

Testimony of Jerry Bosworth  
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Association  
Board of Directors



Chairman Smith, Ranking Member Johnson, and members of the committee, my name is Jerry Bosworth and I am the President of Bosworth Air Conditioning and Heating, Inc., in Galveston, Texas. Our company, and I say “our” because Bosworth Air Conditioning and Heating is a family business, has been selling, installing, and servicing residential and commercial comfort systems in Galveston County since 1959. Over the years we have grown to the point where today we employ 8 technicians and support staff.

I want to thank you for allowing me to testify today on behalf of ACCA – the Indoor Environment and Energy Efficiency Association. ACCA is the leading national association representing the technical, educational, and policy interests of the small business contractors that design, install, and maintain residential and commercial HVACR systems. However, in many ways, I am before you representing the more than 1,000,000 Americans employed by the manufacturers, distributors, and contractors of the HVACR industry.

This morning I want to highlight some of the difficulties facing the HVACR industry as a result of environmental regulations and appliance standards issued by the Department of Energy, the U.S. Environmental Protection Agency, and other federal agencies.

An aggressive approach in the last few years to increasing the energy conservation standards for residential central air conditioners, heat pumps, and furnaces, commercial refrigeration equipment, walk-in coolers and freezers, residential hot water heaters, and other HVACR equipment has impacted more than just equipment manufactures. It has impacted small business contractors and their customers. In some cases, proposed changes to the test procedures used to rate this equipment has been finalized after the new standard has been set, contrary to the Energy Policy and Conservation Act.

These rules and regulations may directly impact the manufacturers, but they move down the supply chain to impact the distributors, contractors, and homeowners and building owners.

In other areas, regulatory changes to the list of compounds approved as refrigerants have caused some unexpected uncertainty for HVACR contractors.

Finally, ACCA has been frustrated in our attempts to move the energy efficiency discussion beyond appliance standards to installation practices.

As an example, the Department of Energy recently proposed to set new minimum energy conservation standards for residential natural gas furnaces. Federal law requires these products to meet a standard based on metric that measures how efficiently they heat a home, similar to miles per gallon in an automobile. The standard is presented as Annualized Fuel Utilization Efficiency (AFUE) ratio, where the higher the number, the more efficient the furnace is at

converting natural gas to heat in your house. Product models available today range from 81% AFUE up to 98% AFUE.

In March, the DOE proposed to set the minimum AFUE standard at 92% nationwide starting in 2021, a level that had significant implications on the market and consumers. First, this proposed standard would eliminate half the furnaces models manufactured and installed in the market today. Second, by DOE's own economic models, nearly one third of all homeowners in 19 southern states would never see a positive payback from replacing their existing furnace. Nearly 11% of homeowners in the North region would also never save enough on their utility bills to pay for the new furnace over its lifetime.

Part of the reason is that a furnace with AFUE ratio above 90% is known as condensing furnaces and they achieve these higher efficiency levels by using advanced technologies to extract a little bit of extra heat from the combustion. Higher efficiency furnaces utilize more complicated technology, which requires more complicated installation practices in order to make it work correctly and safety. They use air from outside the house for combustion, so they need to be installed near an exterior wall. And they produce a small amount of water during operation that must be disposed of down a drain.

The 92% AFUE standard would effectively ban the manufacture and installation of non-condensing furnaces that found are in many homes today. These furnaces typically expel the waste gases and combustion fumes up through a chimney.

But condensing furnaces are not appropriate in all types of homes, especially where in the South where the heating load is low or in townhomes or rowhomes which are smaller or only have two exterior facing walls. In cases where a non-condensing furnace is already in place, retrofitting the home to address venting and condensate need of a condensing furnace can add thousands of dollars to the installation price. And that will likely force the homeowner into a repair and maintain situation.

Finally, this proposal not only eliminates the option for a non-condensing furnace, it has the potential to drive many consumers to heat pumps, driving up their utility costs and likely leading to more fossil fuel emissions at the energy plant.

When the base model furnace or central air conditioner becomes more expensive to manufacture, test, and ship, the costs must be passed down the line. Ultimately this hurts consumers and forces contractors into the proposition of offering consumer the false choice between the short sighted solution to repair and maintain old inefficiency equipment and purchasing new equipment that will never have a positive payback.

On three cases in the past four years, industry has been force to seek a remedy through the courts when the agency ignored industry concerns, relied on flawed economic assumptions, or violated the Administrative Procedures Act in promulgating a rule. In two cases, the agency settled out of court; the other case is still pending.

In other recent rulemakings, industry stakeholders elected to pursue negotiated rulemakings on pending appliance standards because the normal notice and comment period approach would likely lead to uncertain results. Contractors have been frustrated because we feel the DOE economic assumptions about installation and maintenance costs used to determine the life cycle costs are flawed.

The rulemaking process is broken and needs changes to ensure that new appliance standards designed to save energy realize those expected savings without adding unnecessary burdens to manufacturers, distributors, and contractors; and promote consumer choice and a positive payback on the investment. A standard that would negatively impact 31% of homeowners who purchase a new furnace should not be proposed.

With regard to environmental rules, our industry faces a number of regulations from the Environmental Protection Agency related to the refrigerants used for air conditioning and refrigeration.

There are hundreds of refrigerant compounds that make the magic of air conditioning and refrigeration possible. You've probably heard of referred to as HCFCs or HFCs. The production, use, and handling of these compounds are controlled and regulated by the EPA because many have been found to harm the ozone layer or have a high global warming potential if they are released into the atmosphere.

The EPA requires anyone who works on an air conditioning system to take a certification test to obtain their "608 card", named for Section 608 of the Clean Air Act. Air conditioning and refrigeration systems are closed loop systems and Section 608 prohibits the release of most refrigerants while performing any service or maintenance. In order to comply with these rules, a service technician must be trained, have the required equipment (which isn't cheap), and take the extra time to properly evacuate all the refrigerant into an approved container before performing any service work.

Unfortunately there are a lot of individuals who claim to be professional contractors who skirt these rules and are never caught. These bottom feeders take advantage of a lax enforcement system and undermine the upstanding contractors who comply with the rules.

So here's something you probably didn't expect to hear today: ACCA would love to see increased enforcement of the Section 608 venting prohibition rules. Unless significant changes are made to the Section 608 program through increased enforcement, it cannot accomplish its mission to protect the environment.

ACCA also hopes for a smooth transition in the event of a future phase out of HFC refrigerants. The EPA, through the Montreal Protocol, has been slowly phasing down the production of HCFC refrigerants over the last two decades through a process of annual allocations. On two occasions in the last six years, rules outlining those allocations were delayed, causing a spike in the price of the most common refrigerant due to uncertainty about availability. We were forced

to pass those costs along to our customers, where in some cases the price of a service call tripled from one year to the next.

Finally, I want to bring to the committee's attention an important gap in the existing regulatory scheme for residential equipment.

According to a 2013 U.S. Department of Commerce's National Institute of Standards and Technology (NIST) study, there are substantial equipment efficiency losses due to poor installation practices, typically due to duct leakage, refrigerant undercharge/overcharge, low indoor airflow, and oversized equipment with undersized ductwork. Furthermore, the report shows that when two or more simultaneous faults occur, the efficiency degradations can be additive, compounding the increased consumption.

For years, ACCA has championed the need for quality installation (i.e. performance contracting) in the HVACR contractor sector. Through its own resources, ACCA has financed and developed several ANSI-recognized standards dealing with quality installation, maintenance, service, restoration and verification protocols. The "performance" standards provide stakeholders (home and building owners, utilities that offer rebates, government-entities that provide tax credits) the opportunity to achieve the desired energy efficiencies, but more importantly, to get exactly what they paid for.

Poor installation practices rob homeowners of the potential energy savings they expect. We need to look at ways to include an installation standard into the regulatory scheme for HVACR equipment. And yet our calls to get the Department of Energy to accept or recognize the QI standard have gone unanswered.

I will close by pointing out that ACCA has been a long-time and active supporter of energy efficiency and has partnered with both EPA and DOE on many initiatives to improve equipment efficiency and performance and contractor competence. ACCA believes that efficiency standards serve as an important policy tool, as long as they meet the test of being economically justified and technologically feasible.

I look forward to any questions from the committee.

Jerry B. Bosworth is President of Bosworth Air Conditioning in Galveston, TX, a family owned and operated business of 10 employees, which was founded in 1959. Bosworth AC specializes in both installation and service and replacement of both residential and commercial systems. Having lived in Galveston County for most of his life, Jerry is a Texan through and through and now brings that great style to the ACCA Board of Directors.

He has served as chairman of the ACCA Membership and Member Services Committee. Prior to being elected to the National Board, he donated his time and energy as a member of his local contracting association in Houston, and also served on the board of his state contracting association.