

**Joint Stakeholders Comments on
Energy Conservation Standards for Residential Central Air Conditioners,
Heat Pumps (Docket No. EERE-2008-BT-STD-0006/RIN 1904-AB47) and
Residential Furnaces (Docket No. EE-RM/STD-01-350/RIN 1904-AA78)**

January 15, 2010

*Air-Conditioning, Heating, and Refrigeration Institute
American Council for an Energy-Efficient Economy
Alliance to Save Energy
Appliance Standards Awareness Project
Natural Resources Defense Council
Northeast Energy Efficiency Partnerships*

1. Introduction and Overview

The Joint Stakeholders are pleased to present to the Department of Energy (DOE) the results of successful negotiations which resulted in an agreement (“the Joint Proposal” or “joint proposed standard”) on federal minimum energy conservation standards for residential central air conditioners, heat pumps and furnaces. The Joint Stakeholders urge DOE to issue direct final rules incorporating the standards and effective dates contained in the Joint Proposal pursuant to 42 U.S.C. § 6295 (p)(4) as soon as possible and not later than August 2010. The Joint Stakeholders are representative of relevant points of view concerning federal minimum efficiency standards for the subject products and, as discussed more fully below, the recommended standards are in accordance with the provisions of 42 U.S.C. § 6295(o).

Under the agreement (see Attachment 1), the U.S. is divided into 3 regions: (1) the north, comprising states with population-weighted heating degree days (HDD) equal to or greater than 5000; (2) the south, comprising states with population-weighted HDD less than 5000; and the southwest (see Attachment 2). The proposed consensus federal minimum energy efficiency standards are shown in Table 1. In the north, most furnaces will be required to have an efficiency of 90%. This is a change from the current national standard of 78%. In the south, central air conditioners will be required to have a SEER of 14, up from the present national requirement of 13 SEER. Heat pump and oil furnace standards will rise on a nationwide basis, for reasons explained later. The standards apply to residential single-phase air conditioners and heat pumps less than 65,000 Btu/h of cooling capacity (except through-the-wall and small duct high velocity products, which are not included in this agreement), and single-phase weatherized and non-weatherized forced-air furnaces (including mobile home furnaces) below 225,000 Btu/h heat input. For split air conditioners, minimum EER values also are specified for the states of Arizona, California, Nevada, and New Mexico.

Table 1: Minimum Federal Standards

System Type	≥ 5000 HDD	< 5000 HDD	CA/AZ/NM/NV
Split A/C	13 SEER	14 SEER	14 SEER /12.2 EER <45,000 Btu/h 14 SEER /11.7 EER ≥45,000 Btu/h
Split HP	14 SEER /8.2 HSPF	14 SEER /8.2 HSPF	14 SEER /8.2 HSPF
Package A/C	14 SEER	14 SEER	14 SEER/11.0 EER
Package HP	14 SEER/8.0 HSPF	14 SEER/8.0 HSPF	14 SEER/8.0 HSPF
Gas-Pack (weatherized)	14 SEER/81% AFUE	14 SEER/81% AFUE	14 SEER/81% AFUE
Gas Furnaces (non- weatherized)	90% AFUE	80% AFUE	80% AFUE
Oil Furnaces (non- weatherized)	83% AFUE	83% AFUE	83% AFUE

SEER = seasonal energy efficiency ratio; EER = energy efficiency ratio; HSPF = heating seasonal performance factor; AFUE = annual fuel utilization efficiency.

The proposed standards would take effect in 2013 for non-weatherized furnaces, two and a half years ahead of the effective date of the 80% AFUE standard published by DOE in 2007¹ and several years ahead of the new standards that DOE intends to promulgate by May 1, 2011.² For central air conditioners, heat pumps and weatherized furnaces, the standards will take effect in 2015, a year ahead of the planned effective date under the current DOE rulemaking. As part of the joint agreement, we recommend that the effective date for the next DOE rulemaking iteration of the above standards will be January 1, 2019 for non-weatherized furnaces and January 1, 2022 for air conditioners/heat pumps and weatherized furnaces. This schedule represents a substantial acceleration of the next effective date relative to the dates by which DOE would be statutorily required to complete and implement the next final rule. These accelerated effective dates have the potential to result in considerable additional savings.

According to our analysis, the proposed standards would save approximately 3.0 quads of primary energy by 2030. These energy savings will result in annual greenhouse gas emission reductions of about 18 million metric tons of CO₂ in 2030, an amount equal to that produced by approximately 3.3 million cars every year. Under the Joint Proposal, the new standards would raise the minimum efficiency of residential central air conditioning systems in the south by about 8 percent and furnaces in the north by about 13 percent, and would result in a five percent reduction of the total heating energy load and a 6 percent reduction of the total cooling energy load in 2030.

The Joint Stakeholder agreement also includes two additional features that increase energy

¹ 72FR65136, November 19, 2007

² On April 15, 2009, DOE filed a motion with the Second Circuit Court of Appeals for voluntary remand of the final rule on residential furnaces indicating that it will publish a revised final rule no later than May 1, 2011.

savings. First, the Joint Stakeholder agreement would seek amendments to the Energy Policy and Conservation Act (EPCA) to allow building codes to provide for building energy budgets and baseline building designs to include covered equipment having an efficiency greater than the federal minimum standard, up to specified levels, as long as at least one option is made available to meet the code through the use of covered equipment at the federally established minimum level. The Joint Stakeholder agreement sets new construction/major renovation standards for each region that states may incorporate into their building codes. These are summarized in Table 2. The building code provision alone is expected to save an additional 0.7 quads of primary energy by year 2030.

Second, the Joint Stakeholder agreement requests DOE, as part of the next rulemakings on central air conditioners and furnaces, to convene meetings of interested stakeholders to develop consensus on adding additional energy efficiency metrics for central air conditioners, heat pumps and furnaces. In the event that consensus is not reached within one year, DOE will have the authority to consider additional efficiency metrics, provided that DOE concludes that the benefits of adding one or multiple metrics substantially exceed the burdens.

Table 2: Energy Efficiency Standards for Performance-Based Building Codes (for new construction and significant-up sizing only)

System Type	≥ 5000 HDD	< 5000 HDD	CA/AZ/NM/NV
A/C	14 SEER	15 SEER	15 SEER /12.5 EER <45,000 Btu/h 15 SEER /12.0 EER ≥45,000 Btu/h
HP	15 SEER /8.5 HSPF	15 SEER /8.5 HSPF	15 SEER /8.5 HSPF
Gas Furnaces	92% AFUE	90% AFUE	92% AFUE
Oil Furnaces (non-weatherized)	85% AFUE	85% AFUE	85% AFUE

Both of these provisions most likely will require Congressional action and the Joint Stakeholders have agreed to jointly advocate these legislative changes.

There are several notable benefits and features of this joint standards agreement. By proposing standards for residential furnaces and central air conditioners with respective effective dates of 2013 and 2015, the joint proposed standards will start saving energy several years ahead of any standards established under the schedule which would apply if DOE adheres to the specific lead times in the statute.³ In addition, the Joint Stakeholder agreement strikes a balance between the desire for greater state and regional flexibility and the need for a uniform marketplace. Also, manufacturers will have at least three years to prepare for these major changes. A preparation period of this length is particularly important in light of the challenges many of these manufacturers are facing as they prepare for the phase out of R-22 and for new standards on commercial air conditioners and heat pumps in 2010. With this timing, the significant investment and redesign can be addressed after the major 2010 changes are implemented, thus allowing time and resources for manufacturers to innovate and find and optimize products and processes to meet the standard. The levels of the proposed standard have been chosen in order to

³ By law, this iteration of furnace standards “shall apply to products manufactured on or after January 1, 2002” and this iteration of the air conditioner standard “shall apply to products manufactured on or after January 1, 2006.” DOE has in the past sought to maintain the lead time between final rule and compliance date, even when final rules are late. We believe, in this instance, that the statute permits the lead time we recommend.

maintain diversity of design approaches and engineering flexibility. Attachment 3 is proposed regulatory language agreed to by the Joint Stakeholders for modification to 10 C.F.R 430.32. This proposal is fully consistent with the requirements of EPCA, as is discussed in section 6 of these comments. The Joint Stakeholders believe the standards in this joint proposal represent the maximum standards which are technological feasible and economically justified.

2. The Joint Stakeholders to the Agreement

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of heating, cooling, and commercial refrigeration equipment. AHRI's 300+ member companies account for more than 90 percent of the residential and commercial air conditioning, space heating, water heating, and commercial refrigeration equipment manufactured and sold in North America. AHRI is an internationally recognized advocate for the industry, and develops standards for and certifies the performance of many of the products manufactured by our members. The air conditioner and furnace manufacturers active in the discussions and which support the agreement are listed at the end of these comments. AHRI has been active in the national appliance standards program since its inception.

The American Council for an Energy Efficient Economy (ACEEE) is a nonprofit, non-partisan, organization dedicated to advancing energy efficiency as a means of promoting economic prosperity, energy security, and environmental protection. ACEEE fulfills its mission by conducting in-depth technical and policy assessments; advising policymakers and program managers; working collaboratively with businesses, public interest groups, and other organizations; publishing books, conference proceedings, and reports; organizing conferences and workshops; and educating consumers and businesses. ACEEE has been involved in furnace and air conditioner standards since their inception. We have led air conditioner research for DOE's STAC program, have worked with many states and utilities on design of voluntary incentive programs, and have participated in all DOE rulemakings on these products.

The Alliance to Save Energy (ASE) a coalition of prominent business, government, environmental, and consumer leaders who promote the efficient and clean use of energy worldwide to benefit consumers, the environment, economy, and national security."

The Appliance Standards Awareness Project (ASAP) is a coalition group dedicated to advancing cost-effective energy efficiency standards for appliances and equipment. ASAP works at both the state and federal levels and is led by a Steering Committee with representatives from consumer groups, utilities, state government, environmental groups and energy-efficiency groups.

The Natural Resources Defense Council is a national environmental advocacy organization with over 1.3 million members and online activists. NRDC has spent decades working to build and improve DOE's federal appliance standards programs because of the important energy, environmental, consumer and reliability benefits of appliance efficiency standards. NRDC participated in the enactment of the first federal legislation establishing efficiency standards, and has been active in all significant rulemakings since then.

Northeast Energy Efficiency Partnerships (NEEP) is a regional non-profit organization that works to promote the efficient use of energy in homes, buildings and industry in the Northeast U.S. NEEP strives to overcome barriers to efficiency through strategic regional collaboration of public policies and programs.

Other parties to the agreement include: the California Energy Commission (CEC) and members of the AHRI Unitary Small Equipment, Furnace and Ductless Sections as listed in Attachment 4

All of these groups have been stakeholders in DOE standards, research and development, utility incentive and demand side management activities, with many of these groups active for twenty years or more. These Joint Stakeholders represent a broad spectrum of interests and points of view.

3. Rationale for Negotiations

The Joint Stakeholders entered into informal discussions on residential central air conditioners, heat pumps and furnaces for several reasons. First, it was thought that a negotiation, if successful, would allow DOE to proceed to a proposed and final rule more quickly than through the normal, more adversarial procedures. Second, informal discussions allow stakeholders to develop creative approaches, both regulatory and non-regulatory, which are more difficult to develop and discuss in normal notice and comment rulemaking. The Joint Stakeholders believe that these goals were achieved and will be borne out in the promulgation of rules based on the Joint Proposal and the implementation of these rules as federal minimum energy efficiency standards.

The Department of Energy has encouraged stakeholders in the past to consider informal discussions which could result in a consensus agreement. Furthermore, in 2007, Congress amended EPCA to expedite the rulemaking process by authorizing DOE to issue direct final rules establishing new energy conservation standards upon receipt of joint stakeholders' proposals.

The Joint Stakeholders entered into such discussions based on Section 42 U.S.C. § 6295(p) of EPCA and Section 8 of the July 1996 Process Improvement Rule, 10 C.F.R., Part 30, Subpart C, Appendix A. The Process Improvement Rule states that the Department supports efforts by groups of interested parties to develop and present consensus recommendations on proposals for new or revised standards as an effective mechanism for balancing the economic, energy and environmental interests affected by standards. This rule states that, notwithstanding any other policy on selection of proposed standards, consensus recommendations on an updated efficiency level determined and submitted by a group that represents all interested parties would be proposed by the Department of Energy if it is determined to meet the appropriate statutory criteria.

The Joint Stakeholders proposal satisfies the criteria of the law and the Process Improvement Rule. It indicates a consensus on standards which are currently the maximum level which is

technologically feasible and economically justified. As discussed in section 6, below, it should be accepted as the basis for a direct final rule.

4. The Negotiation Process

The parties' discussions commenced in the spring of 2008 and initially dealt only with residential furnaces. Consensus could not be reached but communications continued. In the fall of 2008 discussions resumed and were expanded to include residential central air conditioners and heat pumps. Including both furnaces and central air conditioners together allowed the different parties to make compromises that resulted in this overall agreement. Agreement was reached in July 2009, and the Joint Stakeholders announced the consensus at a public event on October 13, 2009.

Discussions were held and empirically-based proposals were made, relying on industry shipment data and models listed in the AHRI directory of certified equipment. These data and listings were considered and used by the parties in developing the Joint Proposal. The Joint Stakeholders proposal is supported and economically justified, applying the relevant criteria in EPCA (see section 6). The discussions and the Joint Proposal, however, specifically relate only to residential furnaces, central air conditioners and heat pumps rulemakings and create no precedent for other DOE appliance standards actions.

5. The Joint Stakeholders Proposal

The Joint Stakeholder agreement is appended as Attachment 1 and detailed legislative/regulatory language as Attachment 3. The agreement contains three major components – geographic regions, effective date, and standard levels.

As noted above, the agreement establishes for the first time regional standards for residential furnaces, central air conditioners and heat pumps. For furnaces, the country is divided into two regions at the 5000 population-weighted heating degree days (HDD) line. The 5000 HDD line was chosen because it divides the country approximately in half, reflects a point above which (for furnaces) and below which (for central air conditioners) higher efficiency levels are clearly cost-effective, and generally avoids splitting major metropolitan areas (making logistics easier). The minimum federal standard will be 90% AFUE in the north. In the south (less than 5000 HDD), the standard will be 80% AFUE. Standards for non-weatherized oil furnaces and weatherized gas furnaces are set for the entire U.S. at 83% and 81% AFUE respectively. This is a change from the current national standard of 78%. Oil furnaces are primarily sold in the north; sales are too low in the south to justify the burdens of different standards. Likewise, weatherized gas furnaces are more commonly sold in the south; sales are low enough in the north to justify the burdens of different standards.

For split air conditioners, the U.S. is divided into 3 regions: (1) the north, comprised of states with population-weighted HDD equal to or greater than 5000; (2) the south, comprised of states with population-weighted HDD less than 5000; and the southwest, comprised of Arizona,

California, Nevada, and New Mexico. The same line 5000 HDD line is proposed for both central air conditions and furnaces, for the reasons discussed above, and also because having the same zones makes it easier for manufacturers, wholesalers and distributors to track and stock products. In the south, central air conditioners will be required to have a SEER of 14, up from the present national requirement of 13 SEER. In the north, the 13 SEER standard is maintained for split air conditioners. Also, for the first time minimum EER values are specified for split air conditioners in the states of Arizona, California, Nevada, and New Mexico. These are hot dry states where peak performance, as measured with EER, is especially important. Heat pump standards will rise on a nationwide basis to 14 SEER/8.2 HSPF for split systems and 14 SEER/8.0 HSPF for single-package systems. Heat pumps have a single national level because cooling loads drive the need for high efficiency in the south, while heating loads drive the need for high efficiency in the north. HSPF is a little lower for single-package units because of the difficulties achieving higher efficiencies in a single-package design. These standards apply to residential single-phase air conditioners and heat pumps less than 65,000 Btu/h of cooling capacity (except through-the-wall and small duct high velocity systems) products), and single-phase weatherized and non-weatherized forced-air furnaces (including mobile home furnaces) below 225,000 Btu/h heat input. For through-the-wall and small duct high velocity systems, we have not developed consensus efficiency levels and instead request DOE to complete a regular rulemaking for these products.

The standards effective dates are May 1, 2013 for residential non-weatherized furnaces and January 1, 2015 for residential central air conditioners and heat pumps. Thus, the Joint Stakeholders proposal allows earlier effective dates than what may otherwise be likely under the current rulemakings schedules. Manufacturers believe these dates provide adequate time for them to change products and production plans.

Our consensus agreement also seeks amendments to the SEER test procedure for residential central air conditioners and heat pumps to calculate the SEER and HSPF based on temperature bin data for single-speed, two-capacity and variable-speed compressor systems. The temperature bins will range from 67°F to 117°F. The fraction of the cooling season in each bin shall be based on a population-weighted calculation with the most recently available temperature bin-hour data for the continental U.S. AHRI will establish a technical committee to define the amended test procedure. Efficiency advocates will be provided a seat on the technical committee. However, for purposes of the 2015 standards, there should be no multiple ratings of the same equipment for different climate zones. A joint proposal will be submitted to DOE and Congress calling on DOE to publish by July 1, 2011, the new test procedure.

To further aid contractors and consumers in selecting the most appropriate equipment, manufacturers agree to make the sensible heat ratio (SHR) at 82°F (at the rated airflow) available in their technical literature and websites so as to make these data more accessible to contractors and consumers. However, the SHR will not be verified or certified by AHRI. Manufacturers also agree to make available to contractors, program operators and software vendors estimated equipment performance data as a function of temperature bin, so that equipment performance can be modeled using local weather data. We believe this will be valuable, but make no estimates of savings attributable to the use of these data. No DOE action is required with respect to this provision.

The proposed standards are designed to achieve substantial savings relative to the current federal standards, close to 3.0 quads by year 2030. While the proposed standards will result in substantial energy savings, these standards also allow a little “headroom” for voluntary programs to promote moderately higher levels of performance. Many manufacturers of this equipment earn an important share of their profits from high-efficiency value-added units. Therefore, some “headroom” for value-added sales is critical to prevent substantial adverse impacts on manufacturers and the proposed agreement provides this headroom.

6. Compliance with EPCA Requirement

The Joint Proposal comports fully with the standards setting criteria in EPCA and has been set to achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified as required by Section 325(o) of EPCA, 42 U.S.C. § 6295(o). The Proposal goes far beyond EPCA’s prohibition against standards which increase maximum energy use of a covered product. 42 U.S.C. § 6295(o)(1). The Joint Proposal makes use of current DOE and industry test procedures and, as discussed above, only limited test procedure amendments are needed to implement the proposal.

The Joint Proposal is supported by energy and economic analyses. The Joint Proposal, if promulgated as a standard, results in benefits that exceed the burdens imposed to the greatest extent practicable taking into account the desirability of mitigating manufacturer burdens and allowing for marketplace innovation. 42 U.S.C. § 6295(o)(2)(B)(i).

Below, the Joint Stakeholders detail the ways in which the Joint Proposal meets EPCA test of being the most stringent standard level which is clearly technically feasible and economically justified, taking into account the societal, consumer and manufacturer interests set forth in 42 U.S.C. 6295 (o). Furthermore, the benefits and justification for the standard increase significantly to the extent that the agreed upon standards take into account regional climatic differences.

a. Economic Impact to Consumers

The Joint Stakeholders believe that the Joint Proposal's economic effect on consumers is justified as required by 42 U.S.C. § 6295(o)(2)(B)(i)(I). According to the Joint Stakeholders’ analysis, the proposed standards will result in net economic savings to consumers over the analysis period of \$13 billion with a 4.5% real discount rate. This analysis included, consistent with the process rule, consideration of variations in energy usage and energy prices between consumers and regions. In accordance with the process rule, DOE may need to run additional sensitivity analyses using several energy price forecasts. However, it is difficult to incorporate the full range of design options in such analyses. As one example, much higher SEER levels require more sophisticated technologies. The costs of these compete with the costs of alternative features that might save energy in ways that are not reflected in the federal ratings, such as automated self-diagnostics and optimized humidity control. Both might lead to substantial operational savings.

b. Economic Impact on Manufacturers

The Joint Stakeholders agree that the Joint Proposal will have acceptable impacts on manufacturers. This conclusion is endorsed by all of the manufacturers signing this agreement, including both large and small manufacturers. All manufacturers now produce some models that meet the proposed standards. Manufacturers will need to invest to improve efficiency of their remaining models. Furthermore, the fact that manufacturers have a minimum of three years to prepare for the standards, and the fact that the Joint Proposal preserves some headroom for value-added products, helps to mitigate the burden on manufacturers.

However, while the impacts on manufacturers are “acceptable” at the proposed standard, at higher efficiency levels significant adverse economic impacts on manufacturers will occur. Investments will be higher for higher levels of efficiency, investments that may be difficult for manufacturers to recoup. Further, if the standards are set at a higher level such as 15 SEER or 92% AFUE, it will be very difficult for manufacturers to produce value-added equipment that exceeds the federal standard. DOE has in previous rulemakings found that many manufacturers count on sales of value-added units for an important share of their profits. Without these value-added units, many manufacturers would suffer significant adverse consequences.

The Joint Stakeholders include virtually all manufacturers of equipment covered by this standard. Therefore, the Joint Stakeholders believe that the collective statement of manufacturers that the economic impacts of the Proposal are acceptable should be sufficient to address the Economic Impact on Manufacturers criteria and that DOE does not need to conduct a more detailed manufacturer impact assessment. We believe that a more detailed analysis would be an unnecessary use of DOE and manufacturer resources and time. While we strongly urge that DOE not conduct its detailed manufacturer impact assessment, if DOE decides it needs to prepare such an assessment, the Joint Stakeholders are prepared to fully cooperate.

c. Life Cycle Costs

The benefits of the Joint Stakeholder Proposal savings and operating costs over the average estimated life of the covered product exceed the burdens of increase in price to the greatest extent practicable. According to the Joint Stakeholders’ analysis, the average affected household will save about \$260 on a discounted life-cycle cost basis with the proposed standard.

d. Energy Savings

The Joint Stakeholders Proposal would result in total projected energy savings whose benefits exceed burdens to the greatest extent practicable. The Joint Stakeholders’ analysis estimates savings of approximately 3.0 quads of cumulative prime energy by 2030. An additional 0.7 quads of energy will be saved by implementing the building code provisions. The energy savings provided by the Joint Proposal are very significant.

e. Lessening of Utility or Performance or Availability of Products

The Joint Stakeholders Proposal will provide no significant lessening of utility or

performance or availability of the covered products as prohibited by EPACT under the so-called “safe harbor” exception. 42 U.S.C. § 6295 (o)(2)(B)(IV). The Joint Proposal was specifically designed to maintain product design diversity and utility in the marketplace for residential furnaces, central air conditioners and heat pumps and therefore deals with utility, performance, and availability-related concerns that could have resulted if the standard were set at a different level and/or at a different effective date.

f. Impact of Lessening of Competition

The Joint Stakeholders believe the Proposal would not support a Department of Justice determination that the standard would lead to the likelihood of reduced competition. 42 U.S.C. § 6295 (o)(2)(B)(V). The Proposal was developed in consultation with manufacturers of residential furnaces and central air conditioners, including large, medium and small manufacturers. The Proposal is not expected to limit competition.

Some models that meet the proposed standard are marketed today. The AHRI Directory of certified equipment contains a list of current manufacturers and models that meet the proposed standard, indicating the range of choices currently available. When the standard takes effect, we expect that many more models will be offered as manufacturers upgrade or replace current models that do not meet the proposed standard.

g. Need of the Nation to Conserve Energy

As President Obama and Secretary Chu have stated several times, there are substantial opportunities to cost-effectively reduce energy use in this country, thereby reducing energy bills and emissions of greenhouse gases, and helping to create jobs. Enhanced energy efficiency improves the nation’s energy security, strengthens the economy and reduces the environmental impact of energy production. As noted above, the energy savings from the Joint Proposal will save approximately 3 quads of energy over the 2013-2020 period. These savings will in turn result in reduced emissions of CO₂. The Joint Stakeholders estimate that the Joint Proposal will reduce carbon dioxide emissions in 2030 by about 18.4 million metric tons. These savings do not include the building code provisions which would account for another 4.7 million metric tons of reductions in carbon dioxide emissions in 2030. Without the “bundling” of DOE and legislative changes in this Agreement, these savings will be more difficult to achieve.

h. Other Factors

The Joint Stakeholders Proposal will result in significant reductions in peak electrical demand, helping to address power reliability problems linked to peak demand. We estimate that these standards will reduce peak electric demand by about 18,000 MW in 2030, and even more by 2020 when most of the pre-standard stock will be replaced. The 18,000MW savings are equivalent to 60 typical new power plants of 300 MW each. The Joint Stakeholders estimate that the agreement on building codes will save an additional 7000 MW in 2030.

The Joint Stakeholders Proposal is consistent with the Department’s process improvement rule. The Proposal comports particularly with Section 8 of the Rule, which

encourages efforts by groups of interested parties to develop and present consensus recommendations on proposals for newly revised standards. The proposal is also consistent with 42 U.S.C. § 6295 (p)(4) which directs the Department to give full consideration to proposals submitted jointly by stakeholders and issue a direct final rule.

7. Conclusion

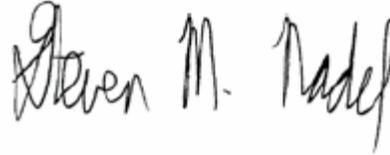
The Joint Stakeholders recommend that the Department issue a direct final rule to amend the standards for residential air conditioners, heat pumps and furnaces in accordance with the proposal in Attachment 1. We believe that the broad consensus in support of the proposed standards will allow DOE to move more quickly to a final rule, avoiding lost energy savings and potentially allowing DOE to speed up other rulemakings. We recommend that the Department issue a final rule by August 2010.

Stephen R. Yurek



President
Air-Conditioning, Heating, and Refrigeration
Institute

Steven M. Nadel



Executive Director
American Council for an Energy-Efficient
Economy

On behalf of:

Air-Conditioning, Heating and Refrigeration Institute
American Council for an Energy-Efficient Economy
Alliance to Save Energy
Appliance Standards Awareness Project
California Energy Commission
Members of the AHRI Unitary Small Equipment, Furnace and Ductless Sections
Natural Resources Defense Council
Northeast Energy Efficiency Partnerships

Attachment 1

Agreement

**Agreement on Legislative and Regulatory Strategy for Amending
Federal Energy Efficiency Standards, Test Procedures, Metrics and Building Code Provisions for
Residential Central Air Conditioners, Heat Pumps, Weatherized and Non-Weatherized Furnaces**

And Related Matters

October 13, 2009

This Agreement records the commitments made by the undersigned representatives of the organizations (collectively, the "Stakeholders") regarding energy efficiency standards, test procedures, metrics and building code provisions for residential central air conditioners, heat pumps, and weatherized and non-weatherized furnaces as well as other issues involving standards addressing preemption of building codes and multiple metrics. The Stakeholders agree to pursue a multipronged approach designed to achieve Congressional and/or regulatory implementation of all the elements contained in the Agreement.

1. The Stakeholders will jointly submit to the United States Congress and, in good faith, advocate that Congress enact the attached proposal (Attachment A) amending the Energy Policy and Conservation Act as it relates to energy conservation standards for residential furnaces (weatherized and non-weatherized), and residential central air conditioners and heat pumps, as well as the federal preemption provisions of section 327 (f) and the definition of an energy conservation standard (i.e. multiple metrics).
2. Concurrently, the Stakeholders will submit to the United States Department of Energy (DOE) a joint proposal that DOE issue a final rule adopting the energy efficiency standards in Table 1 of Attachment A, and will advocate DOE adoption of these standards. The Stakeholders agree that the standards contained in Table 1 of Attachment A address all of the statutory criteria that the Department is required to take into account in promulgating new energy efficiency standards for covered residential air conditioners, heat pumps, and furnaces.
3. Consistent with their goal of implementing the energy efficiency standards described in Table 1 of Attachment A, those Stakeholders that are not entities of a state government (collectively, the "non-government Stakeholders") will not advocate or pursue on their own or through other parties, and will not encourage or support, the development, enforcement, or adoption of state or local energy efficiency standards for split air conditioning, split heat pumps, package air conditioning, package heat pumps, gas packs, gas furnaces, or oil furnaces that are inconsistent with the proposed legislation and regulations including the definitions, standard levels, test procedures, metrics and effective dates.
4. The non-government Stakeholders agree not to attempt to overturn or revise, or to file or support any legal or legislative challenge to, the proposal described in Attachment A. The non-government Stakeholders agree to support DOE in a manner as each one deems to be reasonable and appropriate in defending any legal, legislative, or administrative challenge to a final rule that adopts the proposed standards. This provision will still apply if DOE, on its own volition, adopts a rule that deviates in any particulars, however small, from Attachment A.
5. The Stakeholders commit to work together, in good faith, to advance the legislative and regulatory objectives of this Agreement. Each Stakeholder will respond in good faith to reasonable requests by other Stakeholders for joint action to advance these legislative and regulatory objectives.
6. The Stakeholders will cooperate with each other in the preparation of the press releases and public statements in support of the legislative and regulatory objectives set forth in this Agreement.

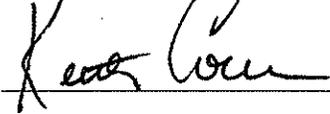
7. Nothing in this Agreement is intended to inhibit in any way efforts by individual Stakeholders to research, develop, or market products to standards that differ from those contemplated by this Agreement, provided such products are in compliance with applicable laws and regulations. Nothing in this Agreement is intended to direct any technical or product design approach to achieving efficiency standards and the parties shall not take any actions to establish any such common approach.

8. This Agreement is hereby agreed to, in counterparts, by the undersigned Stakeholders. To the fullest extent permitted by applicable law, this Agreement binds the undersigned non-government Stakeholders, their employees, their agents, and any successors, and will take effect when all signatures are affixed.

9. The term of this Agreement is from the date of signing until December 31, 2012. One month prior to the expiration of this Agreement, the Stakeholders agree to meet to discuss whether some or all of the provisions should be extended. Notwithstanding the above, if Congress enacts legislation in accordance with this Agreement, the Stakeholders agree that they will not seek to overturn or revise the specific provisions of said legislation covered by this Agreement without the mutual agreement of the other Stakeholders, unless legally required to do so by state statute or state executive order. This last provision shall expire Dec. 31, 2014.

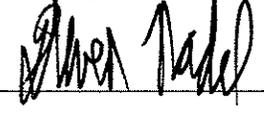
IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized representative hereinafter identified.

**Air-Conditioning, Heating, and Refrigeration
Institute and Desert Aire**

By: 
Keith Coursin, Chairman and President

Date: 10/13/09

**American Council for an Energy-
Efficient Economy**

By: 
Steven Nadel, Executive Director

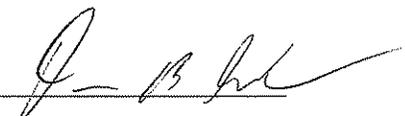
Date: 10/13/09

Alliance to Save Energy

By: 
Kateri Callahan, President

Date: 10/13/09

Natural Resources Defense Council

By: 
David Goldstein, Energy Program Director

Date: 22 Oct 2009

**Northwest Power and Conservation
Council**

By: 
Steve Crow, Executive Director

Date: 10/28/09

Appliance Standards Awareness Project

By: 
Andrew deLaski, Executive Director

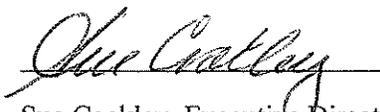
Date: 10/20/09

California Energy Commission

By: 
Karen Douglas, Chairman

Date: 10/30/09

**Northeast Energy Efficiency
Partnerships, Inc**

By: 
Sue Coakley, Executive Director

Date: 11/3/09

Bard Manufacturing Company, Inc

By: Wally Steel
William Steel, President and CEO

Date: 10/13/09

Carrier Residential and Light Commercial Systems

By: Robert McDonough
Robert McDonough, President

Date: 10-13-09

Goodman Global, Inc

By: David L. Swift
David L. Swift, President and CEO

Date: 10/13/09

Lennox Residential

By: Douglas L. Young
Douglas L. Young, President and Chief
Operating Officer

Date: 10-13-09

Mitsubishi Electric & Electronics USA

By: Paul L. Doppel
Paul L. Doppel, Director of Factory
Liaison and Government Affairs

Date: 10-13-09

National Comfort Products

By: Vincent Mucciola
Vincent Mucciola, Sales Manager

Date: 10-13-09

Rheem Manufacturing Company

By: _____
J. R. Jones, President and CEO

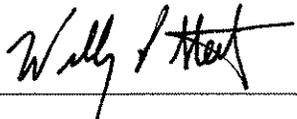
Date: _____

Trane Residential

By: Steve Hochhauser
Steve Hochhauser, President

Date: 10-13-09

Bard Manufacturing Company, Inc

By: 
William Steel, President and CEO
Date: 10/13/09

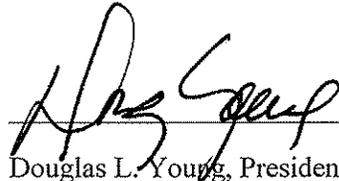
Carrier Residential and Light Commercial Systems

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Robert McDonough, President
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By: 
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Date: 10/13/09

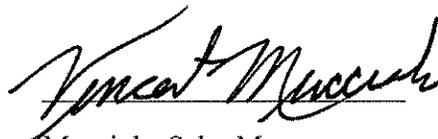
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Liaison and Government Affairs
Date: 10-13-09

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By: 
Vincent Mucciola, Sales Manager
Date: 10-13-09

Rheem Manufacturing Company

By: _____
J. R. Jones, President and CEO
Date: _____

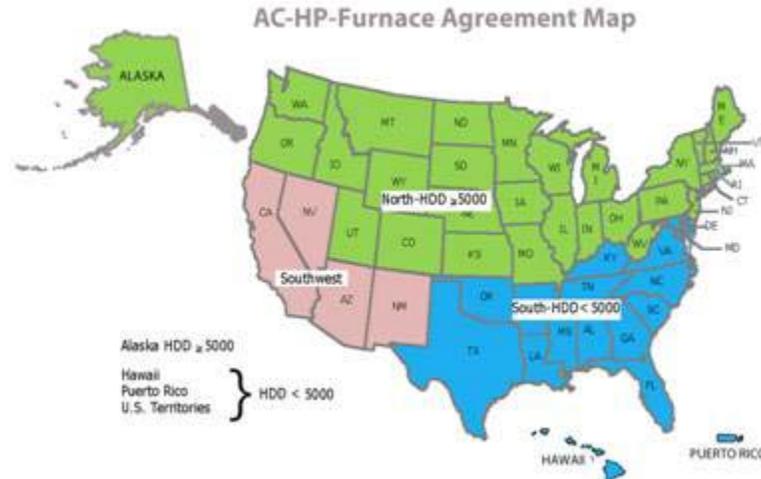
Trane Residential

By: 
Steve Hochhauser, President
Date: 10-13-09

Attachment A

1. Federal Minimum Efficiencies

The U.S. has been divided into 3 regions: (1) the north, comprised of states with a population weighted heating degree days (HDD) equal to or greater than 5000; (2) the south, comprised of states with a population weighted HDD less than 5000; and the southwest, comprised of Arizona, California, Nevada, and New Mexico. The regions are shown on the map below.



The federal minimum energy efficiency standards are shown in Table 1 below. The standards apply to residential single-phase air conditioners and heat pumps less than 65,000 Btu/h of cooling capacity (except through-the-wall and small duct high velocity products), and single-phase weatherized and non-weatherized forced-air furnaces (including mobile home furnaces) below 225,000 Btu/h heat input. For split air conditioners, the minimum EER values also are specified for the states of Arizona, California, Nevada and New Mexico based on a cooling capacity breakpoint of 45,000 Btu/h. DOE shall publish a final rule not later than June 30, 2011, to determine whether standards for through-the-wall and small duct high velocity air conditioners and heat pumps should be adopted and/or amended. Such rule shall provide that any amended standard apply to products manufactured on or after June 30, 2016.

Table 1: Minimum Federal Standards

System Type	≥ 5000 HDD	< 5000 HDD	CA/AZ/NM/NV
Split A/C	13 SEER	14 SEER	14 SEER /12.2 EER <45,000 Btu/h 14 SEER /11.7 EER ≥45,000 Btu/h
Split HP	14 SEER /8.2 HSPF	14 SEER /8.2 HSPF	14 SEER /8.2 HSPF
Package A/C	14 SEER	14 SEER	14 SEER/11.0 EER
Package HP	14 SEER/8.0 HSPF	14 SEER/8.0 HSPF	14 SEER/8.0 HSPF
Gas-Pack (weatherized)	14 SEER/81% AFUE	14 SEER/81% AFUE	14 SEER/81% AFUE
Gas Furnaces (non-weatherized)	90% AFUE	80% AFUE	80% AFUE
Oil Furnaces (non-weatherized)	83% AFUE	83% AFUE	83% AFUE

Effective dates:

- May 1, 2013 for non-weatherized furnaces
- January 1, 2015 for air conditioners & heat pumps, including weatherized furnaces (gas packs)

Effective dates of subsequent standards:

January 1, 2019 for non-weatherized furnaces and January 1, 2022 for air conditioners/heat pumps and weatherized furnaces (gas-packs). DOE shall complete these rulemakings by January 1, 2014 for non-weatherized furnaces and January 1, 2017 for air conditioners/heat pumps and weatherized furnaces.

Specific legislative language is included in Attachment B.

2. Building Codes

Federal preemption rules under the Energy Policy and Conservation Act (EPCA) will be amended to allow building codes to provide for building energy budgets and baseline building designs that include covered equipment having an efficiency greater than the federal minimum efficiency standard, up to specified levels, as long as there is at least one option to meet the code instead through the use of covered equipment at the federal minimum efficiency level. These efficiency levels are listed in Table 2 and described below. The levels could be used as the basis for formulating a baseline building design for use in the performance path of the code. If the building code also offers multiple combinations of items that meet the energy consumption objective, and have covered equipment at levels above the federal standard, there must be a least one combination which includes covered equipment at the level of minimum federal energy efficiency standards and one other combination that includes covered equipment at the levels listed in Table 2. Specific legislative language is included in Attachment B.

These requirements will not apply to simple one-for-one replacement of products in existing buildings that does not result in an increase in capacity of more than 12,000 Btu/h for central air conditioners/heat pumps or more than 20% for other covered products.

Levels for residential furnaces, air conditioners and heat pumps will be specified as listed in Table 2 and will be effective on January 1, 2013. These levels shall be updated in the future through a rulemaking conducted by the Department of Energy (DOE), but any new or amended levels shall not take effect before January 1, 2018. Any new or amended levels must be designed so as to achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified when applied to new construction.

Table 2: Energy Efficiency Standards for Performance-Based Building Codes (for new construction and significant-up sizing only)

System Type	≥ 5000 HDD	< 5000 HDD	CA/AZ/NM/NV
A/C	14 SEER	15 SEER	15 SEER /12.5 EER <45,000 Btu/h 15 SEER /12.0 EER ≥45,000 Btu/h
HP	15 SEER /8.5 HSPF	15 SEER /8.5 HSPF	15 SEER /8.5 HSPF
Gas Furnaces	92% AFUE	90% AFUE	92% AFUE
Oil Furnaces (non-weatherized)	85% AFUE	85% AFUE	85% AFUE

Performance-based codes will allow 14 SEER/8.0 HSPF packaged systems and 81% AFUE weatherized gas furnaces, provided additional efficiency measures are installed to compensate for the difference in energy use between these systems and the corresponding values for the region in Table 2.

3. Test Procedure for Central Air Conditioners and Heat Pumps

The DOE test procedure for residential central air conditioners and heat pumps will be amended to calculate the SEER and HSPF based on temperature bin data for single-speed, two-capacity and variable-speed compressor systems. The temperature bins will range from 67°F to 117°F. The fraction of the cooling season in each bin shall be based on a population-weighted calculation with the most recently available temperature bin-hour data for the continental U.S. AHRI will establish a technical committee to define the amended test procedure. Efficiency advocates will be provided a seat on the technical committee. However, for purposes of the 2015 standards, there should be no multiple ratings of the same equipment for different climate zones. A joint proposal will be submitted to DOE and Congress calling on DOE to publish by July 1, 2011, the new test procedure. Except as provided in item #4, the test procedure will be effective January 1, 2015.

4. Grandfather Existing Equipment

Models of residential air conditioners and heat pumps tested prior to January 1, 2015 and complying with the efficiency requirements of Table 1 or 2 based on testing to the current DOE test procedure may continue to use those efficiency ratings up to a maximum of 3 years from the effective date of the new federal minimum standards (i.e., grandfathering until January 1, 2018). Manufacturers will have the right to use either the old or the new ratings for these “old models” at any time within this three-year window. After January 1, 2015, units using the “old ratings” will be explicitly identified as such.

5. Sensible Heat Ratio and Product Performance Data by Bin

Manufacturers agree to make the sensible heat ratio (SHR) at 82°F (at the rated airflow) available in their technical literature and websites so as to make these data more accessible to contractors and consumers. However, the SHR will not be verified or certified by AHRI. Manufacturers also agree to make available to contractors, program operators and software vendors estimated equipment performance data as a function of temperature bin, so that equipment performance can be modeled using local weather data.

6. Multiple Metrics

As part of the next rulemakings, DOE will be directed to convene meetings of interested stakeholders to develop consensus on adding additional energy efficiency metrics for central air conditioners, heat pumps and furnaces. In the event that consensus is not reached within one year, DOE will have the authority to consider additional efficiency metrics, provided that DOE can justify that the benefits of adding one or multiple metrics substantially exceed the burdens. Specific legislative language is included in Attachment B.

Attachment B

CONSENSUS AMENDMENTS TO THE ENERGY POLICY AND CONSERVATION ACT

(a) DEFINITION OF ENERGY CONSERVATION STANDARD.—Section 321(6) of the Energy Policy and Conservation Act (42 U.S.C. 6291(6)) is amended to read as follows:

“(6) ENERGY CONSERVATION STANDARD.—

“(A) IN GENERAL.—The term ‘energy conservation standard’ means 1 or more performance standards that—

“(i) for covered products (excluding clothes washers, dishwashers, showerheads, faucets, water closets, and urinals), prescribe a minimum level of energy efficiency or a maximum quantity of energy use, determined in accordance with test procedures prescribed under section 323;

“(ii) for showerheads, faucets, water closets, and urinals, prescribe a minimum level of water efficiency or a maximum quantity of water use, determined in accordance with test procedures prescribed under section 323; and

“(iii) for clothes washers and dishwashers—

“(I) prescribe a minimum level of energy efficiency or a maximum quantity of energy use, determined in accordance with test procedures prescribed under section 323; and

“(II) may include a minimum level of water efficiency or a maximum quantity of water use, determined in accordance with those test procedures.

“(B) INCLUSIONS.—The term ‘energy conservation standard’ includes—

“(i) 1 or more design requirements, if the requirements were established—

“(I) on or before the date of enactment of this subclause;

“(II) as part of a direct final rule under section 325(p)(4); or

“(III) as part of a final rule published on or after January 1, 2012, and

“(ii) any other requirements that the Secretary may prescribe under section 325(r).

“(C) EXCLUSION.—The term ‘energy conservation standard’ does not include a performance standard for a component of a finished covered product, unless regulation of the component is specifically authorized or established pursuant to this title.”

(b) Insert new paragraph 325(d)(4) to read as follows:

“(4) Central air conditioners and heat pumps (except through-the-wall central air conditioners, through-the-wall central air conditioning heat pumps, and small duct, high velocity systems) manufactured on or after January 1, 2015

(A) Base national standards

(i) The seasonal energy efficiency ratio of central air conditioners and central air conditioning heat pumps manufactured on or after January 1, 2015, shall not be less than the following:

(I) Split Systems: 13 for central air conditioners and 14 for heat pumps

(II) Single Package Systems: 14

(ii) The heating seasonal performance factor of central air conditioning heat pumps manufactured on or after January 1, 2015, shall not be less than the following:

- (I) Split Systems: 8.2
- (II) Single Package Systems: 8.0

(B) Regional standards

(i) The seasonal energy efficiency ratio of central air conditioners and central air conditioning heat pumps manufactured on or after January 1, 2015, and installed in states having historical average annual, population weighted, heating degree days less than 5000, specifically the States of Alabama, Arizona, Arkansas, California, Delaware, Florida, Georgia, Hawaii, Kentucky, Louisiana, Maryland, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia, or in the District of Columbia, Puerto Rico, or the U.S. Territories shall not be less than the following:

- (I) Split Systems: 14 for central air conditioners and 14 for heat pumps
- (II) Single Package Systems: 14

(ii) The energy efficiency ratio of central air conditioners (not including heat pumps) manufactured on or after January 1, 2015 and installed in the States of California, Arizona, New Mexico or Nevada shall be not less than the following:

- (I) Split Systems: 12.2 for split systems having a rated cooling capacity less than 45,000 BTU per hour and 11.7 for products having a rated cooling capacity equal to or greater than 45,000 BTU per hour
- (II) Single Package Systems: 11.0

(iii) The provisions of paragraph (6) of subsection 325(o) shall apply to the regional standards set forth in this subparagraph.

(C) Amendment of standards

The Secretary shall publish a final rule no later than January 1, 2017, to determine whether the standards in effect for central air conditioners and central air conditioning heat pumps should be amended. Such rule shall provide that any amendments shall apply to products manufactured on or after January 1, 2022.

(D) Consideration of additional performance standards or efficiency criteria

Not later than four years in advance of the expected publication date of a final rule for central air conditioners and heat pumps under subparagraph (C), the Secretary shall convene and facilitate a forum for interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of the covered product, States, and efficiency advocates), as determined by the Secretary, to consider adding additional performance standards or efficiency criteria in the forthcoming rule. If, within one year of the initial convening of such a forum, the Secretary receives a recommendation submitted jointly by such representative interested persons to add one or more performance standards or efficiency criteria, the Secretary shall incorporate such performance standards or efficiency criteria in the rulemaking process, and, if justified under the criteria established in this Section, incorporate such performance standards or efficiency criteria in the revised standard. If no such joint recommendation is made within one year, the Secretary may add additional performance standards or efficiency criteria provided that the Secretary finds that the benefits substantially exceed the burdens of such action.

(E) New construction levels for application to subsection 327(f)

As part of any final rule concerning central air conditioner and heat pump standards published after June 1, 2013, the Secretary shall determine if the building code levels specified in subparagraph 327(f)(3)(C) should be amended subject to meeting the criteria of subsection 325(o) when applied specifically to new construction. Any such amended levels shall not take effect before January 1, 2018. Such final rule shall contain the amended levels, if any.”

(c) Insert new paragraph 325(d)(5) to read as follows:

“(5) Standards for through-the-wall central air conditioners, through-the-wall central air conditioning heat pumps and small duct, high velocity systems

(A) Rulemaking

The Secretary shall publish a final rule not later than June 30, 2011, to determine whether standards for through-the-wall central air conditioners, through-the-wall central air conditioning heat pumps and small duct, high velocity systems should be established or amended. Such rule shall provide that any new or amended standard shall apply to products manufactured on or after June 30, 2016.

(B) Definitions

(i) For the purposes of this paragraph, the terms “through-the-wall central air conditioner” and “through-the-wall central air conditioning heat pump” mean a central air conditioner or heat pump that is designed to be installed totally or partially within a fixed-size opening in an exterior wall, and

(I) is not weatherized;

(II) is clearly and permanently marked for installation only through an exterior wall;

(III) has a rated cooling capacity no greater than 30,000 Btu/hr;

(IV) exchanges all of its outdoor air across a single surface of the equipment cabinet; and

(V) has a combined outdoor air exchange area of less than 800 square inches (split systems) or less than 1,210 square inches (single packaged systems) as measured on the surface area described in clause (IV) of this definition.

(ii) For the purposes of this paragraph the term “small duct, high velocity system” means a heating and cooling product that contains a blower and indoor coil combination that:

(I) is designed for, and produces, at least 1.2 inches of external static pressure when operated at the certified air volume rate of 220-350 CFM per rated ton of cooling, and

(II) when applied in the field, uses high velocity room outlets generally greater than 1000 fpm which have less than 6.0 square inches of free area.

(iii) The Secretary may revise the definitions contained in this subparagraph through publication of a final rule.”

(d) Insert new paragraph 325(f)(5) to read as follows:

“(5) Non-weatherized furnaces (including mobile home furnaces, but not boilers) manufactured on or after May 1, 2013, and weatherized furnaces manufactured on or after January 1, 2015

(A) Base national standards

(i) The annual fuel utilization efficiency of non-weatherized furnaces manufactured on or after May 1, 2013, shall be not less than the following:

- (I) gas furnaces: 80 percent
- (II) oil furnaces: 83 percent

(ii) The annual fuel utilization efficiency of weatherized gas furnaces manufactured on or after January 1, 2015 shall be not less than 81 percent.

(B) Regional standard

(i) The annual fuel utilization efficiency of non-weatherized gas furnaces manufactured on or after May 1, 2013, and installed in states having historical average annual, population weighted, heating degree days equal to or greater than 5000, specifically the States of Alaska, Colorado, Connecticut, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania Rhode Island, South Dakota, Utah, Vermont, Washington, West Virginia, Wisconsin and Wyoming, shall be not less than 90 percent.

(ii) The provisions of paragraph (6) of subsection 325(o) shall apply to the regional standard set forth in this subparagraph.

(C) Amendment of standards

(i) The Secretary shall publish a final rule no later than January 1, 2014, to determine whether the standards in effect for non-weatherized furnaces should be amended. Such rule shall provide that any amendments shall apply to products manufactured on or after January 1, 2019.

(ii) The Secretary shall publish a final rule no later than January 1, 2017, to determine whether the standard in effect for weatherized furnaces should be amended. Such rule shall provide that any amendments shall apply to products manufactured on or after January 1, 2022.

(D) New construction levels for application to subsection 327(f)

As part of any final rule concerning furnace standards published after June 1, 2013, the Secretary shall determine if the building code levels specified in subparagraph 327(f)(3)(C) should be amended subject to meeting the criteria of subsection 325(o) when applied specifically to new construction. Any such amended levels shall not take effect before January 1, 2018. Such final rule shall contain the amended levels, if any. ”

(e) Amend paragraph 327(f)(3) as follows:

Replace existing subparagraphs (B) through (F) with the following:

“(B) The code does not contain a mandatory requirement that, under all code compliance paths, requires that the covered product have an energy efficiency exceeding one of the following levels--

- (i) the applicable energy conservation standard established in or prescribed under section 325;
- (ii) the level required by a regulation of that State for which the Secretary has issued a rule granting a waiver under subsection (d).

(C) If the energy consumption or conservation objective in the code is determined using covered products, including any baseline building designs against which all submitted building

designs are to be evaluated, such objective is based on the use of such covered products having efficiencies not exceeding --

(i) for residential furnaces, central air conditioners and heat pumps, effective not earlier than January 1, 2013 and until such time as a level takes effect for such product under subparagraph (C) (ii) --

(I) for the states identified in clause(i) of subparagraph 325(d)(5)(B), 92% AFUE for gas furnaces and 14 SEER for central air conditioners (not including heat pumps);

(II) for the states and other localities identified in clause (i) of subparagraph 325(d)(4)(B), except for the States of California, Nevada, Arizona and New Mexico, 90% AFUE for gas furnaces and 15 SEER for central air conditioners;

(III) for California, Nevada, Arizona and New Mexico, 92% AFUE for gas furnaces, 15 SEER for central air conditioners, an EER of 12.5 for air conditioners (not including heat pumps) with cooling capacity less than 45,000 Btu per hour, and an EER of 12.0 for air conditioners (not including heat pumps) with cooling capacity of 45,000 Btu per hour or more; and

(IV) for all states, 85% AFUE for oil furnaces, and 15 SEER and 8.5 HSPF for heat pumps;

(ii) the building code levels established pursuant to section 325; or

(iii) the applicable standards or levels specified in subparagraph (B).

(D) The credit to the energy consumption or conservation objective allowed by the code for installing a covered product having an energy efficiency exceeding the applicable standard or level specified in subparagraph (C) is on a one-for-one equivalent energy use or equivalent energy cost basis, which may take into account the typical lifetimes of the products and building features, using lifetimes for covered products based on information published by the Department of Energy or the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

(E) If the code sets forth one or more combinations of items that meet the energy consumption or conservation objective, and if one or more combinations specify an efficiency level for a covered product that exceeds the applicable standards and levels specified in subparagraph (B),

(i) there is at least one combination that includes such covered products having efficiencies not exceeding one of the standards or levels specified in subparagraph (B), and

(ii) if one or more combinations of items specify an efficiency level for a furnace, central air conditioner or heat pump that exceeds the applicable standards and levels specified in subparagraph (B), there is at least one combination that the State has found to be reasonably achievable using commercially available technologies that includes such products having efficiencies at the applicable levels specified in subparagraph (C), except that no combination need include a product having an efficiency less than the level specified in subparagraph (B)(ii).

(F) The energy consumption or conservation objective is specified in terms of an estimated total consumption of energy (which may be specified in units of energy or its equivalent cost)."

(f) In subparagraph (B) of paragraph 327(f)(4), after the words "building code" insert the following: "contains a mandatory requirement that, under all code compliance paths,".

(g) In subparagraph (B) of paragraph 327(f)(4), place a period after the word “applicable” the third time it appears and delete the remainder of the subparagraph.

(h) Add new paragraph 327(f)(5) to read as follows:

“(5) Paragraph (3) shall not apply to the replacement of a covered product serving an existing building unless the replacement results in an increase in capacity greater than 12,000 Btu per hour for residential air conditioners and heat pumps, or greater than 20 percent for other covered products.”

Attachment 2

Assignment of States to Regions

Under the agreement (see Attachment 1), the U.S. is divided into 3 regions: (1) the north, comprising states with population-weighted heating degree days (HDD) equal to or greater than 5000; (2) the south, comprising states with population-weighted HDD less than 5000; and (3) the southwest.

Northern States, those with population-weighted heating seasons colder than 5000 HDD, are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, West Virginia, Ohio, Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Montana, Wyoming, Colorado, Idaho, Washington, and Oregon (listed from NE to Western).

Southern States, those with population-weighted heating seasons warmer than 5000 HDD, are Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas, New Mexico, Arizona, Nevada, and California.

For central air-conditioners and heat pumps, *Southern States* are those listed above except that New Mexico, Arizona, Nevada, and California are excluded, belonging instead to *Southwestern States*.

For central air-conditioners and heat pumps, *Southwestern States* are New Mexico, Arizona, Nevada, and California.

Attachment 3

Regulatory Language

§430.32(c)(3) Central air conditioners and central air conditioning heat pumps manufactured on or after January 1, 2015, shall have Seasonal Energy Efficiency Ratio and Heating Seasonal Performance Factor (based on Region IV) no less than:

<u>Product class</u>	<u>Seasonal energy efficiency ratio (SEER)</u>	<u>Heating seasonal performance factor (HSPF)</u>
(i) Split system air conditioners	13	
(ii) Split system heat pumps	14	8.2
(iii) Single package air conditioners	14	
(iv) Single package heat pumps	14	8.0

§430.32(c)(4) Central air conditioners and central air conditioning heat pumps (both split systems and single package systems) manufactured on or after January 1, 2015, and installed in the States of Alabama, Arizona, Arkansas, California, Delaware, Florida, Georgia, Hawaii, Kentucky, Louisiana, Maryland, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia, or in the District of Columbia, Puerto Rico, or the U.S. Territories shall have Seasonal Energy Efficiency Ratio no less than 14.

§430.32(c)(5) Central air conditioners (not including heat pumps) manufactured on or after January 1, 2015, and installed in the States of California, Arizona, New Mexico or Nevada shall have Energy Efficiency Ratio (at a standard rating of 95 degrees F db outdoor temperature) no less than the following:

<u>Product class</u>	<u>Energy efficiency ratio (EER)</u>
(i) Split system rated cooling capacity less than 45,000 Btu/hr.	12.2
(ii) Split system rated cooling capacity equal to or greater than 45,000 Btu/hr.	11.7
(iii) Single package systems	11.0

§430.32(e)(1)(ii) The AFUE of residential non-weatherized furnaces (including mobile home

furnaces, but not boilers) manufactured on or after May 1, 2013, shall be not less than the following:

<u>Product class</u>	<u>AFUE (percent)</u>
(i) gas furnaces	80
(ii) oil-fired furnaces	83

§430.32(e)(1)(iii) The AFUE of residential non-weatherized furnaces (including mobile home furnaces, but not boilers) manufactured on or after May 1, 2013, and installed in the States of Alaska, Colorado, Connecticut, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania Rhode Island, South Dakota, Utah, Vermont, Washington, West Virginia, Wisconsin and Wyoming, shall be not less than 90 percent.

§430.32(e)(1)(iv) The AFUE of residential weatherized gas furnaces manufactured on or after January 1, 2015, shall be not less than 81 percent.

Attachment 4

Members of the AHRI Unitary Small Equipment, Furnace and Ductless Sections

Advanced Distributor Products
Airwell – Fedder
Allied Air Enterprises
Allstyle Coil Company, LP
Amana Heating and Cooling
Bard Manufacturing Company
Benchmark Manufacturing
Carrier Corp
ECR International, Inc.
Enviromaster International
Goodman Manufacturing Corp
Haier America Trading, LLC
International Environmental Corp
Johnson Controls Inc.
Lennox International, Inc.
Magic Aire
Mortex Products, Inc
National Comfort Products
Nordyne, Inc.
Rheem Manufacturing
Sanyo
Trane/Ingersoll Rand
Unico, Inc.