

**Testimony of Andrew deLaski,
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**Before the Subcommittee on Energy and Air Quality of the House Committee
on Energy and Commerce**

**Hearing entitled:
“Achieving –At Long Last – Appliance Efficiency Standards”**

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Introduction

Mr. Chairman, Ranking member Hastert, and members of the Committee:

My name is Andrew deLaski and I am the executive director of the Appliance Standards Awareness Project (ASAP) and have served in that capacity since 1999. ASAP is a coalition project led by a Steering Committee consisting of representatives from energy efficiency organizations, consumer organizations, environmental organizations, the utility industry and state government. The Project works to advance cost-effective appliance and equipment energy efficiency standards at both the federal and state level.

Since 1999, I have been involved in every major DOE appliance standards proceeding. I have also worked actively on appliance standards at the state level in more than a dozen states, through both legislative and regulatory proceedings. Eleven states have enacted or otherwise adopted various appliance and equipment standards since 2004. This state action prompted renewed manufacturer interest in expansion of the federal standards program. Standards first enacted by various states formed the basis for some fifteen strong efficiency standards negotiated between advocacy organizations, states and manufacturers for inclusion in the Energy Policy Act of 2005. These standards formed one of the biggest energy savings components of that Act.

I am deeply honored to have the opportunity today to share with the Committee some of my views with respect to the federal appliance standards programs and recommendations for how it might be improved.

In this testimony, I will first summarize some of the current and potential impacts of the federal appliance standards program. I will next discuss DOE's recent performance in implementing the

Federal appliance standards program. Finally, I will address each of the seven specific questions raised by the Committee in my invitation to testify before you today, including presenting specific recommendations for legislative reforms.

Summary and recommendations

The federal appliance standards program has delivered very large energy and economic benefits since 1987. Analysis by the American Council for an Energy-Efficient Economy (ACEEE) estimates that existing standards will save nearly 400 billion kilowatt hours per year by 2020, cutting U.S. electricity use by 9% from the levels it would otherwise have reached. Already existing standards will cut peak electricity demand by 144,000 megawatts by 2020, an amount roughly equivalent to the output of 288 power plants at 500 MW each. For consumers, the existing standards are delivering net benefits of about \$234 billion. For the environment, the savings translate into about 315 million metric tons less carbon dioxide emissions per year, or about 4.5% of projected 2020 U.S. emissions.

These savings are very large. However, DOE's failure to meet deadlines as documented in the GAO report means that they are smaller than what should have been accomplished had DOE carried out its responsibilities as intended by Congress.

DOE's recent commitment to get the appliance standards program back on track by establishing and sticking to a schedule is good news. We estimate that, by issuing new standards, many of which are overdue, DOE could add at least another 200 billion kilowatt hours of savings per year and further cut carbon dioxide emissions by another 165 million metric tons per year, or 2.2% of

projected 2020 emissions.

But these savings will only be achieved if DOE establishes appropriately strong efficiency standards. In each of the three most recent proposals for new standards (concerning home furnaces, home boilers and electric distribution transformers), DOE has issued weak standards. In the case of furnaces, DOE set a standard met by 99% of current sales. For boilers, DOE rejected a consensus agreement between manufacturer and advocacy groups. With regard to transformers, DOE has rejected a standard supported by the very electric utility industry which purchases this equipment. In several cases, DOE has indicated that its hands are tied legally. If the law is the problem, as DOE indicates, then Congress should clarify the law.

Several reforms to the law are needed to help ensure that DOE will be better able to capture the savings from cost effective standards in the future. These include:

Recommendation #1. Authorize DOE to establish limited regional standards for heating and cooling products. The same furnace standard does not make sense for Michigan as makes sense for Mississippi; nor does the same air conditioner standard make sense for Georgia as makes sense for Sacramento. The clear needs of different regions of the country should not be subjugated to manufacturer preference to have a single standard in all fifty states.

Recommendation #2. Authorize DOE to apply multiple efficiency measures to a single product.

A single measure is sometimes inadequate for representing a product's energy use or efficiency. DOE should have greater flexibility to capture all aspects of a product's energy consumption in its standards.

Recommendation #3. Require DOE to conduct a furnace fan rulemaking. This rulemaking offers among the largest potential of any potential new standard, but DOE considers it voluntary.

Recommendation #4: Require regular reviews of all appliance standards. Because technology continues to improve, so will the potential for improved standards. Because states are preempted forever, it is crucial that DOE conduct regular reviews of all standards to determine if updates are warranted.

Recommendation #5: Sunset preemption if DOE misses deadlines. The potential for preemption to expire will increase the pressure on DOE and all stakeholders to work diligently to ensure the agency meets such deadlines. When the deadlines are missed, authority should return to the states.

Recommendation #6: Clarify that preemption only applies when there is a federal standard. Federal law should not preempt state standards in those instances where DOE has failed to or chosen not to exercise its authority. Congress should make clear that no federal standards = no federal preemption.

A. DOE is finally meeting deadlines, but failing to deliver energy savings.

The GAO report, “Long-standing Problems with DOE’s Program for Setting Efficiency Standards Continue to Result in Forgone Energy Savings,” documented that DOE missed every single

deadline set for it under the appliance standards statutes since 1987. By 2005, DOE was as much as a decade late on twenty-two overdue appliance standard reviews and updates. In January 2006, in response to language added by this Committee to the Energy Policy Act of 2005 (EPAAct), DOE prepared a report explaining its view of why so many deadlines had been missed and proposing a plan to come into compliance. Concurrently, several states and NGOs brought suit citing DOE's violations of the legal deadlines for these 22 overdue standards. This suit (*New York v. Bodman/NRDC v. Bodman*) resulted in a consent decree signed last fall. The consent decree largely confirms the schedule published by DOE in January 2006 and subjects DOE's schedule compliance to court oversight.

Since publication of DOE's January 2006 schedule, the agency has done an excellent job of meeting deadlines. The agency has initiated several major rulemakings covering 15 categories of products. Last fall, DOE finally issued proposed rules for the two major rulemakings begun in 2001: residential furnaces and boilers and electric distribution transformers and appears on schedule to issue final rules for these products this September. It's good news that DOE is now meeting deadlines.

However, even if DOE meets all deadlines in its plan, standards that are already years overdue will not be effective until 2013 and later. Keeping to a schedule will get more difficult as DOE must make policy decisions at more advanced stages of the rulemakings processes.

Sticking to the schedule is only part of the job. It is also DOE's obligation to set appropriately strong standards: after all, the law exists to save energy. To quote the law, new or amended standards, "shall be designed to achieve the maximum improvement in energy efficiencywhich

the Secretary determines is technologically feasible and economically justified (42 USC 6295(o)(2)(A)).”¹ DOE’s recently proposed standards have fallen seriously short of this target.

- **Residential boilers:** DOE rejected a consensus proposal from boiler manufacturers and efficiency organizations (including mine). The agency claimed it lacked the legal authority to act on the joint recommendation because it includes an annual efficiency performance minimum and two prescriptive requirements (one prohibits standing pilot lights, the other requires a “temperature reset” feature which results in savings not captured by the performance minimum.) Instead DOE has proposed a standard that relies only on a performance minimum which manufacturers claim to be onerous.² We estimate that the joint recommendation rejected by DOE would result in roughly double the energy savings as DOE’s proposed standard. The recommended standards would save roughly 170 million therms natural gas per year, or enough to heat about a quarter million typical homes.
- **Residential furnaces:** Natural gas fired furnaces are the most common heating equipment. DOE’s analysis shows a standard set at 90% is cost effective *on average* for the nation as a whole. But the average masks wide disparities between the coldest and warmest states. In a nutshell, a 90% efficiency standard makes solid economic sense in the northern half of the country, but is only marginally cost-effective or not cost-effective at all in the

¹ In determining economic justification, the Secretary must take into account six criteria: economic impacts on manufacturers; the lifecycle savings for consumers from improved standards; the magnitude of projected national energy and water savings; any impacts on product performance; any impact on competition; and the need of the nation to save energy or water, as the case may be.

² DOE has proposed an Annual Fuel Utilization Efficiency for gas boilers of 84%. Under the consensus agreement, this level would be lower at 82%. But the prescriptive requirements more than make up for the lower AFUE rating,

warmest states. Many stakeholders including numerous states urged DOE to consider regional standards. Instead, DOE has proposed to apply an 80% standard to the entire country. This standard is meaningless since 99% of current furnace sales already meet or beat 80% efficiency.

DOE rejected cost-effective regional standards which would result in very large economic and energy benefits on the grounds that it lacks legal authority to set such regional standards. We estimate that a regional 90% standard applied to the coldest states would net consumers about \$8 billion and save enough gas to heat more than 3 million homes annually.

- **Electric distribution transformers:** DOE proposed a standard last fall that fell short of the agency's usual practice of giving great weight to standard levels which minimize overall costs for equipment purchasers. A dozen major utility companies called on DOE to consider setting a stronger standard which would minimize lifecycle costs for purchasers and increase energy savings by about 50%. In time the savings from this standard would grow to 26 billion kilowatt hours per year, roughly enough to meet the needs of every home in Kentucky. Fortunately, in March, DOE reopened the docket and indicated a willingness to consider higher standards. At that time, the Edison Electric Institute and the American Public Power Association, representing 80% of all transformer purchases, joined in calling for DOE to set stronger standards (see Attachment). To date, manufacturers have not voiced support for this stronger standard. The burden is on DOE to choose an appropriately

yielding a standard that manufacturers find less onerous and which yields significantly larger savings than the DOE proposal.

strong standard without the benefit of a “consensus” recommendation easing the path for the Department’s decision makers.

To summarize DOE’s recent performance, we are heartened by DOE’s commitment to its schedule, but keeping a good schedule offers little benefit to the nation if DOE continues to set standards that save little energy or leave large, cost-effective energy savings untapped.

B. Opportunities for significant potential energy savings.³

The table below is copied from a report jointly published by my organization and the American Council for an Energy-Efficient Economy (ACEEE) in March 2006. It shows the potential energy savings from various pending DOE proceedings. Based on this analysis, ten regulated product categories offering the greatest potential energy savings are, in descending order: residential central air conditioners and heat pumps; furnace fans; refrigerators; residential furnaces and boilers; electric distribution transformers; fluorescent lamp ballasts; fluorescent lamps; clothes dryers; industrial motors and residential water heaters.

Combined, these various updated standards offer the potential to save nearly 200 billion kilowatt hours per year, an amount roughly equal to 5% of total U.S. electricity use. These savings would result in very large reductions in carbon dioxide emissions. Using projected 2020 emission factors,

³ This section responds to Questions #1 and #2: #1. “In which categories of appliances and equipment is there significant unrealized potential for cost-effective energy efficiency gains that could appropriately be captured through new or improved appliance standards.” #2: “What are the potential gains in energy savings and carbon emission reductions?”

resulting carbon dioxide reductions would be about 165 million metric tons per year, or about 2.2% of projected 2020 U.S. emissions.

There are several reasons to expect that these estimates are too low. The forward march of technology and markets continually generates new opportunities for energy savings. For example, recent announcements by light bulb manufacturers have indicated a potential transition to new light bulb technologies that would save enormous amounts of energy and money. New analysis indicates that further updates to the residential clothes washer standard also could result in large savings. We cannot always predict where the best, most cost-effective savings opportunities will come from. Therefore, it's important that DOE keep up with all of the reviews of existing standards required, no matter where they rank in any ordering. For any given product, DOE can always decide, if warranted, to leave a given standard unchanged.

Potential Savings from DOE Rulemakings

Product	Annual Energy Use	Units	Estimated Savings (%)	Annual Savings Once Stock Turns Over	
				TWh	TBtu
<i>Residential:</i>					
Battery chargers	6	TWh	34%	2	21
Central AC & HP	243	TWh	20%	49	510
Clothes dryers	100	TBtu	10%	NA	10
Clothes dryers	81	TWh	10%	8	84
Dehumidifiers	12	TWh	10%	1	13
Direct heaters	110	TBtu	8%	NA	9
Dishwashers	260	TBtu	11%	NA	28
External power supplies	67	TWh	7%	5	51
Freezers	19	TWh	10%	2	20
Furnaces & boiler effic.	4,907	TBtu	5%	NA	221
Furnace fans	56	TWh	49%	28	287
Pool heaters	82	TBtu	19%	NA	16
Ranges & ovens	287	TBtu	13%	NA	36
Refrigerators	85	TWh	25%	21	222
Room AC	27	TWh	9%	3	26
Water heaters	1,386	TBtu	4%	NA	54
Water heaters	116	TWh	2%	3	26
<i>Commercial:</i>					
Beverage vending machines	10	TWh	10%	1	11
Boilers	584	TBtu	3%	NA	18
Clothes washers	20	TBtu	21%	NA	4
Distribution transformers	75	TWh	27%	20	209
Fluorescent ballasts	227	TWh	7%	16	171
Fluorescent lamps	227	TWh	5%	11	118
Gen'l service incand. lamps	65	TWh	5%	3	34
Ice-makers	7	TWh	10%	1	8
Incand. reflector lamps	38	TWh	17%	6	66
Motors	403	TWh	2%	8	84
PTACs/PTHPs	13	TWh	13%	2	17
Reach-in refrig. & freezers	13	TWh	30%	4	40
Supermarket refrigeration	25	TWh	20%	5	51
TOTAL			Electricity	198	2,068
			Fuels		395
Grand total					2,463

Notes:

* Annual energy use for 2020 from EIA (2005) if available; otherwise used best available current year figures.

* Percentage savings from DOE and ACEEE analyses; these are very approximate preliminary estimates.

C. Recommendations for strengthening the federal appliance standards program.⁴

We recommend several reforms which we believe would enhance the ability of DOE to establish standards that better meet the law's goal of maximizing cost effective energy savings.

Recommendation #1. Authorize DOE to establish limited regional standards for heating and cooling products.

DOE's rulemaking analyses for furnaces and central air conditioners have thoroughly, but not surprisingly, demonstrated that different minimum standards make sense in different regions of the country. But DOE concluded in the current furnace docket that it lacks legal authority to set regional standards. In the recent Notice of Proposed Rulemaking for residential furnace standards, DOE invited cold weather states to apply for waivers from federal preemption. But a state-by-state waiver process is very slow and uncertain for the states and, if successful, would result in precisely the patchwork of standards that manufacturers most dislike. Regional standards established on a federal level would provide larger energy and dollar savings and improved regulatory certainty. Such regional standards have existed for manufactured homes (with respect to energy use, roof strength and wind resistance) since 1978. The manufactured home standards, administered by HUD, rely on manufacturer labeling and state-level enforcement of the federal requirements. States already routinely adopt federal appliance standards into state building codes (they are preempted from adopting any other standards), so the state-based enforcement system is already in place for regional appliance standards. In our view, Congress should permit up to three regional standards, far fewer than might result from a variety of individual state waiver requests.

⁴ "How should Federal law or policy be changed to establish such standards without delay, either in general or for a particular category of appliance or equipment?"

Such a limited regional approach properly balances the needs of different regions with the manufacturer need to avoid a patchwork of standards across the many states.

Recommendation #2. Authorize DOE to apply multiple efficiency measures to a single product.

DOE should have the authority to use multiple efficiency measures in a single product standard provided multiple efficiency measures are needed to adequately capture a product's energy performance. In the case of the boiler agreement, DOE claims the law tied its hands with respect to setting the flexible standards preferred by stakeholders. We think it important that DOE be permitted to exercise such authority in the future, whether or not a consensus agreement exists. Several other products already are subject to multiple standard requirements set by Congress including commercial clothes washers, ceiling fans and heat pumps. As required by the underlying law, DOE would be obligated take any manufacturer impacts into account.

Recommendation #3. Require DOE to conduct a furnace fan rulemaking.

Congress authorized DOE to consider furnace fan efficiency standards in 2005, but the Department subsequently chose not to schedule a rulemaking. Given the very large potential savings from this technology and the Department's history of delays, we think it imperative that the Congress give DOE a hard deadline for action of no later than December 31, 2012. We estimate that this rulemaking could save up to 13 billion kilowatt hours per year and net consumers more than \$4.1 billion cumulatively.

D. The relationship between Federal and State appliance efficiency standard-setting

programs.⁵

Historically, state standards have driven adoption of strong federal standards. Once federal standards are established, state standards are generally preempted. In return, the federal government takes on the obligation to keep those standards up-to-date. However, the law requires zero to two reviews, but preempts states forever. This structure fails to account for further technical advances and it fails to deliver on the Federal government's obligation to actively monitor and update an area where it preempts the states.

Recommendation #4: Require regular reviews of all appliance standards. DOE should be required to review all standards every 5 years to determine if a full rulemaking which could lead to a revised standards is warranted. Because DOE rulemakings take three years to complete, such a review schedule would lead to changes in a standard no more frequently than every 8 years. DOE should also review all test procedures periodically. In a nutshell, as long as the states are preempted, DOE should be obligated to keep the standards up-to-date.

Recommendation #5: Sunset preemption if DOE misses deadlines. If DOE misses future deadlines for final rules, preemption of state standards should expire, only to return when DOE puts a revised final standard into effect. This principle was agreed to by manufacturer groups for some standards included in EPCACT 2005 and should now be more broadly applied. The potential for preemption to expire will increase the pressure on DOE and all stakeholders to work diligently to ensure the agency meets such deadlines.

⁵ What should the relationship be between Federal and State appliance efficiency standard setting programs?

Recommendation #6: Clarify that preemption only applies when there is a federal standard.

Federal law should not preempt state standards in those instances where DOE has failed to or chosen not to exercise its authority. In general, if the federal government has not occupied the field by setting a standard, the authority should remain with the states. In some instances, manufacturers have argued that the *potential* inclusion by DOE of a product in a standard triggers preemption. Congress should make clear that no federal standards = no federal preemption. DOE should not be in a position to shield products from state standards by including products in the federal program, but not setting any standard.

E. Consensus standards (responds to question #5).⁶

Congress has a long history of enacting technical standards based upon consensus recommendations from stakeholders. This practice grew out of delays in the standards program dating from the 1970s and 80s and has been reinforced by the more recent delays. Consensus standards for a variety of products were enacted by Congress in 1986, 1987, 1988, 1992 and 2005. We recommend Congressional adoption of an additional six consensus standards in 2007 affecting the following products:

- Residential clothes washers
- Residential dishwashers
- Dehumidifiers
- Incandescent reflector lamps
- Motors
- Residential boilers

We further recommend that Congress adopt consensus recommendations for firm deadlines for the

⁶ “Should Congress directly legislate appliance standards that have achieved consensus of stakeholders? If so, which ones?”

next reviews of the residential refrigerator, clothes washers and dishwasher standards. It is also possible that ongoing negotiations may result in one or more major additional consensus recommendations in the near future.

F. Incentives for new consensus standards.⁷

DOE's failures to get standards completed in a timely way have caused many, including my organization, to look to negotiated standards which can be enacted by Congress as an alternative. However, it is a mistake to view negotiated standards as a substitute for a fully working DOE regulatory process for two reasons. First, negotiations only occur when there is a credible possibility that standards will be completed through DOE's normal regulatory process. Absent a functioning process, many stakeholders have no incentive to negotiate. Second, if the DOE process is working well, negotiations should not be necessary: it is DOE's job to set cost effective standards that meet the legal criteria. DOE should not be looking to private stakeholders to sort out its obligations under the statute.

In some cases, negotiated standards can offer more flexibility than DOE's processes. Such flexibility can result in larger energy savings, lower costs for manufacturers and more benefits for consumers. However, we expect that those new standards determined through consensus agreements will be the exception rather than the rule. Rather, most standards should be determined through DOE's processes.

⁷ "Are appropriate incentives in place to encourage the achievement of new or improved standards by stakeholder consensus."

G. Expedited process.⁸

An expedited process should not be viewed as a panacea. The number of consensus recommendations will be limited and, under the best of circumstances, a shortened process might result in completion of a standard 12 months sooner than could otherwise be accomplished. Nevertheless, we do support providing for an expedited process. This idea was first proposed by DOE. An improved version of DOE's original proposal would provide for consensus proposals to be considered earlier in the rulemaking process while still protecting all stakeholders' access to open and fair government processes and maintaining DOE's obligation to respond to substantive comments on a formal rulemaking record.

⁸ "Should Congress amend the law to adopt a more expedited procedure or to modify current criteria by which the Department of Energy establishes new or revised appliance efficiency standards by rule? If so, how should the updated procedure differ as a function of whether or not a new standard has achieved stakeholder consensus?"