

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.

(THE NEXT PAGE IS THE SIGNATURE PAGE)

