

**BEFORE THE  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
UNITED STATES DEPARTMENT OF ENERGY**

**Energy Conservation Program:  
Enforcement of Regional Standards for  
Residential Furnaces and Central Air  
Conditioners and Heat Pumps**

**EERE-2011-BT-CE-0077  
RIN 1904-AC68**

**COMMENTS OF THE AMERICAN PUBLIC GAS ASSOCIATION  
ON REGIONAL STANDARDS ENFORCEMENT FRAMEWORK DOCUMENT**

Pursuant to the Notice of Data Availability (“NODA”) issued by the Department of Energy (“DOE”) seeking comment on the Regional Standards Enforcement Framework Document, 76 Fed. Reg. 76328 (Dec. 7, 2011), the American Public Gas Association (“APGA”) submits the following comments, along with the supporting affidavit of the Vice President Regulatory and External Affairs of the Philadelphia Gas Works (“PGW Affidavit”), APGA’s largest member. APGA submitted comments regarding the direct final rule (“DFR”) in Docket No. EERE-2011-BT-STD-0011 that urged DOE to withdraw the DFR because of, among other things, certain problems with the economic analysis underlying the DFR.<sup>1</sup> One of APGA’s main concerns regarding the DFR analysis is that, by forcing consumers in the Northern Region to replace non-condensing furnaces with condensing furnaces in order to meet the new 90% AFUE standard, the new rule will precipitate substantial fuel switching from gas-fired furnaces and water heaters to their electric (or other, such as kerosene) counterparts – a result that undermines the policy goals of the Energy Policy and Conservation Act (“EPCA”).<sup>2</sup> APGA in its comments

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<sup>1</sup> The DFR can be found at 76 Fed. Reg. 37,549; the DOE declined to withdraw the DFR (76 Fed. Reg. 67,037), and this matter is now on appeal in the United States Court of Appeals for the D.C. Circuit (*American Public Gas Ass’n v. United States Department of Energy*, Case No. 11-1485).

<sup>2</sup> 42 U.S.C. §§ 6291 *et seq.*

below will suggest waiver procedures designed to minimize this unintended (albeit inevitable) consequence of the DFR.

## **I. COMMENTS**

In the NODA, DOE has solicited comments on a possible waiver process that would permit installation of units that do not meet the applicable regional standard in limited circumstances (76 Fed. Reg. at 76,329). APGA has considered numerous possible iterations for such a standard, and believes that, while there are alternative standards that can address specific problems (e.g., those associated with the special characteristics of row houses, discussed below), for a standard to address the fundamental problem underlying the DFR (namely, its assumption that life cycle savings will prevent fuel switching), it must take into consideration the income level of the affected consumers (and also be simple, straight-forward and easy to administer).

In the DFR and subsequent Notice of Effective Date (“Notice”), DOE downplays the fuel switching problem on the ground that the operating costs associated with electric furnaces and water heaters are such that, even though the purchase and installation costs of the gas equipment may exceed the comparable electric equipment, consumers will not switch to electricity (or other alternatives) since over the life of the equipment, the gas equipment will, on an all-in basis, be less expensive (*see, e.g.*, Notice, 76 Fed. Reg. at 67,042). In effect, DOE concludes that most affected consumers will act in an economically rational fashion and hence will not switch from gas to electric equipment.

The problem with DOE’s rationale is that there are many millions of lower income persons for whom the key determinant – in fact, the only determinant - is the up-front cost disparity for purchase and installation of gas equipment versus electric equipment; the record in

the DFR proceeding<sup>3</sup> and in the attached PGW Affidavit (at ¶¶ 5, 6, 8) are crystal clear that, on the basis of up-front costs, fuel switching will occur. Lower income consumers do not make decisions regarding household appliances such as furnaces and water heaters based on life cycle costs because they are living paycheck to paycheck (assuming they are employed at all) and hence make economic choices based on immediate out-of-pocket costs (PGW Affidavit at ¶¶ 5, 6).

The Census Bureau has reported that some 46.2 million Americans are living below the official poverty line, the highest number in 52 years, which includes another 2.6 million people that slipped into poverty in 2010, plus undoubtedly a large number (yet to be tabulated) in 2011. The statistics among various sub-groups of Americans (such as Hispanics and African-Americans) are even worse (see, e.g., <http://www.bread.org/hunger/us/facts.html>). More than 44 percent of children in the United States live in low-income working families (i.e., families which earn less than twice the poverty line). (Source: Income, Earnings and Poverty Data from the 2010 American Community Survey, U.S. Census Bureau, 2011.) And, of course, the number of persons living in poverty in America is much greater than even these sobering numbers indicate because, as the U.S. Census Bureau and numerous other groups that study the situation understand, the federal poverty level does not adequately account for the essential costs that confront lower income Americans (for more on this subject, see <http://aspe.hhs.gov/poverty/contacts.shtml>); hence most federal programs for poor Americans are geared to those earning some percentage above the official poverty level.

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<sup>3</sup> See, e.g., the Comments below of AGL Resources at 1-2, 5-9; UGI Distribution Companies, passim; Laclede Gas Company at 1-11, 18; CenterPoint Energy at 2-8; Philadelphia Gas Works at 1-2; Metropolitan Utilities District at 1-3; City Utilities of Springfield, MO at 1-2, Questar Gas Company at 1; and Consolidated Edison Co at 1; see also Comments of the American Public Gas Association at 1-9; Comments of the American Gas Association at 1-2, 5-10, 18-20.

In Philadelphia, some 30% of PGW's residential heating customers are living at or below 150% of the federal poverty level (PGW Affidavit at ¶ 6). The poverty rates in Rustbelt cities across the Midwest (such as Detroit, Michigan and Toledo, Ohio) has as much as doubled over the last decade (see, e.g., <http://abcnews.go.com/blogs/politics/2011/11/poverty-rate-doubled-in-the-midwestern-rust-belt-over-past-decade/>). Review of the poverty data for virtually any major city in the Northern Region is equally shocking (e.g., Pittsburgh (<http://www.city-data.com/poverty/poverty-Pittsburgh-Pennsylvania.html>); Hartford, CT (<http://www.city-data.com/poverty/poverty-Hartford-Connecticut.html>); Newark, NJ (<http://www.city-data.com/poverty/poverty-Newark-New-Jersey.html>); etc., etc.). APGA's members deal with consumers in poverty on a day-in day-out basis, sometimes in very large numbers (e.g., 42% of the residents of Cairo, IL had incomes below the poverty level in 2009 (<http://www.city-data.com/poverty/poverty-Cairo-Illinois.html>); 24% of the residents in Lancaster, OH had incomes below the poverty level in 2009 (<http://www.city-data.com/poverty/poverty-Lancaster-Ohio.html>); etc.), and they are keenly aware of the inability of such consumers to pay their monthly energy bills, much less to make the preferable "economically rational" decisions when it comes to installing a gas versus electric furnace (not to mention the safety risks that are associated with inability of such consumers to purchase *any* new equipment due to up-front costs) (PGW Affidavit at ¶¶ 6-8).

For DOE to adopt a meaningful waiver provision, DOE must first, of course, acknowledge that poverty is a real problem for a large percentage of the population in this country and that, unfortunate as it may be, those living in poverty do not for the most part make decisions based on life cycle considerations; rather, as the record shows and common sense dictates, they make decisions regarding capital expenditures based on up-front costs. APGA,

whose members advocate installing energy efficient equipment as well as demand-side management (*see, e.g.*, PGW Affidavit at ¶ 8), would not be participating in this proceeding were it not clear beyond cavil to it and its members that adoption of the DFR 90% standard for residential furnaces will cause substantial fuel switching, primarily as to lower income customers who, when faced with the up-front costs of installing a condensing furnace, will not do so because there are less expensive first cost options. The only way to mitigate this unintended but certain outcome of the DFR is a meaningful waiver provision.

APGA assumes that DOE agrees that fuel switching is a consequence to be avoided in putting new efficiency standards in place. APGA submits that DOE (and *all* those supporting the DFR) should care very much about discouraging fuel switching. Enhanced efficiency only makes sense if customers using gas remain on gas. DOE knows from its own report issued in 2011 that on a full fuel cycle basis, gas is far more efficient than electricity,<sup>4</sup> and hence if customers move from gas to electricity, further degrading the environment, the DFR will be self-defeating. The energy savings touted in the DFR simply will not materialize, and the DOE will have shot itself (and APGA's members) in the foot by failing to take into consideration that fuel switching will occur under the DFR if the DOE does not take aggressive action in this proceeding to prevent it.

A waiver should be as easy to administer as it is effective. To be effective, a waiver must, in APGA's view, allow all gas consumers below a certain income level to self-certify to that effect, thereby permitting them to replace a non-condensing furnace with a non-condensing furnace *if* they choose (assuming that the affected consumers have been fully informed in writing as part of the waiver process regarding the operating cost savings that could accrue to them over

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<sup>4</sup> *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 (Aug. 18, 2011)

the life of a condensing furnace). APGA notes that this self-certification approach has worked well in the administration of the Low Income Home Energy Assistance Program (“LIHEAP”) for those needing assistance in paying for their home energy needs. It should go without saying that those millions of consumers in need of LIHEAP funding are the very consumers, among others, that will not be making the economically rational decision to purchase a condensing furnace because of theoretical life cycle cost savings.

As to what should be the income cut-off for waiver qualification, APGA notes that the LIHEAP program is based upon the greater of 150% of the poverty level or 75% of the State median income. Frankly, APGA believes this cut-off line is too low to be fully effective in the this context (i.e., a purchase of a capital item versus, in the case of LIHEAP, payment of monthly energy bills) as there are many millions of consumers that, while they may be able to pay their home energy bills without assistance, live paycheck-to-paycheck and thus will switch to electricity when faced with the up-front costs of purchasing and installing a condensing furnace.

APGA suggests that the appropriate cut-off is 250% of the poverty level, as supported in the attached PGW Affidavit at ¶ 11. The PGW Affidavit relies on the Self-Sufficiency Standard report for Pennsylvania 2010-2011 (as well as similar reports for 37 other states) as the basis for the 250% cut-off, and APGA supports that cut-off as fair even though there will certainly be low income persons above that level who respond primarily to first costs. APGA believes, however, that a waiver using the 250% cut-off will catch most, though certainly not all, of the lower income customers that, but for such a waiver, would switch to an alternate fuel. To put the 250% cut-off in context, the 2012 poverty guidelines are set forth in the table below (found at <http://aspe.hhs.gov/poverty/12poverty.shtml>):

**2012 Poverty Guidelines for the  
48 Contiguous States and the District of Columbia**

<b>Persons in family/household</b>	<b>Poverty guideline</b>
1	\$11,170
2	15,130
3	19,090
4	23,050
5	27,010
6	30,970
7	34,930
8	38,890
For families/households with more than 8 persons, add \$3,960 for each additional person.	

APGA suggests that the waiver program would be administered much the same as the LIHEAP program is administered by the Department of Health and Human Services, through self-certification along with proof of income level, and that, as with LIHEAP, the local distribution company would assist in effort, including informing customers of the benefits of higher efficiency equipment (*see* PGW Affidavit at ¶ 10).

The Achilles heel of the DFR is that the life cycle analysis simply is irrelevant to millions of American consumers living at or near the poverty level. One does not have to be a proponent of the Occupy Wall Street movement to understand that poverty (however defined) is a growing problem in this country and that the lower income portion of our population is having trouble making ends meet. A means-related waiver provision is absolutely essential to address the serious unintended fuel switching consequence of the DFR.

APGA also supports a waiver provision that singles out row houses (*see* PGW Affidavit at ¶¶ 5, 12) and any like dwellings for exemption from the 90% AFUE standard regardless of the income level of the occupants (though in Philadelphia, most of the occupants of such dwellings

are in the lower income brackets). As described in the DFR record (see Comments referenced in note 3, above) and in the attached PGW Affidavit at ¶ 5, the issues associated with installing condensing furnaces in row houses are unique, such that either condensing furnaces cannot physically (or by code) be installed or, if physically and legally possible, the installation is prohibitively expensive, making it mathematically impossible to convince the occupants that such installation makes sense on the basis of a life cycle analysis. DOE should provide such dwellings a blanket waiver, with any reasonable qualification that it deems necessary to avoid gaming of the system. PGW (per the attached affidavit) invites DOE representatives to visit Philadelphia to walk through the row houses that pepper the City so that it can fully appreciate first-hand the extent of the problem relating to the installation of condensing furnaces in such homes (PGW Affidavit at ¶ 12).

## **II. CONCLUSION**

APGA is a strong advocate of energy efficiency; APGA is a strong advocate of maximizing the use of natural gas (versus alternative fuels) for residential purposes in light of its efficiency advantages on a full fuel cycle basis; and APGA is a strong advocate for taking reasonable steps to promote the use of the most efficient gas-burning equipment possible. APGA would normally expect to find itself on the same side of energy efficiency issues as DOE given, among other things, DOE's mandate under the EPCA. Thus, it is with some considerable chagrin that APGA finds itself at loggerheads with DOE over an issue on which their goals should be the same – namely, maximizing the use of efficient gas-burning equipment.

Unfortunately, DOE, in adopting the 90% AFUE standard for residential furnaces in the DFR, has adopted a standard that will cause substantial fuel switching due to the unique characteristics (and related cost consequences) of the only furnace that meets that standard.

APGA implores DOE to acknowledge the real-world fact that lower income persons, when confronted with the up-front costs of installing a condensing furnace, will more often than not opt for the less expensive alternatives because persons of lesser means simply do not concern themselves with life cycle cost analyses in making capital investment decisions that affect whether they have sufficient funds to pay for the minimum essentials of life. Given the 90% AFUE requirement of the DFR, a meaningful means-related waiver and a waiver for row home occupants are essential to avoid the fuel switching that will otherwise occur in the Northern Region affected by the DFR.

Respectfully submitted,



Bert Kalisch, President and CEO  
American Public Gas Association

**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 publicly-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 a partner in the law firm of Eckert Seamans Cherin and Mellott for six years and, prior to that, 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 need for a meaningful waiver provision in the context 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 very concerned about that aspect of the DFR that imposes a 90% efficiency standard for non-weatherized (i.e., home) furnaces in the Northern Region. Philadelphia has been defined in the DFR as part of the Northern Region, and the practical effect of the DFR on PGW will be fuel switching on our system as well as aggravated environmental and safety-related problems.

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 non-condensing furnaces, which do not require condensate drains or special venting, to condensing furnaces, which have special condensate drainage and venting requirements, or to switch to alternate, less costly equipment which is more damaging to the environment. The incremental costs associated with purchasing and properly installing a condensing furnace are substantial, and, absent a meaningful waiver, will result in substantial fuel switching on our system, especially by our large lower income population.
5. Whereas non-condensing gas furnaces (and gas water heaters) use a common vertical vent through a flue or chimney, this is not possible with 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 to ensure proper venting. The special venting requirements associated with condensing furnaces are particularly onerous in cities like Philadelphia that have 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 local codes prevent venting near a sidewalk or below a window (almost all existing heating systems in these homes are installed in a below ground basement). Also, there is 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 or abandoned in favor of an electric water heater. Because of the upfront cost differential associated with installing a condensing furnace, we

conclude that a substantial portion of our customer base will elect to convert from gas to electricity or to kerosene if a meaningful and efficient waiver provision is not adopted as part of the DFR process.

6. To fully appreciate the impact of this up-front cost differential on PGW and its customers, it is important to know that upwards of 30% of our residential heating customers are living at or below 150% of the federal poverty level and many more are only slightly above that level. 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. 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 equipment fueled by an alternative energy source by any appreciable amount, as is the case with conversion to a condensing furnace, these customers will 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 non-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. 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 could 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. In the event of an increase in safety calls which are related to the above, PGW, as a first responder, would be required to respond to these increased calls.
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 a rebate program 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 use of 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. Given the clear adverse consequences of the DFR on our customer base, the question is whether a meaningful waiver provision can be devised that avoids some of the DFR's unintended adverse consequences. Clearly, for the waiver to be effective and fair, it must be properly targeted and easy to implement. Means-oriented programs meet those goals as well as meeting the broader goal of the DFR – to improve energy efficiency. Means-based programs are effective in this situation because it is the persons of lesser means who will pay no attention to life cycle cost analyses because such analyses have no meaning to them – they are living hand to mouth, and thus the fact that something called a condensing furnace might have lower operating costs over the life of the equipment is completely immaterial. Ironically, in Philadelphia, where the current 30-year average for annual degree days is 4,320, high efficiency equipment is even less cost-effective than it would be in a region that experiences the 5,000 degree day climate reflected in the DOE definition of the Northern Region.
10. PGW suggests that, at a minimum, the waiver program permit all those whose household income is at or below 250% of the federal poverty level to qualify for the furnace waiver (i.e., they would be permitted to install non-condensing natural gas

furnaces to replace their existing furnaces). PGW would undertake to inform its customers through bill stuffers and other means of the requirements for a waiver should a new furnace be required and of the long-term benefits of high efficiency furnaces and to assist in the implementation of the waiver program. The program could be administered in much the same way as the LIHEAP program is administered by the Department of Health and Human Services through self-certification (along with evidence of income status). I am providing a link to the PGW web site reflecting PGW's active role in implementing the LIHEAP program (<https://www.pgworks.com/index.aspx?nid=112>) as evidence of the type of coordination that PGW envisions as relates to its proposed waiver program.

11. The basis for the 250% multiplier (versus the 150% used for LIHEAP) is my own broad experience in working with utility customers, as well as the report entitled "The Self-Sufficiency Standard for Pennsylvania 2010-2011," which can be found at [http://www.pathwayspa.org/10-11\\_SS\\_Standard.pdf](http://www.pathwayspa.org/10-11_SS_Standard.pdf). This Self-Sufficiency report, like many reports of the U.S. Census Bureau (see, e.g., <http://www.census.gov/hhes/povmeas/methodology/research/htm/>)) underscores the acknowledged fact that the federal poverty level ("FPL") does not accurately measure the extent of poverty in this country.<sup>1</sup> The Self-Sufficiency report measures how much income a family of a certain composition in a given place must earn to meet their basic needs without public or private assistance. As the report points out (at page 1), "the Federal Poverty Level (FPL) is now out of date and inadequate as

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<sup>1</sup> Attempts to tie program eligibility to various multiples of the federal poverty standard frequently fail in capturing the limited resources and fragility of existence of families with incomes above 150% of the FPL. Substantial unanticipated expenses can make these income measures meaningless as a measure of a family's ability to afford normal life expenses.

a measure of need. The Self-Sufficiency Standard was developed as a more adequate measure of income adequacy beginning in 1996. Likewise, the Obama Administration has recently undertaken the development of a 'Supplemental Poverty Measure'..." The Self-Sufficiency Standard, in contrast to the FPL, takes into account the major budget items faced by working adults: housing, child care, food, health, transportation, and taxes – not just food, a multiplier of which became the basis for the FPL at its inception. PGW's takeaway from the Self-Sufficiency report, particularly Figure 1 on page 2 and Table 1 at pages 3-4, and from similar Self-Sufficiency Standard reports for some 37 other states, is that a multiplier of 250% of the FPL would be a minimum level appropriate for implementing a waiver program under the DFR. Clearly, persons in that income range are "first cost" (versus life cycle) responders that will react primarily if not exclusively to up-front incremental costs associated with installing a condensing furnace. PGW, of course, agrees that there is no one magical cut-off point for waiver qualification but believes that adoption of the 250% standard will work rough justice in trying to accommodate those millions of lower income persons in the Northern Region who are in need of assistance. PGW would welcome an opportunity to discuss and refine this standard with DOE.

12. A second independent basis for waiver, and even easier to implement, would be to allow those living in a row house,<sup>2</sup> a large percentage of which are persons of lower income, to independently claim a waiver since those homes represent a severe

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<sup>2</sup> PGW uses the commonly understood meaning of the term. For example: see Webster's Dictionary: "one of a series of houses connected by common sidewalls and forming a continuous group"; see also The Dictionary of Real Estate Appraisal 4th Edition: "An attached house in a row of architecturally uniform houses separated by party walls and covered by a continuous roof."

challenge to installation of appropriate venting and disposal equipment, as described above. Not only is installation of condensing furnaces in such homes often impossible due to the way in which such homes have been constructed and due to related code limitations, but in addition, to the extent it is physically possible to install a condensing furnace, the expense is so great that most folks, regardless of means, will not undertake it. This is especially true in a City like Philadelphia where the degree days are less than 5000 and hence the payback period (if there is one) is too long for most people to relate to even if they enjoy a high income. PGW invites DOE representatives that may be skeptical of this claim to visit Philadelphia and to permit PGW to host visits to the many sections of the City with row houses so that DOE can gain a full, first-hand appreciation of the magnitude of the problem. PGW is confident that, armed with real-world facts, DOE will understand the need for a waiver for row homes, and if it feels that other qualifications are warranted, those can be discussed as well. The key is the recognition that a meaningful waiver provision is needed to prevent wide-scale fuel switching.

13. I should point out that the adoption of a suitable waiver program is also important to PGW as it is very concerned about the safety risks associated with the DFR; we know that many of our lower income customers will simply continue try to repair an existing furnace that has outlived its safe useful life in order to avoid the up-front costs associated with installing a condensing furnace, whereas if such customers could install non-condensing furnaces, they might well do that. A waiver program will ameliorate this very real safety risk.

14. In conclusion, an effective waiver program would permit waiver of the 90% AFUE requirement for a consumer meeting either of the following criteria:

1. Total household income is at or below 250% of the Federal Poverty Level.
  2. Row home occupant.
15. Further affiant sayeth not.

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