market to a mature, cost-competitive product, comprising 50% of national furnace shipments in 2009 and 68% of furnace shipments to the North Region (Figure 64).” (R.24-Att.1 at 34.) The GTI analysis showed that the last 10 million

shipments in 2006 through 2009 reflect that prices have stabilized, underscoring its conclusion that product maturity is either very near or has been reached (*id.*).

In lieu of the 30.6% learning rate used by DOE, GTI conducted a scenario analysis reflecting no further real price reduction opportunities after 2009 (*id.*).

DOE's response was that while "DOE did not have historical price data specific to condensing furnaces," "the growing share of condensing furnaces over the past two decades (from approximately 23 percent in 1990 to approximately 50 percent in 2010) is reflected in the PPI series that DOE used to derive an experience rate for furnaces." (R.58 at 67,044; footnote omitted.)

DOE evaluated the impact of not using the learning rate on the LCC results in the revised (October 21) spreadsheet and determined that this change would decrease the average LCC benefits from \$155 to \$148 (R. 58 at 67,045). DOE was silent as to the replacement market.

Finally, GTI analyzed the combined effect of these four corrections (R.24-Att.1 at 48-53). GTI reported that the \$155 average LCC savings relied upon by DOE became a *negative* \$39 using the city-gate marginal-price analysis and *negative* \$4 using the 13% fixed-cost marginal-price analysis, and in both cases substantially more customers experience a net cost than a net benefit (*id.* at 52, Figure 87, and at 50, Figure 81, respectively). As for the replacement market, where 75% of new furnaces will be installed, the LCC savings of \$90 in the DFR

decreased to *negative* \$98 (with 23% of customers harmed and 5% of customers benefitted) using the city-gate marginal-price analysis and *negative* \$64 (with 21% of customers harmed and 7% of customers benefitted) using the 13% fixed-cost marginal-price scenario (*id.* at 52, Figure 88, and at 50, Figure 82, respectively).

DOE's response in the Notice was to point to its revised (October 21) spreadsheet that purported to show that "LCC savings for consumers in the Northern Region are \$44." (R.58 at 67,048.) The Notice does not mention that the same spreadsheet also shows *negative* savings of \$9 in the replacement market (R.61, Summary Tab) or that this spreadsheet was not available for analysis and comment during the comment period. The Notice also did not discuss that DOE's October 21 spreadsheet showed that as to the four issues raised by GTI, the "average" savings would drop from \$155 to \$10 and in the replacement market would drop from \$90 to *negative* \$44 (R.61, Summary Tab), with more customers hurt than helped in both situations. Nor did DOE address in the Notice issues such as the anomalously large number of "no impact" customers (R.24-Att.1 at 11) or the discrepancies raised by APGA regarding the October 14 spreadsheet (R.45-A2 at Table 1 and pp. 2-3), which also infect the October 21 spreadsheet.

E. Fuel Switching

Before it issued the DFR, DOE received comments from various parties regarding the serious physical and financial issues associated with mandating the

replacement of Category I furnaces with Category IV furnaces²² and the likelihood of resulting fuel switching.²³

In the DFR (R.1 at 37,524) DOE agreed that “[t]here is evidence that consumers undervalue future energy savings” DOE’s own TSDs contained data showing that up to 10% of owners of gas water heaters vented in conjunction with furnaces that are orphaned due to installation of a condensing furnace would switch to electric water heaters.²⁴ In addition, the fuel-switching issue had been highlighted in DOE’s 2007 Furnace Rule rejecting the 90% standard in favor of the 80% standard.²⁵ Further, in the DFR, DOE did an equipment-switching analysis as between types of electric equipment (R.1 at 37,484). Nonetheless, DOE “did not explicitly quantify the potential for fuel switching from gas furnaces to electric heating equipment” in the DFR (*id.* at 37,483). DOE’s rationale was that because “using an electric system in a cold climate is significantly more expensive than using a gas furnace,” “DOE inferred that consumers with high heating loads would

²² R.1 at 37,473 where DOE notes that ACCA (association of contractors), HARDI (association of distributors), APGA and AGA (associations of energy suppliers), and Ingersoll Rand (manufacturer) comment on both the financial and physical impediments to replacing a Category I furnace with a Category IV furnace.

²³ *Id.*

²⁴ R.12-A30 at 8-B-35. DOE has in the past grossly underestimated the extent of fuel switching away from gas water heaters (R.44 at 8).

²⁵ *Energy Conservation Program for Consumer Products: Energy Conservation Standards for Residential Furnaces and Boilers*, Final Rule, 72 Fed. Reg. 65,136, 65,165 (Nov. 19, 2007).

be unlikely to switch to electric space heating systems as a result of amended standards.” (*Id.* at 37,484.) DOE also posited that fuel switching was unlikely because a customer switching from gas to electricity would incur some costs to upgrade its electric system (*id.*).

Comments filed in response to the DFR stated that a major unintended consequence of the 90% standard would be fuel switching, since many consumers, especially those in lower-income brackets, would respond to up-front costs and not to the putative savings over the life of the equipment.²⁶ These commenters observed that the notion that a gas furnace might have lower operating costs over its life than would its electric counterpart was not determinative, because the first concern—and for many lower-income consumers the only concern—would be how to pay for the substantial up-front costs of purchasing and installing a condensing furnace.²⁷

GTI observed that the TSD data confirmed that irrational economic behavior would occur in the context of consumers switching from gas to electric water heaters due to the upfront costs without regard to possible savings in operating costs (R.24-Att.1 at 45):

²⁶ *E.g.*, R.22 at 3-7; R.44 at 3, 6-8; R.31 at 7-8; R.33 at 3; R.23 at 2; R.27-A1 at 18-20.

²⁷ *Id.*

The overall impact of this irrational fuel switching needs to be included in the analysis of consumer impacts and LCC savings. While this [water heating] fuel switching may occur only in a fraction of overall installations, the impact per home is significant (\$2,846 LCC per home in this example), and should be carefully considered by DOE before making any determination.

DOE conceded in the Notice that “consumers are sensitive to the relative differences in the total upfront cost of purchasing the appliance and having it installed, and often undervalue the differences in annual operating costs.” (R.58 at 67,046.) But DOE dismissed the concerns over fuel switching by observing that the difference in operating costs between a gas and electric furnace in the northern region “are very large” (*id.*) and concluding that “[g]iven the initial costs involved in replacing a gas furnace with electric space heating, combined with the much higher operating costs of an electric heating system, DOE believes that the approach used for the DFR is reasonable.” (*Id.* at 67,047.)

SUMMARY OF ARGUMENT

In issuing a DFR prescribing a 90% efficiency standard for furnaces in the northern region over substantial industry opposition, DOE violated the clear terms of the EPCA, which does not permit a direct final rule in these circumstances, prohibits the banning of a covered product class with distinguishing performance or other characteristics (such as the Category I furnace), and requires that any standard be economically justified and supported by substantial evidence.

Moreover, the DFR was not the result of reasoned decision-making.

1. EPCA §325(o)(4) prohibits DOE from prescribing an efficiency standard if that standard will result in the unavailability of a covered product class which has distinguishing features from other products within the same group. DOE does not dispute that the 90% standard equates to a ban on Category I (non-condensing) furnaces in the northern region. But it defends its action by maintaining that since both the Category I furnace and the Category IV furnace perform the same heating function, it need not treat the Category I furnace as having any special utility (*i.e.*, may ignore its unique ability to be vented vertically through a chimney, common-vented with other gas appliances, and common-vented in multi-unit, multi-story housing, and to operate without addressing disposal of flue gas condensate); rather, according to DOE, the significant installation costs associated with replacing a Category I furnace with a Category IV furnace are simply economic issues to be considered in the economic feasibility analysis.

That conclusion, besides violating the plain meaning of the EPCA, flies in the face of DOE precedents in which it has distinguished between products that provide the same function (clothes dryers, water heaters, heat pumps, etc.) based on their venting characteristics and installation costs. DOE does not acknowledge, much less distinguish, these precedents, one of which is in the DFR itself.

2. DOE violated the EPCA and judicial precedent by promulgating a new efficiency standard based on findings of LCC savings and customer benefits that are contradicted by the evidence of record. The evidence shows that, with the correction of certain erroneous inputs underlying the DOE's economic analysis, more customers are harmed than helped under the new 90% standard in the critical replacement market, as well as on an "average" basis.

3. DOE violated both the EPCA and its own regulations in relying on technical support documents that are not transparent to the public and on a post-comment period spreadsheet as the bases for its findings on the economic justification of the 90% standard.

4. DOE violated the EPCA by using the direct final rule process to issue a new efficiency standard where the proposed rule was opposed on the merits by numerous relevant parties, including contractors, distributors, energy suppliers, and consumers. These opposing parties presented substantial evidence showing that, transparency issues notwithstanding, the bases for the new standard were ill-founded and the DFR should be withdrawn.

5. DOE erred by failing to take into consideration other relevant factors that were brought to its attention, including fuel switching, the infirmities noted regarding the October 14 spreadsheet (which also taint the October 21 spreadsheet), and enforcement costs.

STANDING

APGA is the national association of publicly-owned natural-gas distribution systems. Of the nation's approximately 1200 local gas-distribution systems, some 950 are publicly owned; of those, about 700, in 36 states, are APGA members. About 260 members are in the northern region that is subject to the DFR under review. APGA members serve over 5 million consumers, the vast majority of which use natural gas to fuel their furnaces (and in most instances accompanying water heaters). In promoting the well-being of its members, APGA participates in many federal regulatory proceedings affecting natural-gas usage and fuel switching.

A trade association has standing on behalf of its members if “(1) at least one of its members would have standing to sue in its own right, (2) the interests the association seeks to protect are germane to its purpose, and (3) neither the claim asserted nor the relief requested requires that an individual member of the association participate in the lawsuit.” *Sierra Club v. EPA*, 292 F.3d 895, 898 (D.C. Cir. 2002). APGA meets these criteria, as shown below and in the affidavits of APGA's President/CEO and of two of its members, Philadelphia Gas Works (PGW) and Hamilton, Ohio (Hamilton), provided in Addendum B.

Regarding the first *Sierra* criterion, APGA's members in the northern region would have standing in this case because they will suffer injury in fact, that

injury is directly related to the DFR, and the injury may be redressed here. *See Sierra Club*, 292 F.3d at 898. They will be harmed because the DFR will cause substantial fuel switching from gas furnaces (and accompanying water heaters) to their electric counterparts, thereby undermining the members' natural-gas loads and reducing the efficient use of natural gas.

This fuel switching will occur because the DFR bans the installation in that region of Category I (non-condensing) furnaces (which can only achieve efficiencies of 80%, the national standard set in the 2007 Furnace Rule). The only gas furnaces that meet the new 90% standard are Category IV (condensing) furnaces, which many gas customers cannot install, either because they cannot afford the high up-front purchase and installation costs or because they live in row houses, town houses and like dwellings where the side venting recommended for a Category IV furnace is impossible. These consumers will likely opt for electric furnaces, which have lower up-front costs and do not require such venting. The result is reduced natural-gas loads for APGA members and the diversion of natural-gas supplies to less-efficient uses (generating the additional electricity). The inevitability of such fuel switching was attested to by the numerous distribution companies (including APGA members) to submit comments in the

proceeding below²⁸ (and their trade associations²⁹) as well as in the accompanying affidavits of PGW and Hamilton (Addendum B). In addition, DOE technical documents underlying the DFR also show that fuel switching to electric water heaters will occur.³⁰

Fuel switching is an important consideration under the EPCA because it affects whether an efficiency standard is “economically justified” and will result in “significant conservation of energy,” 42 U.S.C. §6295(o). If an efficiency standard causes consumers to switch to less-efficient fuels, then the very purpose of the standard is defeated. Thus, DOE’s 2007 Furnace Rule, which set the nationwide 80% efficiency standard for residential furnaces, rejected a 90% standard in no small measure *because of* the fuel switching that would occur due to the increased installation costs of condensing furnaces.³¹

DOE does not deny that energy providers (such as the APGA members) are relevant parties within the meaning of EPCA §325(p)(4), along with other stakeholders (R.58 at 67,040). Energy suppliers are relevant parties because

²⁸ See, e.g., R.31 at 1-2, 7-9; R.22, at 1-11; R.44 at 1-11, 18; R.33 at 2-8; R.23 at 1-2; R.29 at 1-3; R.26 at 1-2; R.48 at 1; R.35 at 1. See PGW and Hamilton Affidavits in Addendum B.

²⁹ R.27-A1 at 1-2, 5-10, 18-20; R.24 at 5-9.

³⁰ R.12-A30 at 8-B-35.

³¹ *Residential Furnaces and Boilers*, 72 Fed. Reg. at 65,144 (“For this final rule, DOE also analyzed fuel switching in the replacement market, This change results in a larger drop in shipments of non-weatherized gas furnaces at higher efficiency levels than reported in the NOPR.”); see also *id.* at 65,165.

where, as here, DOE adopts an efficiency standard that encourages fuel switching, violating the statute's requirement that efficiency rules be economically justified and stimulate energy savings, DOE has harmed both consumers that switch from gas to electricity and their former natural gas suppliers (like APGA's members). Thus, DOE has previously stated that under EPCA it must "estimate[] the effects of proposed [efficiency] standards on ... gas utilities."³² Indeed, DOE conducted a "utility impact analysis" for the 2007 Furnace Rule and found that a basis for not adopting an efficiency standard higher than 80% was "the market shift from natural gas heating to electric heating."³³

APGA's members also meet the final standing requirement, because their injury could be redressed in this case: on remand, using notice-and-comment rulemaking, DOE can issue a final rule that is based on substantial evidence, is economically justified, does not lead to inefficient fuel switching, and does not ban Category I furnaces.

Regarding the second criterion in the *Sierra Club* opinion, the interests that APGA seeks to protect are germane to its purpose, which includes, among other things, fostering the use of natural gas in a safe and economical manner and discouraging fuel switching from natural gas to the detriment of the member load

³² Multi-Year Program Plan, note 21 *supra*, at 40.

³³ *Residential Furnaces and Boilers*, 72 Fed. Reg. at 65,147; *see id.* at 65,165.

and infrastructure. And regarding the third *Sierra Club* criterion, the claim asserted (that DOE acted without substantial evidence and in violation of the governing statute) and the relief requested (vacating the DFR) do not require that an individual member of the association participate in this lawsuit.

In brief, APGA is an “adversely affected” person within the meaning of EPCA §336(b)(1) and has standing to petition for review of the DFR under the relevant precedents of this court.

ARGUMENT

I. The DOE Acted Arbitrarily and Capriciously and Violated the EPCA in Adopting an Efficiency Standard that Bans the Installation of Category I Gas Furnaces in the Northern Region.

In reviewing DOE standards prescribed under EPCA, this Court “will subject them to searching scrutiny to ensure that they are neither arbitrary nor irrational – in other words we must determine whether the decision is based on a consideration of the relevant factors and whether there has been a clear error of judgment.” *Natural Res. Def. Council, Inc. v. Herrington*, 768 F.2d 1355, 1369 (D.C. Cir. 1985) (internal quotations omitted) (*NRDC*). And, of course, DOE’s action will be set aside as unlawful if the agency exceeded its statutory authority. 5 U.S.C. §706(2)(C).

The EPCA prohibits DOE from prescribing an efficiency standard if it finds that it is “likely to result in the unavailability in the United States in any covered

product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States at the time of [DOE's] finding.”³⁴ The record shows (and DOE does not dispute) that the DFR's furnace standard for the northern region will prohibit the installation of Category I gas furnaces.

DOE determined that eliminating Category I furnaces from the northern region is permissible under the EPCA because the venting distinctions between Category I and Category IV furnaces do not justify two separate “product classes”:

DOE believes that the utility derived by consumers from furnaces is in the form of the space heating function that the furnace performs. DOE notes that a furnace requiring Category I venting and a furnace requiring Category IV venting are both capable of providing the same heating function to the consumer, and, thus, provide virtually the same utility with respect to that primary function.^[35]

DOE concluded that the special venting features and related installation costs associated with the Category IV furnace amounted simply to “an economic impact on consumers that must be considered in the rulemaking's cost-benefit analysis.”³⁶

This rationale is flawed on its face and stands in sharp contrast to the DOE's treatment of other covered product types. The base level from which the DOE must make appropriate product distinctions is “any group of covered products

³⁴ 42 U.S.C. §6295(o)(4).

³⁵ R.58 at 67,041.

³⁶ *Id.* at 67,042.

which have the same function or intended use.”³⁷ EPCA requires DOE to prescribe different standards if it finds that “covered products *within such group*” have certain distinguishing features.³⁸ In determining whether a performance-related feature justifies the establishment of a higher or lower standard, DOE must consider factors such as “the utility to the consumer of such a feature.”³⁹ In other words, even if all products in a group have the same function or intended use, the DOE must prescribe separate standards for products within the group if there are useful features justifying different standards.

In direct contravention of this requirement, DOE ruled that there is no need to prescribe different standards for Category I and Category IV furnaces because both types of furnaces are capable of providing the “same heating function.” In so ruling, DOE effectively nullified the standard-differentiation requirement of the EPCA. Under this logic, no type of covered product type could ever be subject to varying efficiency standards: All furnaces provide the function of heating space, all dishwashers provide the function of washing dishes, all clothes dryers provide the function of drying clothes, and so on. Thus, such a reading of the EPCA “would subvert the statutory plan and contravene the elementary canon of construction that a statute should be interpreted so as not to render one part

³⁷ 42 U.S.C. §6295(q)(1).

³⁸ *Id.* (emphasis supplied).

³⁹ *Id.*

inoperative.” *CSX Transp., Inc. v. Ala. Dep’t of Revenue*, 131 S. Ct. 1101, 1111 (2011) (internal quotations omitted).

DOE’s ruling on this issue is also inconsistent with its treatment of other covered product types. In fact, DOE previously ruled that the venting characteristics of a product *do* justify the establishment of different standards. In its April 2011 ruling classifying clothes dryers as either vented or ventless, the DOE explained that ventless dryers provide “actual consumer utility” due to the fact that they do not require an external vent.⁴⁰ This statement cannot be reconciled with DOE’s ruling in the proceeding below that the only utility consumers derive from furnaces is the “space heating function” and that venting capability has only an “economic impact.”⁴¹ Moreover, the DOE did not even attempt to explain its departure from this precedent, which was brought to its attention in the comments.⁴²

Nor can the DOE’s holding with respect to furnace venting be squared with its prior findings regarding other product features. In the same order in which the DOE determined that ventless clothes dryers provide consumer utility, it also explained that “compact-size clothes dryers provide utility to consumers by

⁴⁰ *Energy Conservation Program: Energy Conservation Standards for Residential Clothes Dryers and Room Air Conditioners*, Direct Final Rule, 76 Fed. Reg. 22,454, 22,485 n.28 (April 21, 2011).

⁴¹ R.58 at 67,041-42.

⁴² R.27-A1 at 6.

allowing for installation in space-constrained environments.”⁴³ This installation feature was among the benefits that the DOE cited in determining that there should be a separate standard for compact clothes dryers under the EPCA.⁴⁴ Similarly, in proposing new efficiency standards for residential water heaters, the DOE declined to amend the standards for “tabletop” water heaters – those that are designed to be located underneath table tops – because doing so would require manufacturers to increase the size of such units, and space constraints do not allow them to be any larger.⁴⁵ Thus, the DOE concluded, adopting a higher efficiency standard “would force this class of covered product off the market, in violation of 42 U.S.C. 6295(o)(4).”⁴⁶ In both of these proceedings, the DOE looked beyond the general functions of the respective products (clothes drying and water heating) and determined that installation-related features provide utility requiring special classification and separate standards.

Notably, in the DFR under review, DOE held that a space-constrained product class for heat pumps and air conditioners is warranted, explaining that certain products intended for replacement applications must fit into a pre-existing

⁴³ *Residential Clothes Dryers*, 76 Fed. Reg. at 22,485.

⁴⁴ *Id.*

⁴⁵ *Energy Conservation Program: Energy Conservation Standards for Residential Water Heaters, Direct Heating Equipment, and Pool Heaters*, Notice of Proposed Rulemaking, 74 Fed. Reg. 65,852, 65,867 (Dec. 11, 2009).

⁴⁶ *Id.*

space, and that larger units “would trigger a considerable increase in the *installation cost.*”⁴⁷ More specifically, DOE stated as follows (R.1 at 37,446):

DOE believes that through-the-wall equipment intended for replacement applications can meet the definition of space-constrained products because they must fit into a pre-existing hole in the wall, and a larger through-the-wall unit would trigger a considerable increase in the installation cost to accommodate the larger unit.

DOE’s reasoning is that while enlarging an existing hole to accommodate a more efficient product warrants treatment of an existing less efficient product as a separate product class, that same logic does not apply where the new more efficient product requires homeowners to put new holes in their walls to vent the Category IV furnace laterally or, where that is not possible (as is often the case), to invest even more money to vent both the Category IV furnace and the orphaned water heater vertically, and in either event, to install a drainage exit system for the condensate. The attempt by DOE (i) to paper over the unique performance features of a Category I furnace (such as its ability to be vented through a chimney, common-vented with other gas appliances, and common-vented in multi-unit, multi-story housing, as well as its ability to vent without having to address disposal of flue gas condensate) and (ii) to explain away the considerable increase in installation costs for Category IV furnaces as simply an “economic impact” issue

⁴⁷ R.1 at 37,446 (emphasis supplied).

that does *not* reflect a “special utility” warranting separate classification is flatly contradicted by its own precedent.

An agency action should be set aside as arbitrary and capricious when the agency departs from its own precedent without explanation. *E.g., Ramaprakash v. FAA*, 346 F.3d 1121, 1124-25 (D.C. Cir. 2003). DOE precedent recognizes the utility to consumers of venting and installation-related features. Yet in determining that the only utility gas furnaces provide is the “space heating function” – and that venting capability has only an “economic impact” – DOE failed to provide any explanation for its departure from this precedent. Moreover, as discussed above, the DOE’s analysis of this issue is inconsistent with the plain language of the ECPA itself.⁴⁸ Accordingly, the DOE’s ruling should be vacated as arbitrary and capricious and in violation of the EPCA.

II. The DFR Is Without Substantial Evidence To Support It, and Therefore Violates EPCA §336(b)(2) and Well-Established Court Precedent.

No rule under EPCA §325 “may be affirmed unless supported by substantial evidence.” 42 U.S.C. §6306(b)(2). Moreover, DOE’s action is subject to review under the arbitrary-and-capricious standard. *E.g., NRDC*, 768 F.2d 1355 at 1369.

⁴⁸ It is well established that “if the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.” *Chevron U.S.A. v. Natural Res. Def. Council*, 467 U.S. 837, 842-843 (1984). Even assuming *arguendo* that the statute is regarded as ambiguous, DOE’s action here was not based upon a “permissible construction of the statute” (*id.* at 843) as evidenced by its own prior actions under the statute.

This review includes “ensuring that agencies have engaged in reasoned decisionmaking,” which task “involves examining the reasons for agency decisions – or, as the case may be, the absence of such reasons.” *Judulang v. Holder*, 132 S. Ct. 476, 484 (2011).

A. The 90% standard is arbitrary and capricious and not supported by substantial evidence because the evidentiary basis for the standard is flawed on its face and contradicted by evidence showing that the standard is not economically justified.

The DFR states that the 90% standard for gas furnaces is economically justified because “the estimated *average* life-cycle cost (LCC) savings for consumers are \$155 for non-weatherized gas furnaces in the northern region,” (R.1 at 37,411; emphasis added; footnote omitted.) The key word is “average.” As the technical support documents show,⁴⁹ DOE found positive LCC savings in the new construction market of \$343 and in the replacement market of \$90, and a weighted average of the two markets showed positive “average” (or “composite”) LCC savings of \$155. If, however, either the new construction or replacement market shows negative LCC “savings,” then reliance on average numbers to show economic feasibility is both misleading and unreasonable.

Of the two markets, the replacement market, where the majority of new furnaces (some 75% in 2016⁵⁰) will be installed and where DOE is requiring that

⁴⁹ R.10-A1, Summary Tab.

⁵⁰ R.12-A9 at 8-25, Table 8.2.18.

Category I furnaces be replaced with Category IV furnaces, is clearly the more relevant. There is no such thing as an “average” customer – only replacement customers and new construction customers; and hence “average” savings in and of themselves have no significance (i.e., are not dispositive of economic justification) if, for example, in the key replacement market, there are negative LCC savings or, even if savings are positive, such savings are of such a small magnitude that more customers are harmed than helped by a proposed new standard. That is the situation here.

Indeed, in response to the deficiencies in DOE’s analysis documented in the GTI Report, DOE, in the Notice, in each instance tries to excuse any errors by providing alternative impact numbers manufactured in its 13th-hour and opaque October 21 spreadsheet showing reduced “average” savings of \$44, which DOE claims still justifies the 90% standard (R.58 at 67,048). This claim is made despite the facts that (i) “average” savings of \$44 result in more (non-existent) “average” customers being harmed than benefitted; (ii) the same October 21 spreadsheet shows *negative* LCC savings of \$9 in the replacement market (R.61, Summary Tab); (iii) the alleged “average” savings of \$44 are substantially overstated;⁵¹ and

⁵¹ The \$44 number is substantially overstated because (among other flaws) it is based on admittedly illogical assumption regarding application of increased installation costs (R.58 at 67,044-045), thereby resulting in *increased* LCC savings due to *increased* installation costs (when common sense and proper analytics dictate the opposite outcome; R.24-Att.1 at 42-44).

(iv) the October 21 spreadsheet itself shows that as to the four issues raised in the GTI Report, the “average” LCC savings are actually only \$10 (with even more customers being harmed than helped) and the replacement-market savings are *negative* \$44.

As explained above, DOE failed to use then-current EIA (AEO2011) pricing data to support the DFR. The record shows that the impact of this one change is to reduce the LCC savings in the replacement market from \$90 to \$27, with more customers in the replacement market being harmed (16%) than helped (13%) (R.24-Att.1 at 16, Figure 20). DOE claimed in the Notice that “nearly twice as many consumers would have a net benefit as would have a net cost.” (R.58 at 67,043.) That claim, based on the DFR’s putative LCC “average” savings of \$155, is not true, even on an “average” basis, since with the correct EIA gas-price data, those helped on an “average” basis (16%) barely outnumber those harmed (12%). (R.24-Att.1 at 16, Figure 19.) DOE never addresses this point.

DOE’s excuse for its failure to use timely EIA data was that it “was not available at the time the original DFR analysis was conducted.” (R.58 at 67,043.) Even if that excuse is assumed to be factually accurate, it is unavailing. DOE never explains why, in the pursuit of sustainable outcomes, it did not update its original analysis when EIA released its 2011 data in April 2011, well before DOE issued the DFR in June 2011. DOE does not claim it would have delayed the

process in any way to have used EIA's updated gas-price data. Indeed, given the speed with which DOE produced the October 14 spreadsheet (reflecting multiple changes, including the 2011 EIA price data) – one week after the APGA data request – and then replaced *that* spreadsheet one week later on October 21, it is doubtful that taking into account the updated EIA information released in April 2011 would have caused *any* delay in issuing the DFR in June 2011 (though it clearly would have affected the *justification* for the DFR).

Unable to explain away its willful ignorance of the updated EIA gas prices, DOE maintains that in its October 21 spreadsheet, it “evaluated the impact of using the AEO2011 price forecast on the LCC results” and that “the average LCC benefit decreases from \$155 (using the AEO2010 forecast) to \$127.” (R.58 at 67,043.) The October 21 spreadsheet also shows that the LCC savings in the replacement market drop from \$90 to \$63 (R.61, Summary Tab). But even under DOE's last-minute, opaque spreadsheet analysis, any benefit to the customers in the replacement market disappears with the use of timely pricing data, data that DOE released in preliminary form in December 2010 and formally published in April 2011, months before it issued the DFR. DOE never addresses this point.

The second known deficiency in the evidence underlying the DFR economic analysis was DOE's reliance on average versus marginal gas pricing for evaluating furnace standards. GTI explained why marginal gas prices were needed to assess

a marginal increase in efficiency standards (R.24-Att.1 at 19-33). GTI presented two approaches to estimating marginal gas prices (the city-gate and the 13% fixed-cost methods) (*id.*). Using the city-gate approach in conjunction with AEO2011 data reduced the LCC savings in the replacement market from \$90 to *negative* \$43, so that 20% of replacement-market customers were harmed and only 8% benefitted (*id.* at 22, Figure 31). The same analysis showed that the “average” LCC savings dropped from \$155 to \$18, with more customers being harmed (17%) than benefitted (12%) (*id.* at Figure 30). The alternative (13% fixed-cost) approach was almost as dramatic, with LCC savings in the replacement market dropping from \$90 to \$2, with more customers being harmed (17%) than benefitted (11%), while the “average” LCC savings dropped from \$155 to \$65, with the number of customers being harmed (14%) versus benefitted (15%) virtually the same (*id.* at 29, Figures 48 and 47, respectively).

DOE offered virtually no defense for its failure to do a marginal-price analysis (R.58 at 67,044). It could not deny that it did a marginal-price analysis for the electric appliances under consideration in the DFR (R.1 at 37,474); and it admitted that “marginal energy prices are in theory preferable when evaluating the life-cycle cost-savings associated with standards.” (R.58 at 67,044.) Basically its only defense was that “DOE was unable to obtain marginal gas prices” at the time because of claimed confidentiality issues (*id.*). However, after issuing the DFR

and before issuing the Notice, DOE apparently did a marginal gas price analysis “using newly-available RECS 2005 billing data,” and on the basis of this “newly-available” data, it determined in the revised October 21 spreadsheet that the impact of this issue alone was to reduce the “average” LCC savings of \$155 to \$128 (*id.*), and when this data along with the AEO2011 gas price forecast is accounted for, the “average” LCC savings fell further from \$155 to \$100 (R.61, Summary Tab⁵²). In the replacement market, these two corrections, according to DOE’s own opaque numbers, reduce the LCC savings from \$90 to \$40 (*id.*), with no benefit to the replacement market. DOE declines to address these facts in the Notice, nor does it explain why this marginal price “analysis” was missing from the October 14 spreadsheet.

Once again, because the revised October 21 spreadsheet was posted without input files, GTI was unable to assess the differences in impact numbers between DOE and itself, but even taking the DOE numbers at face value (for sake of discussion only), it is clear that the economic justification posited by the DOE for adopting the 90% standard has no basis in the record.

⁵² The “Summary” tab of the October 21 spreadsheet shows on an “average” basis and for the replacement and new construction market separately the impact of the four issues raised by GTI. Thus, the \$100 savings number is derived by taking the difference between \$155 and \$127 (reflecting AEO2011) and between \$155 and \$128 (reflecting marginal pricing), and subtracting the sum of those differences from \$155. This methodology, of course, assumes that these savings numbers are additive, which cannot be confirmed without the input files withheld by DOE.

The third major flaw in the evidence underlying DOE's economic analysis was its use of a 23.7-year furnace life. GTI pointed out that in DOE's own 2010 publication (DOE Multi-Year Program Plan), DOE used a 16-year life and that manufacturer information based on engineering assessments also indicates that the expected lifetime of furnaces is considerably shorter than estimated by DOE (R.24-Att.1 at 36). Appliance Magazine, for example, indicated that the average life expectancy of residential furnaces is 15 years (with a low estimate of 12 years and a high estimate of 17 years) (*id.*). AEO2011 assumes that central forced-air furnaces for residential use have a minimum life of 10 years and a maximum life of 25 years, which would suggest an average life of 17.5 years (*id.*).

GTI showed the impact of substituting the 16-year life for the 23.7 years to be a reduction in the LCC savings in the replacement market from \$90 to \$6, with more customers being harmed (16%) than benefitted (12%) (*id.* at 39, Figure 68). The impact on the "average" calculation was to reduce the LCC savings from \$155 to \$67 (*id.* at Figure 67).

DOE in the Notice defended the 23.7-year life by arguing that the 16-year life shown in its own 2010 Multi-Year Program Plan "was an estimate from the published literature rather than the result of empirical analysis." (R.58 at 67,045.) DOE claims that it used a "more rigorous product lifetime analysis" to derive the 23.7 year life and argued that the 16-year life was "inconsistent with historical data

on furnace shipments.” (*Id.*) DOE did not discuss whether in the face of conflicting data of recent vintage (including from within and without the same agency), and given the importance of the proposed change in efficiency standards, it behooved DOE to be conservative in its analysis to ensure against overstating the putative benefits associated with the 90% standard.

In any event, DOE’s revised October 21 spreadsheet reported that if the 16-year life is used, the “average” LCC benefits are reduced by more than half, from \$155 to \$72 (*id.*). The Notice does not mention that the effect of this adjustment on the replacement market is to reduce the LCC value from \$90 to \$12 (R.61, Summary Tab), and that more customers are harmed than helped in the replacement market once this single adjustment is made.

The fourth known deficiency in the evidence underlying DOE’s economic analysis related to the exaggerated declines in condensing furnace prices relied on by DOE. DOE used data for 1990-2010 to develop a learning curve of 30.6% (R.1 at 37,517; R12-A38 at 8-J-8). GTI pointed out that using data for that timeframe was inappropriate given that price reductions being experienced during that period were no longer being experienced, as reflected in data between 2006 and 2009, which showed that prices had stabilized, “indicating that product maturity is very near or has already been reached.” (R.24-Att.1 at 34) Pointing out that condensing furnaces comprised 50% of national shipments in 2009, GTI concluded that

“condensing furnaces have effectively moved from a niche market to a mature, cost-competitive product.” (*Id.*) Thus, there was no rational basis for the 30.6% learning curve used by DOE. GTI used a fixed equipment factor of 1.0 to reflect no further real price reduction opportunities after 2009 (and thereby putting non-condensing and condensing furnaces on equal footing for analytical purposes). (*Id.*)

The impact of this issue in combination with the three issues discussed above (and using the more conservative 13% fixed-cost approach for estimating marginal gas prices) was to reduce LCC savings in the replacement market from \$90 to *negative* \$64 and in the “average” calculation from \$155 to *negative* \$4, with the number of customers being harmed in the replacement market (21%) and on an average basis (18%) being considerably higher than those being benefitted (7% and 11%, respectively) (R.24-Att.1 at 50, Figures 82 and 81, respectively).

DOE argues in the Notice that, while it “did not have historical price data specific to condensing gas furnaces,” the “essential justification for using the experience curve approach is that it yields a statistically robust method for analyzing the long-term declining real price trend, based on Producer Price Indexes....” (R.58 at 67,044.) APGA understands DOE’s proclivity for relying on statistical analyses where it supports DOE’s desired outcome, but submits that actual experience trumps statistical analyses where, as here, there is a conflict; in

addition, the agency in such situations should take the conservative approach so that it avoids showing putative benefits where none exists.

DOE cites its revised October 21 spreadsheet for the proposition that the impact of not using the learning rate would be to reduce the “average” LCC savings from \$155 to \$148 (*id.* at 67,045). It does not recite the fact, also shown on the October 21 spreadsheet, that the impact of this issue on the replacement market is to reduce the LCC savings from \$90 to \$84 or that the aggregated impact of the four issues (per DOE’s own questionable and opaque spreadsheet) is to reduce the LCC “savings” on average from \$155 to \$10 and in the replacement market from \$90 to *negative* \$44 (R.61, Summary Tab),⁵³ with more customers harmed than helped in both scenarios. GTI was unable to determine the difference between the *negative* \$44 DOE derived and the *negative* \$64 it derived (using the more conservative 13% fixed cost marginal price analysis) because, as noted, the October 21 spreadsheet was posted without input files.

What the record shows beyond peradventure is that DOE’s stated basis for the 90% standard, reiterated in the Notice, that “the standard would provide average LCC savings of \$155 and a median payback period of 10.1 years,” with “nearly twice as many consumers [having] a net benefit as would have a net cost” (R.58 at 67,043) is not only not supported by substantial evidence; it is flatly

⁵³ Regarding the mechanics for deriving these numbers, *see* note 52, *supra*.

contradicted by substantial evidence.⁵⁴ Not only is this core finding without support; even more importantly DOE failed to engage in reasoned decision-making by ignoring the economic impact of key issues on the critical replacement market, because if the new 90% standard harms the replacement market, as is demonstrably the case here, it has no legs. The courts have been quite clear that the failure of an administrative agency to respond to “facially legitimate objections” renders its decision arbitrary and capricious. *PSEG Energy Res. & Trade LLC v. FERC*, 665 F.3d 203, 205, 208 (D.C. Cir. 2011).

DOE tries to pull itself out of the evidentiary ditch by arguing in the Notice as follows (R.58 at 67,048):

Under the sensitivity analysis [i.e., the revised October 21 spreadsheet], the average LCC savings for consumers in the Northern region are \$44. This value is less than the average cited in the DFR (\$155), but is still positive. Regardless, this lower, but still positive, LCC savings value is sufficient to demonstrate economic justification of TSL 4 [i.e., the 90% standard] under the criteria of 42 U.S.C. 6295(o).

This is the ultimate in gotcha rulemaking, and underscores the arbitrary and capricious nature of DOE’s action. First, DOE concludes that even if making just

⁵⁴ Due to space limitations, and to avoid redundancy, APGA has not focused in this brief on the impact of these corrections on the payback period cited by DOE, but the record shows that for each correction the payback period is considerably lengthened, and taking all four corrections into account results in a median payback period in the replacement market of 20.4 years (using the 13% fixed cost marginal analysis) and 27.0 years (using the city-gate method). (GTI Report, R.24-Att.1 at 50, Figure 82, and at 52, Figure 88.) The payback period is also considerably longer on an “average” basis (*id.* at Figures 81 and 87).

four corrections to its economic analysis reduces the putative benefits of the DFR by over 70%, so long as those benefits are still positive under the agency's opaque, 13th-hour "trust-us" analysis, and even if about as many non-existent "average" customers are harmed as helped, there is no reasonable basis for withdrawing the DFR and proceeding by notice-and-comment rulemaking to more fully evaluate the economic basis for the rule. Second, the "average" \$44 value is (i) overstated because DOE's own numbers show that under its analysis, taking into account only the four issues discussed above, the "average" number is \$10 (R.61. Summary Tab),⁵⁵ whereas GTI's analysis shows that the correct "average" number is in the range of *negative* \$4 to *negative* \$39, depending upon which marginal price analysis is used (R.24-Att.1 at 50 (Figure 81) and at 52 (Figure 87)), (ii) self-defeating because even at the inflated \$44 number, the benefits to the "average" customer disappear, and (iii) irrelevant because the number that counts (and that DOE continues to ignore) is the impact number in the replacement market, which under DOE's own opaque 13th-hour analysis is *negative* \$44 (R.61, Summary Tab) and according to GTI's analysis is in the range of *negative* \$64 to *negative* \$98 (R.24-Att.1 at 50 (Figure 82) and at 52 (Figure 88)).

⁵⁵ It is also overstated because it inaccurately reflects *increased* LCC savings resulting from *increased* installation costs, which is counter-intuitive and nonsensical on its face (R.24-Att.1 at 42-44; *see* note 51, *supra*).

B. The 90% standard is arbitrary and capricious because DOE relied on non-transparent technical support documents.

DOE relied on technical support documents that were not transparent to skilled analysts, much less the general public. This lack of transparency as to both the TSDs underlying the DFR and the October 21 spreadsheet, which prevented skilled analysts from being able to run all necessary parametric studies to test the premises said to underlie the DFR, is contrary to DOE's own regulatory procedures on the use of transparent and robust analytical procedures⁵⁶ and established legal precedent regarding the necessity of agencies to provide access to all data said to support a rule promulgated by the agency. *E.g., Amer. Radio Relay League v. FCC*, 524 F.3d 227, 236-37 (D.C. Cir. 2008) (“APA’s notice and comment requirements ensure[] that an agency does not ‘fail[] to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary so that a ‘genuine exchange interchange’ occurs rather than ‘allow[ing] an agency to play hunt the peanut with technical information, hiding or disguising the information that it employs.’”) (quoting *Conn. Light & Power Co. v. NRC*, 673 F.2d 525, 530-31 (D.C. Cir. 1982)).

DOE avers in the Notice that “it did not receive comments critical of the models it used in its analysis.” (R.58 at 67,047.) That is false. Models that are not fully transparent and do not permit independent parametric analyses are

⁵⁶ 10 C.F.R. Part 430, Subpart C, Appendix A, §1(g).

unacceptable by any measure, and DOE was informed of that (R.24-Att.1 at 4-6). Adding insult to injury, DOE relies in the Notice on a spreadsheet posted (without input files) *after the comment period* and fails in the Notice even to mention (much less explain) the substitution of the October 21 spreadsheet for the October 14 spreadsheet. It is difficult to imagine a more biased or prejudicial approach to rulemaking.

C. The 90% standard is arbitrary and capricious because DOE failed to address the potential for fuel switching.

DOE failed to account for fuel switching in its economic analysis despite: (i) the substantial evidence in the record showing that fuel switching would occur (see note 26, *supra*), including DOE’s own TSDs (R.12-A30 at 8-B-35); (ii) DOE’s recognition in the DFR of the importance of including equipment-switching in its analysis of the standards for other appliances (R.1 at 37,484); (iii) DOE’s recognition in the 2007 Furnace Rule adopting the 80% standard for furnaces (and rejecting a 90% standard) of the need to “analyze[] fuel switching in the replacement market...,” which analysis showed “a larger drop in shipments of non-weatherized gas furnaces at higher efficiency levels than reported in the [Notice of Proposed Rulemaking (NOPR)]”;⁵⁷ (iv) DOE’s recognition—again, *in the DFR*—that, for a host of reasons, “consumers undervalue future energy savings” (R.1 at 37,524); and (v) DOE’s pledge in its 2011 Statement of Policy adopting full fuel

⁵⁷ *Residential Furnaces and Boilers*, 72 Fed. Reg. at 65,144.

cycle analysis that “it will make the methodologies and results of fuel switching more explicit in all rulemakings in which fuel switching might occur.”⁵⁸

The stated basis for this fatal omission – that customers will not switch because of long-term savings from the continued use of gas-burning equipment⁵⁹ – is flatly contradicted by the record evidence (note 26, *supra*) and by DOE’s own prior rulings, and thus does not pass judicial muster for reasoned decision-making based on substantial evidence.

III. DOE Erred in Relying on a Contested Direct Final Rule To Promulgate a New Energy Conservation Standard.

A. Direct Final Rules are for non-controversial agency action.

Exceptions to notice-and-comment rulemaking are “narrowly construed and only reluctantly countenanced.” *Utility Solid Waste Activities Group v. EPA*, 236 F.3d 749, 754 (D.C. Cir. 2001). One such exception, the direct final rule, is available only for non-controversial agency actions. Many agencies have regulations providing for issuance of direct final rules where the agency anticipates no substantive opposition and where no substantive adverse comments are filed;

⁵⁸ *Energy Conservation Program for Consumer Products and Certain Commercial and Industrial Equipment: Statement of Policy for Adopting Full-Fuel-Cycle Analyses Into Energy Conservation Standards Program*, 76 Fed. Reg. 51,281, 51,285 (Aug. 18, 2011).

⁵⁹ R.1 at 37,483-84; R.58 at 64,046-47.

conversely, when a direct final rule is substantively opposed, the appropriate response of the agency is to withdraw the rule before it becomes effective.⁶⁰

Indeed, DOE's action in this case is so extraordinary that APGA has not found a single case in which a direct final rule has been appealed, confirming the practice of federal agencies that direct final rules not be used where there is any serious disagreement concerning the agency's substantive action.

B. EPCA §325(p)(4) Authorizes the Issuance of Direct Final Rules Only Where They Are Not Substantively Contested.

In accord with the above principles, EPCA §325(p) provides that the usual means for DOE to issue an energy-efficiency standard is by notice-and-comment rulemaking. 42 U.S.C. §§6295(p)(1)-(3). In the very limited circumstances set forth in 42 U.S.C. §6295(p)(4), DOE may prescribe standards by a direct final rule.

The necessary precondition for DOE to prescribe an energy-efficiency standard by direct final rule is that the agency has received “a statement that is submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates) as determined by the Secretary, and contains recommendations with respect to an energy ... conservation standard” that are consistent with the statute. *Id.* Thus, DOE may not adopt as a direct final rule the

⁶⁰ *E.g.*, 49 C.F.R. §106.40 (DOT); 14 C.F.R. §11.31 (FAA); 33 C.F.R. §1.05-55 (Coast Guard).

recommendations in one-sided joint statements, especially when it is clear that other relevant persons have contrary views. There is no indication in the statutory language (or in the history of direct final rules) that Congress intended DOE to use a direct final rule in a case where relevant persons were, as here, both excluded from, and known to oppose on substantive grounds, the joint statement being relied upon as the basis for the direct final rule.⁶¹

DOE does not dispute that those who opposed the DFR's furnace standard (which included contractors, distributors, and energy suppliers) are relevant parties (R.58 at 67,040). Instead, DOE does "not interpret the statute as requiring absolute agreement among all interested parties before DOE may proceed with issuance of a direct final rule." (*Id.* at 67,038.) Of course, no one has argued that DOE is limited in such a fashion; rather, the point is that the EPCA does not afford DOE the authority to predicate a direct final rule on the views of certain relevant persons (here, manufacturers and efficiency advocates) while ignoring others (energy suppliers, contractors, distributors, and consumers).⁶² The statute says "fairly representative of relevant points of view" – not fairly representative of *some*

⁶¹ See, e.g., R.31 at 2-3; R.39-A1, *passim*; R.44, *passim*; R.50 at 1-4; R.27-A1 at 2-24; R.24 at 2-19; R.22 at 10; see R.1 at 37,473.

⁶² In response to APGA's August 8, 2011 FOIA request for "records supporting the Secretary's determination that the subject joint petition is 'fairly representative of relevant points of view,'" DOE responded on September 29 that "no documents were found to be responsive to the request." (R.24-Att.1 at Attachments 2 and 3.)

relevant points of view with which DOE may find it convenient to agree in order to, among other things, “decreas[e] the risk of litigation.” (R.1 at 37,441, 37,524, 37,532.)⁶³

Furthermore, Congress was specific in the statute that “the Secretary **shall** withdraw the direct final rule if – [he] receives 1 or more adverse public comments relating to the direct final rule ... and based on the rulemaking record relating to the direct final rule, the Secretary determines that such adverse public comments ... **may** provide a reasonable basis for withdrawing the direct final rule” 42 U.S.C. §6295 (p)(4)(C) (emphasis supplied). The point of the bolded qualifying language is not that DOE should have withdrawn the furnace standard because it agreed with the adverse comments and found that the furnace standard was unlawful and would not survive judicial review; rather the point is that the statute required DOE to withdraw the furnace standard without determining its substantive merits *vel non* – the issue to be considered by subsequent notice-and-comment rulemaking – so long as the adverse comments provided DOE a reasonable basis for doing so, which they clearly did in this case.

⁶³ Ironically, if DOE believed its own data, versus buying off on the “consensus agreement” to avoid litigation, it would have adopted the 95% standard (R.24-Att.1 at 11).

The comments submitted below by two supporters of the DFR, one of which is also a signatory to the “consensus agreement,” state this rule correctly as follows (R.52 at 2):

Consistent with the tradition that direct final rules are appropriate only in cases where the rule is expected to be noncontroversial, EPCA authorizes DOE to establish a standard, using the direct final rule alternative to ordinary notice and comment rulemaking, only where DOE has reason to know that the standard will be noncontroversial because the standard has the support of a consensus of interested parties, [Emphasis added.]

The fly in the ointment here is that there is no “consensus of interested parties” supporting the furnace standard in the DFR; many relevant points of view, including those of energy suppliers, distributors, contractors, and consumers, are opposed on substantive grounds to the standard and made their opposition known before its issuance⁶⁴ and, more importantly, in timely comments after its issuance.⁶⁵ Further, even if one gives DOE the benefit of the doubt and assumes it did not fully appreciate the widespread substantive opposition before it issued the DFR, it certainly understood that opposition when it issued the Notice. In short, the standard in the DFR was anything but substantively “noncontroversial,” and DOE could not have failed to understand that at the time it issued the Notice.

⁶⁴ See, e.g., R.1 at 37,473.

⁶⁵ As already noted (note 1, *supra*), some 32 of the 37 comments filed regarding the 90% standard opposed the DFR.

Finally, Congress’ intent that a direct final rule only be issued where there is no truly substantive opposition is underscored by the fact that it affords the Secretary only 10 days to evaluate public comments on such a rule,⁶⁶ and requires the Secretary “**shall** withdraw the direct final rule” if he determines that adverse comments “**may** provide a reasonable basis for withdrawing the direct final rule....” 42 U.S.C. §6295(p)(4)(C) (emphasis added). Congress was presumably anticipating that DOE would use the 10 days to make that determination in good faith; instead, DOE used that period in this instance to try to buttress its position on the merits against the widespread opposition it had received by drafting a brief (denominated a “Notice”) that relied on a spreadsheet analysis that DOE posted—without any supporting input-data files—after the comments on the DFR were due, all in an effort to try to rebut the points made in adverse comments in order to rationalize not withdrawing the DFR. This is the antithesis of what the statute requires⁶⁷ and of what the courts have found constitutes reasoned decision-making by an administrative agency.⁶⁸

⁶⁶ EPCA §325(p)(4)(B) provides 110 days for public comment on a direct final rule, and EPCA §325(p)(4)(C) provides 120 days from the date the direct final rule was issued for the Secretary to withdraw the rule.

⁶⁷ See note 48 *supra*.

⁶⁸ *E.g.*, *PSEG*, 665 F.3d at 205, 208; *NRDC*, 768 F.2d at 1369.

C. APGA and Other Commenters Have Provided More Than a Reasonable Basis for Withdrawing the DFR; Failure To Withdraw the DFR Was an Abuse of Discretion by DOE.

Putting to one side the impropriety *ab initio* of relying on a direct final rule to promulgate furnace efficiency standards in the context of this anything-but-noncontroversial proceeding, what is crystal clear on this record is that there exists much more than a “reasonable basis for withdrawing the direct final rule,” since the evidence in the record shows that the 90% standard violates both the requirements of EPCA §325(o)(2) as to economic justification and the prohibition in EPCA §325(o)(4) against banning a covered product class. In fact, the failure to withdraw the direct final rule, in the face of the evidence presented regarding substantive defects and omissions in the DOE analysis and in the face of the lack of transparency that has prevented interested parties from analyzing completely the underpinnings of the DFR, constitutes an unquestioned abuse of discretion by the agency.⁶⁹

In the face of all of the above, DOE is left to argue that it has “significant discretion” and “considerable discretion” in determining whether the direct final rule standards in EPCA §325(p)(4) have been met (R.58 at 67,040). While APGA does not disagree that the statute affords DOE some latitude in issuing direct final rules, it does not afford DOE the unfettered discretion that it has sought to exercise

⁶⁹ *Id.*

here; DOE has abused the discretion afforded it under EPCA §325(p)(4) by not understanding that in the face of adverse comments by relevant parties showing glaring and grave infirmities in the adoption of the 90% standard, a notice of withdrawal was the only lawful choice available to the Secretary.

CONCLUSION

The DFR and Notice should be vacated and the case remanded.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH RULE 32(a)

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 13,979 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii) and Circuit Rule 32(a)(1).

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Respectfully submitted,

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May 14, 2012

CERTIFICATE OF SERVICE

In accordance with Fed. R. App. P. 25(d), and the Court's Administrative Order Regarding Electronic Case Filing, I hereby certify that I have, this 14th day of May 2012, served the foregoing "Brief of Petitioner" upon the counsel listed in the Service Preference Report via email through the Court's CM/ECF system, as indicated below.

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ADDENDUM A

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42 U.S.C. §6295. Energy conservation standards

[Subsections (a)-(n) and (r)-(hh) omitted.]

(o) Criteria for prescribing new or amended standards

(1) The Secretary may not prescribe any amended standard which increases the maximum allowable energy use, or, in the case of showerheads, faucets, water closets, or urinals, water use, or decreases the minimum required energy efficiency, of a covered product.

(2)(A) Any new or amended energy conservation standard prescribed by the Secretary under this section for any type (or class) of covered product shall be designed to achieve the maximum improvement in energy efficiency, or, in the case of showerheads, faucets, water closets, or urinals, water efficiency, which the Secretary determines is technologically feasible and economically justified.

(B)(i) In determining whether a standard is economically justified, the Secretary shall, after receiving views and comments furnished with respect to the proposed standard, 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;

(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.

(ii) For purposes of clause (i)(V), the Attorney General shall make a determination of the impact, if any, of any lessening of competition likely to

result from such standard and shall transmit such determination, not later than 60 days after the publication of a proposed rule prescribing or amending an energy conservation standard, in writing to the Secretary, together with an analysis of the nature and extent of such impact. Any such determination and analysis shall be published by the Secretary in the Federal Register.

(iii) If the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy, and as applicable, water, savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure, there shall be a rebuttable presumption that such standard level is economically justified. A determination by the Secretary that such criterion is not met shall not be taken into consideration in the Secretary's determination of whether a standard is economically justified.

(3) The Secretary may not prescribe an amended or new standard under this section for a type (or class) of covered product if—

(A) for products other than dishwashers, clothes washers, clothes dryers, and kitchen ranges and ovens, a test procedure has not been prescribed pursuant to section 6293 of this title with respect to that type (or class) of product; or

(B) the Secretary determines, by rule, that the establishment of such standard will not result in significant conservation of energy or, in the case of showerheads, faucets, water closets, or urinals, water, or that the establishment of such standard is not technologically feasible or economically justified.

For purposes of section 6297 of this title, a determination under subparagraph (B) with respect to any type (or class) of covered products shall have the same effect as would a standard prescribed for such type (or class).

(4) The Secretary may not prescribe an amended or new standard under this section if the Secretary finds (and publishes such finding) that interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States at the time of the Secretary's finding. The failure of some types (or classes) to meet this criterion shall not affect the Secretary's determination of whether to prescribe a standard for other types (or classes).

(5) The Secretary may set more than 1 energy conservation standard for products that serve more than 1 major function by setting 1 energy conservation standard for each major function.

(6) Regional standards for furnaces, central air conditioners, and heat pumps.—

(A) In general.—In any rulemaking to establish a new or amended standard, the Secretary may consider the establishment of separate standards by geographic region for furnaces (except boilers), central air conditioners, and heat pumps.

(B) National and regional standards.—

(i) National standard.—If the Secretary establishes a regional standard for a product, the Secretary shall establish a base national standard for the product.

(ii) Regional standards.—If the Secretary establishes a regional standard for a product, the Secretary may establish more restrictive standards for the product by geographic region as follows:

(I) For furnaces, the Secretary may establish 1 additional standard that is applicable in a geographic region defined by the Secretary.

(II) For any cooling product, the Secretary may establish 1 or 2 additional standards that are applicable in 1 or 2 geographic regions as may be defined by the Secretary.

(C) Boundaries of geographic regions.—

(i) In general.—Subject to clause (ii), the boundaries of additional geographic regions established by the Secretary under this paragraph shall include only contiguous States.

(ii) Alaska and hawaii.—The States of Alaska and Hawaii may be included under this paragraph in a geographic region that the States are not contiguous to.

(iii) Individual states.—Individual States shall be placed only into a single region under this paragraph.

(D) Prerequisites.—In establishing additional regional standards under this paragraph, the Secretary shall—

(i) establish additional regional standards only if the Secretary determines that—

(I) the establishment of additional regional standards will produce significant energy savings in comparison to establishing only a single national standard; and

(II) the additional regional standards are economically justified under this paragraph; and

(ii) consider the impact of the additional regional standards on consumers, manufacturers, and other market participants, including product distributors, dealers, contractors, and installers.

(E) Application; effective date.—

(i) Base national standard.—Any base national standard established for a product under this paragraph shall—

(I) be the minimum standard for the product; and

(II) apply to all products manufactured or imported into the United States on and after the effective date for the standard.

(ii) Regional standards.—Any additional and more restrictive regional standard established for a product under this paragraph shall apply to any such product installed on or after the effective date of the standard in States in which the Secretary has designated the standard to apply.

(F) Continuation of regional standards.—

(i) In general.—In any subsequent rulemaking for any product for which a regional standard has been previously established, the Secretary shall determine whether to continue the establishment of separate regional standards for the product.

(ii) Regional standard no longer appropriate.—Except as provided in clause (iii), if the Secretary determines that regional standards are no longer appropriate for a product, beginning on the effective date of the amended standard for the product—

(I) there shall be 1 base national standard for the product with Federal enforcement; and

(II) State authority for enforcing a regional standard for the product shall terminate.

(iii) Regional standard appropriate but standard or region changed.—

(I) State no longer contained in region.—Subject to subclause (III), if a State is no longer contained in a region in which a regional standard that is more stringent than the base national standard applies,

the authority of the State to enforce the regional standard shall terminate.

(II) Standard or region revised so that existing regional standard equals base national standard.—If the Secretary revises a base national standard for a product or the geographic definition of a region so that an existing regional standard for a State is equal to the revised base national standard—

(aa) the authority of the State to enforce the regional standard shall terminate on the effective date of the revised base national standard; and

(bb) the State shall be subject to the revised base national standard.

(III) Standard or region revised so that existing regional standard equals base national standard.—If the Secretary revises a base national standard for a product or the geographic definition of a region so that the standard for a State is lower than the previously approved regional standard, the State may continue to enforce the previously approved standard level.

(iv) Waiver of federal preemption.—Nothing in this paragraph diminishes the authority of a State to enforce a State regulation for which a waiver of Federal preemption has been granted under section 6297(d) of this title.

(G) Enforcement.—

(i) Base national standard.—

(I) In general.—The Secretary shall enforce any base national standard.

(II) Trade association certification programs.—In enforcing the base national standard, the Secretary shall use, to the maximum extent practicable, national standard nationally recognized certification programs of trade associations.

(ii) Regional standards.—

(I) Enforcement plan.—Not later than 90 days after the date of the issuance of a final rule that establishes a regional standard, the Secretary shall initiate a rulemaking to develop and implement an effective enforcement plan for regional standards for the products that are covered by the final rule.

(II) Responsible entities.—Any rules regarding enforcement of a regional standard shall clearly specify which entities are legally responsible for compliance with the standards and for making any required information or labeling disclosures.

(III) Final rule.—Not later than 15 months after the date of the issuance of a final rule that establishes a regional standard for a product, the Secretary shall promulgate a final rule covering enforcement of regional standards for the product.

(IV) Incorporation by states and localities.—A State or locality may incorporate any Federal regional standard into State or local building codes or State appliance standards.

(V) State enforcement.—A State agency may seek enforcement of a Federal regional standard in a Federal court of competent jurisdiction.

(H) Information disclosure.—

(i) In general.—Not later than 90 days after the date of the publication of a final rule that establishes a regional standard for a product, the Federal Trade Commission shall undertake a rulemaking to determine the appropriate 1 or more methods for disclosing information so that consumers, distributors, contractors, and installers can easily determine whether a specific piece of equipment that is installed in a specific building is in conformance with the regional standard that applies to the building.

(ii) Methods.—A method of disclosing information under clause (i) may include—

(I) modifications to the Energy Guide label; or

(II) other methods that make it easy for consumers and installers to use and understand at the point of installation.

(iii) Completion of rulemaking.—The rulemaking shall be completed not later 15 months after the date of the publication of a final rule that establishes a regional standard for a product.

(p) Procedure for prescribing new or amended standards

Any new or amended energy conservation standard shall be prescribed in accordance with the following procedure:

(1) A proposed rule which prescribes an amended or new energy conservation standard or prescribes no amendment or no new standard for a type (or class) of

covered products shall be published in the Federal Register. In prescribing any such proposed rule with respect to a standard, the Secretary shall determine the maximum improvement in energy efficiency or maximum reduction in energy use that is technologically feasible for each type (or class) of covered products. If such standard is not designed to achieve such efficiency or use, the Secretary shall state in the proposed rule the reasons therefor.

(2) After the publication of such proposed rulemaking, the Secretary shall, in accordance with section 6306 of this title, afford interested persons an opportunity, during a period of not less than 60 days, to present oral and written comments (including an opportunity to question those who make such presentations, as provided in such section) on matters relating to such proposed rule, including—

(A) whether the standard to be prescribed is economically justified (taking into account those factors which the Secretary must consider under subsection (o)(2) of this section) or will result in the effects described in subsection (o)(4) of this section;

(B) whether the standard will achieve the maximum improvement in energy efficiency which is technologically feasible;

(C) if the standard will not achieve such improvement, whether the reasons for not achieving such improvement are adequate; and

(D) whether such rule should prescribe a level of energy use or efficiency which is higher or lower than that which would otherwise apply in the case of any group of products within the type (or class) that will be subject to such standard.

(3) A final rule prescribing an amended or new energy conservation standard or prescribing no amended or new standard for a type (or class) of covered products shall be published as soon as is practicable, but not less than 90 days, after publication of the proposed rule in the Federal Register.

(4) Direct final rules.—

(A) In general.—On receipt of a statement that is submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates), as determined by the Secretary, and contains recommendations with respect to an energy or water conservation standard—

(i) if the Secretary determines that the recommended standard contained in the statement is in accordance with subsection (o) or section 6313(a)(6)(B) of this title, as applicable, the Secretary may issue a final rule that establishes an energy or water conservation standard and is published simultaneously with a notice of proposed rulemaking that proposes a new or amended energy or water conservation standard that is identical to the standard established in the final rule to establish the recommended standard (referred to in this paragraph as a “direct final rule”); or

(ii) if the Secretary determines that a direct final rule cannot be issued based on the statement, the Secretary shall publish a notice of the determination, together with an explanation of the reasons for the determination.

(B) Public comment.—The Secretary shall solicit public comment for a period of at least 110 days with respect to each direct final rule issued by the Secretary under subparagraph (A)(i).

(C) Withdrawal of direct final rules.—

(i) In general.—Not later than 120 days after the date on which a direct final rule issued under subparagraph (A)(i) is published in the Federal Register, the Secretary shall withdraw the direct final rule if—

(I) the Secretary receives 1 or more adverse public comments relating to the direct final rule under subparagraph (B)(i) ⁴ or any alternative joint recommendation; and

(II) based on the rulemaking record relating to the direct final rule, the Secretary determines that such adverse public comments or alternative joint recommendation may provide a reasonable basis for withdrawing the direct final rule under subsection (o), section 6313(a)(6)(B) of this title, or any other applicable law.

(ii) Action on withdrawal.—On withdrawal of a direct final rule under clause (i), the Secretary shall—

(I) proceed with the notice of proposed rulemaking published simultaneously with the direct final rule as described in subparagraph (A)(i); and

(II) publish in the Federal Register the reasons why the direct final rule was withdrawn.

(iii) Treatment of withdrawn direct final rules.—A direct final rule that is withdrawn under clause (i) shall not be considered to be a final rule for purposes of subsection (o).

(D) Effect of paragraph.—Nothing in this paragraph authorizes the Secretary to issue a direct final rule based solely on receipt of more than 1 statement containing recommended standards relating to the direct final rule.

(q) Special rule for certain types or classes of products

(1) A rule prescribing an energy conservation standard for a type (or class) of covered products shall specify a level of energy use or efficiency higher or lower than that which applies (or would apply) for such type (or class) for any group of covered products which have the same function or intended use, if the Secretary determines that covered products within such group—

(A) consume a different kind of energy from that consumed by other covered products within such type (or class); or

(B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard from that which applies (or will apply) to other products within such type (or class).

In making a determination under this paragraph concerning whether a performance-related feature justifies the establishment of a higher or lower standard, the Secretary shall consider such factors as the utility to the consumer of such a feature, and such other factors as the Secretary deems appropriate.

(2) Any rule prescribing a higher or lower level of energy use or efficiency under paragraph (1) shall include an explanation of the basis on which such higher or lower level was established.

42 U.S.C. §6306. Administrative procedure and judicial review

(a) Procedure for prescription of rules

(1) In addition to the requirements of section 553 of title 5, rules prescribed under section 6293, 6294, 6295, 6297, or 6298 of this title shall afford interested persons an opportunity to present written and oral data, views, and arguments with respect to any proposed rule.

(2) In the case of a rule prescribed under section 6295 of this title, the Secretary shall, by means of conferences or other informal procedures, afford any interested person an opportunity to question—

(A) other interested persons who have made oral presentations; and

(B) employees of the United States who have made written or oral presentations with respect to disputed issues of material fact.

Such opportunity shall be afforded to the extent the Secretary determines that questioning pursuant to such procedures is likely to result in a more timely and effective resolution of such issues.

(3) A transcript shall be kept of any oral presentations made under this subsection.

(b) Petition by persons adversely affected by rules; effect on other laws

(1) Any person who will be adversely affected by a rule prescribed under section 6293, 6294, or 6295 of this title may, at any time within 60 days after the date on which such rule is prescribed, file a petition with the United States court of appeals for the circuit in which such person resides or has his principal place of business, for judicial review of such rule. A copy of the petition shall be transmitted by the clerk of the court to the agency which prescribed the rule. Such agency shall file in the court the written submissions to, and transcript of, the proceedings on which the rule was based, as provided in section 2112 of title 28.

(2) Upon the filing of the petition referred to in paragraph (1), the court shall have jurisdiction to review the rule in accordance with chapter 7 of title 5 and to grant appropriate relief as provided in such chapter. No rule under section 6293, 6294, or 6295 of this title may be affirmed unless supported by substantial evidence.

(3) The judgment of the court affirming or setting aside, in whole or in part, any such rule shall be final, subject to review by the Supreme Court of the

United States upon certiorari or certification as provided in section 1254 of title 28.

(4) The remedies provided for in this subsection shall be in addition to, and not in substitution for, any other remedies provided by law.

(5) The procedures applicable under this part shall not—

(A) be considered to be modified or affected by any other provision of law unless such other provision specifically amends this part (or provisions of law cited herein); or

(B) be considered to be superseded by any other provision of law unless such other provision does so in specific terms by referring to this part and declaring that such provision supersedes, in whole or in part, the procedures of this part.

(c) Jurisdiction

Jurisdiction is vested in the Federal district courts of the United States over actions brought by—

(1) any adversely affected person to determine whether a State or local government is complying with the requirements of this part; and

(2) any person who files a petition under section 6295(n) of this title which is denied by the Secretary.

10 C.F.R. Part 430, Subpart C, Appendix A

Appendix A to Subpart C of Part 430—Procedures, Interpretations and Policies for Consideration of New or Revised Energy Conservation Standards for Consumer Products

[Table of contents omitted.]

1. Objectives

This Appendix establishes procedures, interpretations and policies to guide the DOE in the consideration and promulgation of new or revised appliance efficiency standards under the Energy Policy and Conservation Act (EPCA). The Department's objectives in establishing these guidelines include:

(a) *Provide for early input from stakeholders.* The Department seeks to provide opportunities for public input early in the rulemaking process so that the initiation and direction of rulemakings is informed by comment from interested parties. Under the guidelines established by this Appendix, DOE will seek early input from interested parties in setting rulemaking priorities and structuring the analyses for particular products. Interested parties will be invited to provide input for the selection of design options and will help DOE identify analysis, data, and modeling needs. DOE will gather input from interested parties through a variety of mechanisms, including public workshops.

(b) *Increase predictability of the rulemaking timetable.* The Department seeks to make informed, strategic decisions about how to deploy its resources on the range of possible standards development activities, and to announce these prioritization decisions so that all interested parties have a common expectation about the timing of different rulemaking activities. The guidelines in this Appendix provide for setting priorities and timetables for standards development and test procedure modification and reflect these priorities in the Regulatory Agenda.

(c) *Increase use of outside technical expertise.* The Department seeks to expand its use of outside technical experts in evaluating product-specific engineering issues to ensure that decisions on technical issues are fully informed. The guidelines in this Appendix provide for increased use of outside technical experts in developing, performing and reviewing the analyses. Draft analytical results will be distributed for peer and stakeholder review.

(d) *Eliminate problematic design options early in the process.* The Department seeks to eliminate from consideration, early in the process, any design options that present unacceptable problems with respect to manufacturability, consumer utility, or safety, so that the detailed analysis can focus only on viable design options. Under the guidelines in this Appendix, DOE will eliminate from consideration design options if it concludes that manufacture, installation or service of the design will be impractical, or that the design option will adversely affect the utility of the product, or if the design has adverse safety or health impacts. This screening will be done at the outset of a rulemaking.

(e) *Fully consider non-regulatory approaches.* The Department seeks to understand the effects of market forces and voluntary programs on encouraging the purchase of energy efficient products so that the incremental impacts of a new or revised standard can be accurately assessed and the Department can make informed decisions about where standards and voluntary “market pull” programs can be used most effectively. Under the guidelines in this Appendix, DOE will solicit information on the effectiveness of market forces and non-regulatory approaches for encouraging the purchase of energy efficient products, and will carefully consider this information in assessing the benefits of standards. In addition, DOE will continue to support voluntary efforts by manufacturers, retailers, utilities and others to increase product efficiency.

(f) *Conduct thorough analysis of impacts.* In addition to understanding the aggregate costs and benefits of standards, the Department seeks to understand the distribution of those costs and benefits among consumers, manufacturers and others, and the uncertainty associated with these analyses of costs and benefits, so that any adverse impacts on significant subgroups and uncertainty concerning any adverse impacts can be fully considered in selecting a standard. Under the guidelines in this Appendix, the analyses will consider the variability of impacts on significant groups of manufacturers and consumers in addition to aggregate costs and benefits, report the range of uncertainty associated with these impacts, and take into account cumulative impacts of regulation on manufacturers.

(g) *Use transparent and robust analytical methods.* The Department seeks to use qualitative and quantitative analytical methods that are fully documented for the public and that produce results that can be explained and reproduced, so that the analytical underpinnings for policy decisions on standards are as sound and well-accepted as possible. Under the guidelines in this Appendix, DOE will solicit

input from interested parties in identifying analysis, data, and modeling needs with respect to measurement of impacts on manufacturers and consumers.

(h) *Articulate policies to guide selection of standards.* The Department seeks to adopt policies elaborating on the statutory criteria for selecting standards, so that interested parties are aware of the policies that will guide these decisions. Under the guidelines in this Appendix, policies for screening design options, selecting candidate standard levels, selecting a proposed standard level, and establishing the final standard are established.

(i) *Support efforts to build consensus on standards.* The Department seeks to encourage development of consensus proposals for new or revised standards because standards with such broad-based support are likely to balance effectively the economic, energy, and environmental interests affected by standards. Under the guidelines in this Appendix, DOE will support the development and submission of consensus recommendations for standards by representative groups of interested parties to the fullest extent possible.

(j) *Reduce time and cost of developing standards.* The Department seeks to establish a clear protocol for initiating and conducting standards rulemakings in order to eliminate time-consuming and costly missteps. Under the guidelines in this Appendix, increased and earlier involvement by interested parties and increased use of technical experts should minimize the need for re-analysis. This process should reduce the period between the publication of an Advance Notice of Proposed Rulemaking (ANOPR) and the publication of a final rule to not more than 18 months, and should decrease the government and private sector resources required to complete the standard development process.

[Sections 2-14 omitted.]

ADDENDUM B

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AFFIDAVIT OF BERTRAM KALISCH
ON BEHALF OF
THE AMERICAN PUBLIC GAS ASSOCIATION

Being first duly sworn, I, Bertram Kalisch, on oath do depose and state:

1. My name is Bertram Kalisch. I am the President and Chief Executive Officer of the American Public Gas Association (APGA). My business address is 201 Massachusetts Avenue, N.W., Suite C-4, Washington, D.C. 20002. APGA is the national association of publicly-owned local distribution systems serving natural gas to the consumers in their respective communities. There are some 1,200 local gas distribution systems in the country, of which approximately 950 are publicly-owned. Some 700 publicly-owned natural gas distribution systems in 36 states are members of APGA.

2. The purposes of APGA, as set forth in its bylaws (Article I, Section 3) are as follows: "The particular business and objects of the Association are (1) to promote cooperation between, and to render service to, municipal corporations, other public or quasi-public corporations, bodies or agencies, cooperative associations, nonprofit corporations, and similar organizations, owning or operating gas systems or facilities, or specifically authorized by law to own or operate such systems or facilities; (2) to promote the mutual improvements of its members; (3) to advance the common purposes of its members; and (4) to

render service to its members with particular regard to problems in the fields of (a) management and operation; (b) engineering, design, construction, operation, and research; (c) accounting and commercial practice; (d) legal policy; (e) insurance; and (f) such other problems as may be common to, or of general interest to, publicly-owned gas systems.” Consistent with this mandate, APGA has been active in promoting fuel efficiency generally and enhanced gas use specifically as being in the best interests of its members and of the public generally.

3. APGA has been an active participant before the Department of Energy (DOE) in a proceeding entitled as “Energy Conservation Program: Energy Conservation Standards for Residential Furnaces and Residential Central Air Conditioners and Heat Pumps,” Docket Number EERE-2011- BT-STD-0011. In this proceeding, DOE has issued a direct final rule (DFR) in which, among other things, it has required a 90% efficiency standard for residential gas furnaces in the northern region of the United States, encompassing some 30 states in which some 260 members of APGA are located.
4. APGA participated in this proceeding, along with numerous other distributors and distributor groups, because of the harm that the implementation of the 90% efficiency standard will cause to its members. The 90% standard will have the practical effect of banning the existing 80% efficient Category I non-

condensing furnace in the northern region, which in turn will have many unintended consequences adversely affecting APGA members and the consumers they serve. These injuries are described in the record below and in the accompanying affidavit of two of APGA's member, Philadelphia Gas Works (PGW) and Hamilton, Ohio (Hamilton). I want to point out that the harm described by PGW and Hamilton is not unique to them. It is clear to me both from the comments filed by numerous local distribution systems (including APGA members) in this proceeding and from my independent knowledge of APGA members' systems that the harm described in those comments and in the accompanying PGW and Hamilton affidavits will be experienced by APGA's members generally and other gas systems in the northern region if the DFR is permitted to stand.

5. It was because of this harm to APGA members that APGA (along with the American Gas Association) retained the experts at the Gas Technology Institute (GTI) to analyze the economic justification provided by DOE in the DFR to determine if it was valid. GTI is a highly respected non-profit research and development organization that for 70 years has been a leader in the development and deployment of technology solutions that contribute to a better energy future. As shown in the GTI Report accompanying APGA's comments and in the comments of many others, which are discussed in the body of the

APGA brief being submitted to the court, the economic justification provided by DOE for the DFR is without factual foundation. In point of fact, the GTI Report shows that the DFR will have negative life cycle cost savings in the key replacement market, with more customers being harmed than benefitted.

However, the even more important point to APGA is that any government mandate that outlaws the Category I furnace will cause substantial harm to the replacement market because there will be fuel switching by customers that react to the first cost price signal of a Category IV furnace versus any putative life cycle cost savings that may be predicted. Such fuel switching will harm our members, whose loads will diminish, and harm the public interest in a clean environment (as the likely alternatives are electric-powered furnaces and water heaters).

6. I want to point out and emphasize that APGA and its members are normally supportive of enhanced efficiency standards. PGW and Hamilton are typical APGA members, which have programs promoting the purchase of efficient equipment (through rebates) and demand constraint (see PGW affidavit at paragraph 8 and Hamilton affidavit at paragraph 11). APGA and its members would not be actively participating in this proceeding in opposition to the DFR but for the clear and direct harm that the DFR will cause APGA's members in terms of lost load (and related effects) due to fuel switching by those many

customers that will elect a non-gas alternative to the Category IV furnace being mandated in the DFR.

7. Finally, I should also note that, in my view, APGA and its members, and the public generally, are harmed when an agency uses the direct final rule process, in lieu of normal notice and comment rulemaking, to adopt a highly controversial rule to which there is substantial opposition on the merits. The notion that an agency would in a ten-day period reject out of hand the very substantive points made in opposition to the DFR by APGA and others is very offensive and indicates to me that the agency is not engaged in reasoned decision-making but rather is acting as an advocate for a point of view that it had already determined to adopt regardless of the merits of the arguments of those opposing the DFR.
8. Further affiant sayeth not.

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AFFIDAVIT OF BERTRAM KALISCH
ON BEHALF OF THE AMERICAN PUBLIC GAS ASSOCIATION

District of Columbia

) SS

I, Bertram Kalisch, being first duly sworn, on oath, depose and state that the foregoing affidavit was prepared by me and that the statements contained in such affidavit are true and correct to the best of my information and belief.



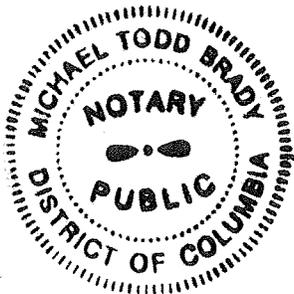
Bertram Kalisch

Subscribed and sworn to before me this 1 day of May 2012.



(Name of Notary)

Michael Todd Brady
Notary Public, District of Columbia
My Commission Expires 3/14/2013



AFFIDAVIT OF STEVEN P. HERSHEY
ON BEHALF OF PHILADELPHIA GAS WORKS

Being first duly sworn, I, Steven P. Hershey, on oath do depose and state:

1. My name is Steven P. Hershey. I am the Vice President Regulatory and External Affairs of the Philadelphia Gas Works (PGW); my business address is 800 W. Montgomery Avenue, Philadelphia, PA 19122. PGW is the local gas distribution company owned and operated by the City of Philadelphia serving some 500,000 residential, commercial and industrial customers within Philadelphia. PGW is the largest municipally-owned local gas distribution system in the United States, and it is a member of the American Public Gas Association.
2. I have served PGW since January, 2004. Prior to that date I was in private law practice for six years and, prior to that, I was a Supervising Attorney at Community Legal Services in Philadelphia for twenty-two years. I also served as an attorney in the Regional Legal Services Program in Stamford, Connecticut for four years.
3. The main purpose of this affidavit is to discuss the adverse consequences to PGW and its customers of the direct final rule (DFR) issued by the Department of Energy (DOE) on June 27, 2011, and reaffirmed by it on October 24, 2011. More specifically, PGW is concerned about that aspect of the DFR setting a

90% efficiency standard for non-weatherized (i.e., residential) furnaces in the northern region. Philadelphia is in the northern region, and the practical effect of the DFR on PGW will be loss of load due to fuel switching on our system as well as enhanced safety-related problems, as described in more detail below.

4. The 90% efficiency requirement set forth in the DFR will mean that virtually our entire replacement market will be required at some point either to convert from existing Category I non-condensing furnaces, which do not require condensate drains or special venting, to Category IV condensing furnaces, which have special venting and condensate drainage requirements, or to switch to alternate equipment that is less costly to purchase or install (electric or kerosene burning), but which is more damaging to the environment and more costly to operate. The incremental costs associated with purchasing and properly installing a condensing furnace are substantial, estimated by the American Gas Association at between \$1500 and \$2200 where there is also an orphaned water heater (as is most often the case),¹ a range with which PGW agrees, and these incremental costs will likely result in substantial fuel switching on our system, especially by our large lower income population.
5. Whereas Category I non-condensing gas furnaces (and gas water heaters) use a common vertical vent through a flue or chimney, this is not possible with

¹ See AGA November 4, 2010 submission in Docket EE-2009-BT-STD-0022, R.44 at 5.

Category IV condensing furnaces, which are supposed to provide condensate draining and treatment and must be vented laterally through a wall or, if that is not possible (as will often be the case), vented vertically through a dedicated flue or chimney with an exhaust fan (which is a component of the furnace) to ensure proper venting. The special venting requirements associated with Category IV condensing furnaces are particularly onerous in cities like Philadelphia, which has a significant number of row homes in which access to an exterior wall is either impossible (if you are an interior home) or very difficult (if you are an exterior unit) since installation requirements prevent venting near a sidewalk or below a window (almost all existing heating systems in these homes are installed in a below ground basement);² and the chimneys in these dwellings are typically too small to accommodate separate vents for a furnace and water heater (as required with the Category IV installation). Also, as to the related problem of the orphaned water heater (orphaned because it can no longer use the common vent with the non-condensing furnace) that must likewise be upgraded at a substantial cost if it is even physically possible (which is frequently not the case) or abandoned in favor of an electric water heater.

Because of the upfront cost differential associated with installing a Category IV

² Approximately 75.4% of Philadelphia homes are row homes. Approximately 15.3% are twin homes sharing one common wall, totaling 90.7% of all homes.

condensing furnace, we conclude that a substantial portion of our customer base will elect to convert from gas to electricity or to kerosene.

6. To fully appreciate the impact of this up-front cost differential on PGW and its customers, it is important to know that in 2010, 25% of Philadelphia households were at or below 100% of the Federal Poverty Level (FPL), 35.1% were at or below 150% FPL, and 44.9% at or below 200% of FPL. The 150% standard is the typical upper threshold for eligibility in many government programs such as Low Income Heating Energy Assistance Program (LIHEAP) that provide assistance to low income families, though eligibility for that program has in some years extended as high as 185% of FPL by the Commonwealth of Pennsylvania. I am without knowledge about such an extension by other states. There are also many seniors living on low, fixed incomes as well as many “working poor” who struggle to pay their bills. For these customers, the fact that natural gas may be the more economic fuel over the life-time of the equipment is immaterial; these customers do not have disposable income and their sole focus is the up-front, out-of-pocket cost of purchasing and installing the appliance. If the purchase and installation cost of a new natural gas furnace and/or water heater is more than the cost of equipment fueled by an alternative energy source by any appreciable amount, as is the case with conversion to a Category IV condensing furnace, these customers will likely opt for the

alternative, in this case electricity or kerosene. The same is also true for our rental units, which, according to 2010 census data, comprise around 45% of the total dwellings in Philadelphia; our experience is that landlords focus virtually exclusively on “first costs” since the operating costs are typically paid by, or passed through to, the tenants. Thus, the incremental costs associated with installing Category IV condensing furnaces will mean that many of our customers, at such time as they must replace their existing gas furnaces, will opt for electricity or kerosene, which not only adversely affects the health of PGW but also adversely affects the environment in our city due to the much greater efficiency and lower level of pollutants of gas heat on a full fuel cycle basis and is contrary to the purpose of DOE’s rule. A high percentage of electricity in this region is generated by coal-fired plants and then delivered relatively long distances, with attendant substantial line loss. Kerosene produces indoor air pollution and fire dangers, as well as the risk of fuel spills inside the home, further increasing both fire and indoor pollution hazards.

7. The other significant harm that will attend the implementation of the 90% efficiency standard is that the same low and moderate income customers will likely opt for an even worse alternative than switching fuels: they may continue to patch their existing equipment long after the point where it should have been replaced. This has serious potential safety ramifications not only for the

directly affected consumers, but also their neighbors and the PGW employees who visit homes in response to calls regarding leaking gas. In the event of an increase in safety calls which are related to the above, PGW, as a first responder, would be required to address these matters.

8. PGW supports and encourages energy efficiency. We have voluntarily proposed and implemented (with PUC approval) the largest natural gas demand side management program in Pennsylvania. The program, called “EnergySense,” includes rebate programs for high efficiency furnaces and significant, cost-effective treatments for certain low income customers who meet specified criteria. We urge our customers to use gas wisely and to install the most efficient equipment possible. We offer numerous tips to our customers about saving gas and reducing consumption and resulting gas bills. The unfortunate fact is that the many low and moderate income customers on our system simply do not have the financial wherewithal to make investment decisions based on life cycle costs; they, along with the many landlords in the city, react only to the out of pocket “first costs.” The impact of the DFR, which in effect bans the future installation of Category I non-condensing furnaces in Philadelphia, will be to drive many of our customers to electricity or kerosene. This will adversely affect those PGW customers that remain on gas and will

have to pick up the fixed costs of the system that would have been paid by the former gas customers.

9. Further affiant sayeth not.

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AFFIDAVIT OF JAMES G. COLLINS
ON BEHALF OF CITY OF HAMILTON, OHIO
DEPARTMENT OF UNDERGROUND UTILITIES

I, James G. Collins, under oath, do hereby state and aver as follows:

1. I am of sound mind, lawful age and fully competent to make this notice of representation and affidavit. This affidavit is based upon my personal and professional knowledge. This affidavit contains my testimony the same as if I had been called to testify in Court.
2. I am employed by the City of Hamilton, Ohio, and serve as the Director of the Department of Underground Utilities (DUU), which includes the City's Gas & Water Distribution Division. My business address is 345 High Street, Hamilton, OH 45011. DUU is the local natural gas distribution company owned and operated by the City of Hamilton, serving approximately 24,000 residential, commercial and industrial customers in and adjacent to Hamilton. DUU is the 31st largest publicly-owned local distribution system in the United States, and a founding member of the American Public Gas Association (APGA).
3. I have served DUU (formerly the Department of Gas & Water) as Director since 2007. I have been employed by the City since 2001 and prior to my current position I served as the Gas & Water Engineer and the City Engineer. Prior to my employment at the City, I had 12 years of experience as a consulting engineer for private sector engineering companies.
4. The purpose of my affidavit is to discuss the harm to DUU and its customers of the direct final rule (DFR) issued by the Department of Energy (DOE) on June 27, 2011,

which it declined to withdraw by Notice issued October 24, 2011, despite adverse comments from APGA and others. More specifically, DUU is concerned about that aspect of the DFR setting a 90% efficiency standard for residential furnaces in the northern 30 states. Ohio is one of the affected northern 30 states. The effect of the DFR on DUU will be loss of load due to fuel switching on our system as well as enhanced safety-related problems, as described below. I should note at the outset that virtually all of our residential customers have gas-fired furnaces, and the large majority of these customers also have gas-fired hot water heaters.

5. The 90% efficiency mandate in the DFR will mean that virtually all of our customers will be required at some point to convert from existing Category I (non-condensing) furnaces, which do not require special venting or condensate drains, to Category IV (condensing) furnaces, which have special condensate venting and drainage requirements. The incremental costs associated with purchasing and installing a Category IV condensing furnace are substantial, as I discuss further below, and will cause substantial fuel switching on our system, especially as to our large lower-income population.
6. Category I non-condensing natural gas furnaces and natural gas water heaters use a common vertical vent through a flue or chimney; however, this is not possible with Category IV condensing furnaces, which are supposed to be vented laterally through a wall or, if that is not possible (as is often the case in our community), vented vertically through a dedicated flue or chimney at even greater cost. The special venting requirements associated with Category IV condensing furnaces present physical as well as financial obstacles for customers in cities like Hamilton that have a high

concentration of high density, older urban neighborhoods, where homes are located very near their neighbors and where side-venting is often impossible. Also, there is the related problem of the orphaned water heater (orphaned because it can no longer use the common vent with the Category I non-condensing furnace) that must likewise be upgraded at a cost or abandoned in favor of an electric water heater. We estimate the increased purchase price of a Category IV condensing furnace to be approximately \$700 and the incremental installation costs to be in the range of \$400 to \$1,000. In addition the estimated cost of upgrading an orphaned water heater to be in the range of \$400 or more. This means that for most of our customers the incremental cost of installing a condensing furnace will be in the range of \$1500 to \$2100. By contrast, we estimate the costs of installing a new Category I non-condensing natural gas furnace to be about the same as installing an electric furnace. Thus, because of this substantial upfront cost differential, we expect a substantial portion of our customer base, most of which customers rely on Category I non-condensing furnaces, to convert from natural gas to electricity at such time as furnace replacement occurs if the DFR stands.

7. To fully appreciate the impact of this up-front cost differential, it is important to understand that, based upon the most recent statistics provided by the U.S. Department of Housing and Urban Development, approximately 55.6% of Hamilton's residential customers are at or below the low/moderate income level. For these customers, and even for many above that income level, the fact that natural gas may be the more economical fuel over the life-time of the equipment is immaterial. Most often, the sole focus of these customers is the upfront cost of purchasing and installing the appliance. If the upfront/installation cost of a natural gas furnace and/or water heater is any

appreciable amount higher than electric, as is the case with conversion to a Category IV condensing furnace, these customers will most often choose the electric alternative.

8. The same is also true, and possibly more so, for the City's rental units, which comprise approximately 39% of all total dwelling units in Hamilton. Based upon experience in the City, landlords focus almost exclusively on upfront costs, since the operating costs are typically paid by, or passed through to, the tenants. Thus, the incremental costs associated with installing Category IV condensing furnaces will mean that many of our landlords, at such time as they must replace their existing Category I non-condensing natural gas furnaces, will opt for electricity, which not only would decrease our load due to fuel switching but also adversely affect the environment due to the lost benefits of higher efficiency and lower emissions of natural gas heat compared to electric heat on a full fuel cycle basis.
9. The other significant harm that will result from the implementation of the 90% efficiency standard is that these same low and moderate income customers, if required to install a Category IV condensing furnace, will often choose to repair their existing equipment long after the point where it should have been replaced. This alternative has serious safety ramifications not only for those customers directly affected by their decision, but also for their neighbors, in the form of natural gas leaks, gas explosions and other unintended consequences.
10. To illustrate the City's position regarding the strong inclination of customers to opt for the lowest upfront cost alternative, the City has recently been involved in two separate analyses for new, multi-tenant rental units, wherein the developer proposed electric heating because it had the lower upfront cost. One development involved converting a

multi-story, historic structure into multiple rental housing units. The other case involved the proposed rebuilding of a low/moderate income housing community by a private developer, through the local metropolitan housing authority. In both cases, the City was able to show the long-term benefits of natural gas heating, countering the developer's position of lower upfront costs, and natural gas furnaces were selected for the developments. The moral of these two recent experiences is that while the City was able in these instances, where new construction was involved, to convince the developers to use natural gas appliances despite their original decisions to go with the cheaper up-front cost electric alternative, in most instances, especially those involving the replacement market, the City does not have the same ability to influence the consumers' choice both because the City is not usually consulted and because the up-front cost advantage of electricity is even greater in the replacement market.

11. I should observe for the record that the City provides both natural gas and electric services to our customers and fully supports enhanced efficiency where it makes sense. We consistently urge our customers, through our customer communications, to use both natural gas and electricity wisely and to install the most efficient equipment possible. But the unfortunate fact is that the many low and moderate income customers on our system simply do not have the financial wherewithal to make investment decisions based on life cycle costs. These customers, along with the many landlords in the city, react to up-front "first costs," and the impact of the DFR, which in effect bans the use of Category I non-condensing furnaces in the northern 30 states, will be to drive many of our customers to electricity as an alternative fuel source. This will adversely affect our load and will, of course, mean that those customers that remain on natural

gas will pick up the fixed costs of the Hamilton gas system that would have been paid by the departing natural gas customers.

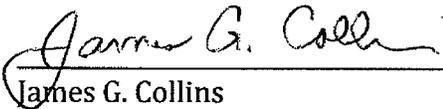
12. In my opinion, DOE has erred by issuing a DFR that will cause gas load to be lost. We believe in encouraging consumers to use efficient appliances, but we do not agree with a rule that forces consumers whose existing gas furnace must be replaced to choose between a Category IV natural gas furnace that entails substantial up-front costs due to special venting and related requirements and a less expensive non-natural gas alternative because we know that many consumers will opt for the latter.

13. Further Affiant sayeth not.

AFFIDAVIT OF JAMES G. COLLINS
ON BEHALF OF CITY OF HAMILTON, OHIO,
DEPARTMENT OF UNDERGROUND UTILITIES

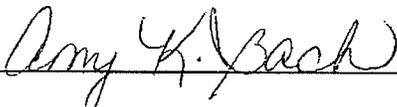
State of Ohio)
)ss:
County of Butler)

I, James G. Collins, swear or affirm that I have read this document and, to the best of my knowledge and belief, the facts and information stated in this document are true, accurate and complete.



James G. Collins

Sworn before me and signed in my presence this 2nd day of May 2012.



Notary Public

My Commission Expires: 12/29/13

