

**COMMENTS OF THE NATIONAL CONSUMER LAW CENTER,
CONSUMER FEDERATION OF AMERICA
AND MASSACHUSETTS UNION OF PUBLIC HOUSING TENANTS**

**RE: ENERGY CONSERVATION STANDARDS FOR
RESIDENTIAL FURNACES AND BOILERS**

Docket No. EE-RM/STD-01-350/RIN 1904-AA78

Submitted November 10, 2004

I. INTRODUCTION

A. Overview of Interest in this Rulemaking

The National Consumer Law Center, Consumer Federation of America, and Massachusetts Union of Public Housing Tenants (all three groups will be collectively referred to as “Consumer Groups” in these comments) appreciate the opportunity that the Department of Energy (“DOE”) has provided for interested parties to submit comments on improved standards for residential furnaces and boilers. These groups, whose missions and interests will be described below, see this proceeding as potentially very beneficial to the interests of the broad class of residential consumers, and low-income consumers in particular — IF the Department is aggressive in adopting the highest efficiency standards that are technologically feasible and economically justified, as mandated by law.¹ Natural gas prices have reached an extraordinarily high plateau, one from which most experts do not see any decline in the near future. During the last two weeks of October, wholesale gas prices jumped 30% and more. Also as of late October, retail home heating oil prices were averaging just above \$2 per gallon, a 50% increase from just one year ago. Wholesale oil prices have been repeatedly setting new, record highs, and there is little expectation that prices will fall anytime soon.²

¹ 42 U.S.C. § 6295(o)(2).

² As reported by the Energy Information Administration, “This Week in Petroleum” (Nov. 3, 2004), wholesale crude oil prices were \$51.78 per barrel on October 29, declining from over \$55 the prior week. This latter price represented an 85% increase from just one year ago.

For consumers across America, rising home energy prices are causing real hardship. More families are being terminated from their utility service.³ More families are going without heat, or going without medicine or food in order to pay for heat.⁴ The risk of fires from families using unsafe heating and lighting sources (kerosene heaters, stoves, candles) is on the rise.⁵ Any reasonable way to reduce home heating bills will result in families being warmer, healthier and safer.

The Consumer Groups believe that DOE can significantly improve the lives of consumers across America by adopting the highest efficiency standards that are technologically possible and economically feasible. They also believe that DOE has the legal authority and, indeed, obligation to specify geographically-differentiated standards, so that consumers in colder climates can benefit from higher standards that are economically justified in those cold-weather states. Finally, the Consumer Groups urge the DOE to adopt standards for furnace fans because this, too, will make home heating more affordable for the literally millions of Americans who struggle each winter to pay their heating bills while saving significant amounts of energy.

B. Description of the Consumer Groups

The National Consumer Law Center (“NCLC”), founded in 1969, is a nonprofit organization specializing in consumer and energy issues on behalf of low-income people. NCLC has helped utilities, regulatory commissions and advocates design low-income energy efficiency and affordability programs and publishes manuals and reports on a range of energy issues. NCLC is also provides legal representation to the Massachusetts Union of Public Housing Tenants (described below) regarding residential appliance efficiency standards.

³ Choosing one of the handful of states where robust termination data is routinely collected, the small state of Rhode Island, with a little over 400,000 households, had more than 6,000 households living without either gas or electricity for 6 of the 13 months, September 2003 to September 2004 (inclusive). During the preceding year, the number of R.I. customers without utility service never exceeded 6,000. In Iowa, the number of past due utility accounts is at its highest level in at least 6 years. In Pennsylvania, the average dollar amount owed on accounts in arrears is up 20% in the past two years. Among low-income customers on Ohio’s “PIPP” (“percentage of income payment program”), arrears were up 25% last year.

⁴ A study by Roger Colton for the National Low-Income Energy Consortium, “Paid But Unaffordable: The Consequences of Energy Poverty in Missouri” (May 2004) documents the extent to which low-income households go without essential medical treatment or skip meals in order to pay their utility bills.

⁵ Ken Fuson & Tim Paluch, “Fatal Fire Reflects Dangers of Power Cutoffs,” Des Moines (Iowa) Register, Oct. 3, 2004. The article describes the death by fire of 3-year old Kimberley Jarnagin when he mother turned to using candles, after her electricity had been turned off.

The Consumer Federation of America (“CFA”) is a nonprofit association of 300 consumer groups, representing more than 50 million Americans, that was established in 1968 to advance the consumer interest, through research, education and advocacy.

The Massachusetts Union of Public Housing Tenants (“MUPHT”) is the oldest statewide association of public housing tenants in the United States, incorporated in 1971. MUPHT is formally recognized by the Massachusetts Department of Housing and Community Development as representing public housing tenants in Massachusetts, and has partnered with the federal Department of Housing and Urban Development on a broad range of housing issues.⁶

II. LOW-INCOME FAMILIES BEAR AN EXTRAORDINARY BURDEN IN PAYING THEIR HOME HEATING BILLS

Low-income households bear an extraordinary burden in paying their home heating bills. A recent study shows that “the total annual energy bills of the low income [home heating] fuel oil users have grown . . . about 56%” between 1997 and 2004, when comparing those total annual bills to average household income.⁷ The poorest 25% of households (roughly 26.7 million households) in America spent fully 16.7% of their entire annual income on residential energy in FY 2004, compared

⁶ MUPHT and NCLC were commenters in the DOE docket regarding efficiency standards for central air conditioners and heat pumps, EE-RM/STD-98-440, and intervenors in the ensuing litigation, *NRDC v. Abraham*, 355 F.3d 179 (2nd Cir. 2004).

⁷ Dr. Meg Power, “Low-Income Consumers’ Energy Bills and Energy Savings in 2003 and FY 2004 (Economic Opportunity Studies 2004) (“Energy Bills and Energy Savings”)

to only 14.7% of household income in 1997.⁸ Most of this poorest quartile of American households are not technically living in “poverty,” as defined by the federal poverty guideline. The truly “poor” households, meaning those living below the federal poverty guideline (some 12 million households), spent roughly 23% of their entire annual income on household energy bills.⁹

A study by Consumer Federation of America also shows sharp increases in expenditures for home energy, from 1998-2000 to 2004.¹⁰ CFA estimates that heating expenditures for low-income households increased 40%, from \$531 in 1998-2000 to \$741 in 2004.¹¹

⁸ Energy Bills and Energy Savings.

⁹ Energy Bills and Energy Savings.

¹⁰ Mark Cooper, “Rising Energy Prices Strain Household Budgets and the Economy, for Most Americans” (CFA Sept. 2004).

¹¹ Both the CFA and Economic Opportunity Studies reports note that low-income households, on average, use far less energy than middle- or upper-income households and that all households saw their energy bills jump sharply over the past few years.

Investments in improving the efficiency of home heating systems pay off for low-income households. As one recent study reports, low-income households whose homes have been weatherized, spent \$325 (gas-heated homes) to \$350 (for oil- or propane-heated homes) less for their annual energy bills than homes that were not weatherized.¹² Increasing the efficiency standards for residential boilers, furnaces and fans can also yield significant savings, especially in low-income homes where the typical system is, on average, older and far less likely to be performing even at its rated efficiency.

Increases in residential energy prices are not being met by increases in federal funding for either the federal Low-Income Home Energy Assistance Program (“LIHEAP”) or the Weatherization Assistance Program (“WAP”).¹³ Funding for LIHEAP has been between \$1.8 billion and \$2 billion between FY 1981 and FY 1987, and again from FY 2000 and 2004.¹⁴ Adjusted for inflation in energy prices, LIHEAP funding has been eroded 30% to 40% from its levels in the 1980s.¹⁵ Nationally, average home heating oil prices reached \$2.06 per gallon during the week of October 27, up 67.8% from one year earlier.¹⁶ Investments in more efficient furnaces

¹² Energy Bills and Energy Savings.

¹³ LIHEAP is authorized by 42 U.S.C. §§ 8621 *et seq.* WAP, a DOE program, is authorized by 42 U.S.C. § 6861 *et seq.*

¹⁴ NCLC, “Access to Utility Service” (2003 Supp.), App. D.4, “LIHEAP Profile.” Between FY 1988 and FY 1999, LIHEAP funding ranged from \$1.1 billion to \$1.7 billion.

¹⁵ Calculated by NCLC, using the actual appropriations history (n. 13, *supra*) and the Bureau of Labor Statistics - C.P.I. for oil and natural gas prices as the price inflator.

¹⁶ EIA, “This Week in Petroleum” (Oct. 27, 2004).

and boilers have a much quicker payback than they did even as recently as the end of the last heating season.

III. DOE’S “WAP” AND OTHER PROGRAMS WILL BENEFIT FROM ADOPTING HIGHER STANDARDS

Many low-income homeowners and tenants receive assistance in weatherizing their homes and replacing inoperative or inefficient heating systems from DOE’s Weatherization Assistance Program (“WAP”), from states setting aside a portion of their LIHEAP funding for weatherization and home heating repair and replacement,¹⁷ and from utility-funded low-income energy efficiency programs. WAP alone reaches approximately 100,000 households annually and is funded at approximately \$240 million. Tens of thousands of additional households are served by the utility-funded programs and by the LIHEAP set-asides.

¹⁷ Under 42 U.S.C. § 8624(k), states can set aside up to 15% of their LIHEAP funds for “weatherization or other energy-related home repair.” A majority of states do so.

Many WAP and LIHEAP grantees and utility programs install high-efficiency units whenever funds allow and where technically possible. Program operators, however, find that they are often paying a premium price for doing so because they are installing more efficient units than the typical unit installed by consumers in their area. While highly-efficient units (e.g., 90 AFUE for condensing gas-fired furnaces) are widely available, they can command a premium price because they are seen as providing a premium feature of lower fuel consumption. Many WAP program operators expect that prices of these units would decline if DOE raised the efficiency standards because more units would be produced at the higher efficiency levels and there would be more competition in attracting the business of consumers who install high-efficiency units.¹⁸ These program operators also see additional advantages from having more local contractors who would have more experience in installing high-efficiency units, as one of the key challenges for WAP grantees across the country is to find competent, qualified contractors to install high-efficiency heating systems in low-income homes. By raising the furnace and boiler standards and adopting a fan standard, DOE will be providing a significant benefit to one of its programs, WAP.

IV. DOE'S ASSUMED PRICES AND EFFICIENCY SAVINGS ARE UNDERSTATED

¹⁸ Based on conversations the Consumer Groups have had with various state and local agencies that install high-efficiency systems in low-income homes.

One set of key assumptions the DOE must make in determining any future standards for furnaces and boilers (or for any other appliance) is the future price of energy. DOE calculates “future energy costs using energy price forecasts from EIA’s Annual Energy Outlook 2003 (AEO 2003).”¹⁹ The AEO 2003 now appears seriously outdated, based on the trends in energy prices since it was released. For example, the AEO 2003 and AEO 2004²⁰ assume, in the so-called “Reference” case, that oil prices will not exceed \$27 per barrel by the year 2025 (all estimates stated in 2002\$).²¹ Yet the wholesale price of oil has exceeded \$30 per barrel for the past 12 months, also according to the EIA. In fact, oil prices have not dipped below \$35 per barrel since April, an almost six month period that suggests the current high prices are not simply a short-term aberration. The AEO 2004 does not assume that oil prices exceed \$35 per barrel, even in the “High price” scenario, until the 2020-2025 time frame. This seems an extraordinarily under-stated price forecast in light of the actual prices of the past year, one that in effect predicts significant price declines in the face of rapidly growing energy consumption in China and much of Asia,²² steadily increasing consumption here in the U.S.,²³ and no clearly identified sources of new supply.²⁴ The AEO 2004 projects that imports will make up 70% of domestic supply by 2025 and also that prices will only increase to \$27 per barrel by 2025 (“Reference” case), a less-than-1% annual increase from 2005 to 2025. In light of oil prices over the past year, this estimate strains credulity. It assumes that other countries will provide us billions of barrels of new oil at essentially the same price as today, despite a large growth in world demand. The AEO 2004 is seriously called into question by EIA’s own Short Term Energy Outlook, which predicts that crude oil prices per barrel will reach \$37.87 (imported average) and \$42.14 (West Texas Intermediate) by 2005.²⁵ This is much higher than the AEO 2004 forecast for the price in

¹⁹ 69 Fed. 45422, n. 2 (July 29, 2004).

²⁰ The Consumer Groups will mostly refer to the AEO 2004, rather than AEO 2003. The former is the Outlook now available on the EIA’s web page, <http://www.eia.doe.gov/oiaf/aeo>.

²¹ AEO 2004, <http://www.eia.doe.gov/oiaf/aeo/forecast.html>, Table 28.

²² According to the Energy Research Institute of China, electricity use is increasing by an average 15 percent per year. With a population of 1.3 billion, China’s explosive growth in energy usage, even though currently at relatively low levels, will affect world markets.

²³ AEO2004, Table 29, “Forecasts of average annual growth rates for energy consumption, 2002-2025” (predicting energy consumption growth of roughly 1.5% annually).

²⁴ The AEO 2004 clearly projects declining oil production in the lower 48 states and in Alaska. [Http://www.eia.doe.gov/oiaf/aeo/gas.html](http://www.eia.doe.gov/oiaf/aeo/gas.html), Figures 95 - 98. While the AEO 2004 then notes that imports will grow from the current 53% of consumption to 70% by 2025, the AEO does not specifically identify where those imports will come from or explain why this sharp increase in imports will not lead to sharply higher prices.

²⁵ EIA, “Short Term Energy Outlook (Oct. 2004),” Table 4, “U.S. Energy Prices: Base

2025 and appears to render the AEO 2004 obsolete.

The AEO 2004 projection of gas prices is also completely outdated by EIA's own more recent projections. The AEO 2004 assumes that wellhead prices through 2025 will remain close to \$4 per Mcf, although noting that prices will be higher than this in the very near term before dropping in 2006.²⁶ Prices have in fact been much higher than \$4 per Mcf for the past six months, ranging between \$4.86 and \$5.85 per Mcf between April and October.²⁷ More to the point, AEO 2004 predicted that wellhead prices for gas would be \$3.57 per Mcf in 2005.²⁸ Yet EIA's Short Term Energy Outlook ("STEO") now predicts prices for the four quarters of 2005 as follows (all prices in \$/Mcf): \$6.14 (1st q.), \$5.48 (2nd q.), \$5.35 (3rd q.), \$5.57 (4th q.).²⁹ The STEO clearly demonstrates that the AEO 2004 is now obsolete.

The Consumer Groups believe that DOE has seriously underestimated likely future energy prices for oil and natural gas, thereby seriously underestimating the benefits of moving to higher furnace and boiler standards. The Consumer Groups urge the DOE to reconsider the price assumptions that underlie the July 29, 2004 ANOPR and to use more current information before issuing any NOPR. It is particularly important to avoid using price forecasts that are unduly optimistic given that DOE proposes a delay until at least 2012 before "the expected effective date for any new furnace standard."³⁰ This 7 to 8 year lag between adoption and implementation of any new standard is not mandated by law,³¹ yet during this period there will likely be sharp increases in energy prices and significant improvements in furnace and boiler technology. To carry out its mandate to adopt the highest standards that are technically feasible and economically justified, DOE must give serious consideration to the certainty that furnace technology will improve over the next 7 to 8 years.

V. DOE SHOULD ADOPT REGIONALLY-DIFFERENTIATED STANDARDS

The Consumer Groups urge the DOE to adopt regionally-differentiated standards for gas furnaces, specifically, an AFUE standard of 90% for natural gas furnaces (the most common type of

²⁶ <http://www.eia.doe.gov/oiaf/aeo/gas.htm>, Figure 86. Note that 1 Mcf approximately equals 1 MMBtu. EIA converts \$ per Mcf to \$ per MMBtu using a more precise conversion factor of 1,027 Btu per cubic foot. EIA, Natural Gas Weekly Update.

²⁷ EIA, "Natural Gas Weekly Update," Oct. 28, 2004. Prices have moderated a bit from this level in the past week.

²⁸ AEO 2004, Table 14, "Natural Gas Prices, Margins and Revenues."

²⁹ EIA, "Short Term Energy Outlook (Oct. 2004)," Table 4, "U.S. Energy Prices: Base Case," <http://www.eia.doe.gov/emeu/steo/pub/pdf/4tab.pdf>.

³⁰ 69 Fed. Reg. 45422.

³¹ 42 U.S.C. § 6295 mandates only a five year lag between adoption and implementation.

heating system) in states that experience 5,000 heating degree days or more each year and 81% elsewhere.³² Certainly, it is in the interests of consumers across the country to set a 90% AFUE standard that maximizes the efficiency gains and pocketbook savings that can be achieved in colder climates. Consumers in those cold climates will reap the tangible savings of lower annual energy consumption and, therefore, lower annual bills. But consumers everywhere will reap the benefits of dampening nationwide demand for natural gas and consequently lower natural gas prices.³³ A two-tiered standard makes perfect sense from a policy perspective, given the vastly different climates in the northern and southern states. DOE is legally obliged to adopt a two-tiered standard in order to achieve the highest energy savings that can be achieved on a cost-effective basis.

The DOE apparently believes that it does not have the legal authority to define standards regionally. 69 Fed. Reg. 45425 (July 29, 2004). The Consumer Groups find that this position is not supported by the wording of the statute and runs contrary to the intent of the relevant federal legislation, which is to reduce needless waste of energy by appliances that can deliver the same level of desired output (here, adequate heating of residential homes) with less energy input. While the DOE cites to 42 U.S.C. § 6291(6)(a) as authority for the assertion that the law “does not authorize the adoption of regional standards” (69 Fed. Reg. 45425), that section is in fact completely silent on whether the DOE has discretion to set regional versus national standards. Rather, § 6291(6)(a) simply defines “energy conservation standard,” in relevant part, as:

a performance standard which prescribes a minimum level of energy efficiency or a maximum quantity of energy use . . . for a covered product.

³² The Consumer Groups support the nationally-uniform AFUE standards NRDC/ACEEE have proposed for other types of furnaces and boilers.

³³ NRDC is submitting extensive comments on the effect that lower demand has on market prices for natural gas.

DOE in effect chooses to add the implicit words “uniform national” before the words “performance standard,” but Congress in fact granted DOE a great deal of discretion by choosing the unrestricted language just quoted. Courts as high as the Supreme Court have made it clear that agencies have a wide range of discretion in interpreting broad Congressional mandates that “do not directly address[] the precise question at issue,”³⁴ including in determining the geographic or locational scope of the applicability of regulatory requirements. Here, it is perfectly permissible for DOE to interpret the definition of “energy conservation standard” to allow for one such standard for gas furnaces in cold climates and a lower standard in warm climates. And given the central thrust of appliance standards legislation to “achieve the maximum improvements in energy efficiency [that are] . . . technologically feasible and economically justified,”³⁵ DOE must adopt a two-tiered standard to avoid frustrating Congressional intent.

The *Chevron* case involved the very issue of the locus at which “sources” would be subject to certain Clean Air Act rules. Congress mandated the regulation of each “stationary source,” but the EPA adopted rules that allowed a cluster of buildings to be treated as a single “source.” The Supreme Court affirmed the “principle of deference to administrative interpretations” of law, specifically including EPA’s determination as to the geographic or locational level at which its rules would apply.

Like the EPA in the *Chevron* case, the DOE has broad discretion to define the geographic level at which its standards will apply. Clearly, in this very docket DOE recognizes that it can segment off mobile home furnaces from other furnaces (69 Fed. Reg. 45425), and in the central air conditioning docket recognized that it could develop different SEER standards for space-constrained units. Given that in these contexts DOE has decided it has the discretion to fill in some of the gaps in detail left by Congress, DOE should do so again in this context.

The Consumer Groups encourage DOE to fulfill the spirit of the law and carry out the Congressional mandate to maximize the energy savings that can be achieved on a cost-effective basis. It can and should do so through adopting regionally-differentiated standards for natural gas furnaces.

VI. DOE SHOULD REGULATE FANS

³⁴ *Chevron v. NRDC*, 467 U.S. 837, 843, 104 S. Ct. 2778, 2782 (1984) (“*Chevron*”).

³⁵ 42 U.S.C. § 6295(o)(2).

The Consumer Groups also urge the DOE to regulate the energy of fans used in circulating hot air in furnaces. It is good policy for DOE to capture all of the energy savings it can in heating systems through this one docket. It is of course entirely consistent with the statutory mandate that DOE maximize the energy efficiency gains from adopting new furnace, boiler and fan standards. DOE clearly has the authority to regulate fans generally, as a distinct covered product.³⁶ Furnace fans consume a significant amount of energy,³⁷ and many of those fans are highly inefficient. As in their discussion of DOE's discretion to set regional furnace standards, the Consumer Groups also believe that the DOE has the discretion to adopt standards for furnace fans. Contrary to DOE's reading of the statute (69 Fed. Reg. 45427), setting furnace fan standards does not run afoul of 42 U.S.C. § 6291(6)(a), since DOE could set an "energy conservation standard" for furnaces based on a "minimum level of efficiency" and a separate fan standard that could be either a minimum level of efficiency or maximum quantity of energy use. Section 6291(6)(a) is not explicit in restricting DOE's ability to do so, and it therefore retains the discretion to do so under *Chevron*. Similarly, the definition of "annual fuel utilization efficiency" in § 6291(20) is specific to "furnaces and boilers." No reasonable court could possibly find that setting separate standards for furnace fans would violate this definition of AFUE. It is entirely consistent with the legislative intent behind appliance efficiency standard laws to regulate highly inefficient fans where there are more efficient fans that can do the job cost-effectively.

VII. CONCLUSION

The National Consumer Law Center, Consumer Federation of America and Massachusetts Union of Public Housing Tenants appreciate the opportunity to submit these comments and urge the Department to move ahead in (i) adopting regionally-differentiated standards for natural gas furnaces of 90 AFUE in states with 5,000 heating degree days or more and 81 AFUE in warmer states; (ii) adopting standards for furnace fans; and (iii) adopting AFUE standards for furnace and boiler types other than natural gas furnaces as recommended by the American Council for an Energy Efficient Economy and the Natural Resources Defense Council.

Respectfully submitted,

³⁶ 42 U.S.C. §§ 6292(a)(1)(19), (b).

³⁷ Furnace fans consume approximately 770 kWh annually, or as much as 1250 kWh if also connected to central air conditioning systems.

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