NATURAL RESOURCES DEFENSE COUNCIL

NRDC Comments on EPA ENERGY STAR's Draft 1 Version 5.0 Specification for Central Air-Conditioners and Air Source Heat Pumps

May 16, 2014

On behalf of the Natural Resources Defense Council (NRDC) and its more than 1.4 million members and online activists we respectfully submit the following comments on the EPA ENERGY STAR's Draft 1 Version 1.0 Specification for Central Air-Conditioners and Air-Source Heat Pumps (CAC/ASHP).

NRDC is pleased that EPA is updating the specifications for Central Air-Conditioners and Air-Source Heat Pumps to reflect the improvements in minimum efficiency standards as well as the availability of efficient products in the market. ENERGY STAR has supported American consumers, businesses and organizations investments in energy efficiency that are transforming the market for efficient products. As reflected in the Draft 1 Version 5.0 Specification, the EPA proposed requirements represent 9- 30% of the products available depending on the product category, based on the AHRI certified products directory. EPA should move quickly to update this specification recognizing the new minimum efficiency standards take effect in January of 2015.

NRDC offers the following specific comments on the draft specification:

NRDC supports the use of a regional SEER value for split system air conditioners, but recommends a national EER value for all air conditioners and heat pumps. NRDC commented on the CAC/ASHP Version 5.0 Framework that due to the range of outdoor air temperatures and air conditioning load across the US, higher SEER levels may be cost-effective in some regions than in others. We appreciate that EPA has taken a regional approach for split system air conditioners to accommodate this variation. However, we continue to recommend that EPA consider a single national requirement for the EER rating and that the requirement be EER 13 for all product categories. The need for high efficiency at peak load is the same both in regions with more moderate temperatures and occasional 95 degree days and in regions where these temperatures are a daily occurrence. This is because peak-load efficiency affects the need for peak generation capacity. This becomes even more important as we see increasing trends in the prevalence of CAC. Residential air conditioner use has grown steadily in all regions of the country over the last three decades, with penetration above 80 percent in all regions except the west. While window units are also prevalent in the northeast, 44 percent of units installed in this region are central air conditioners.

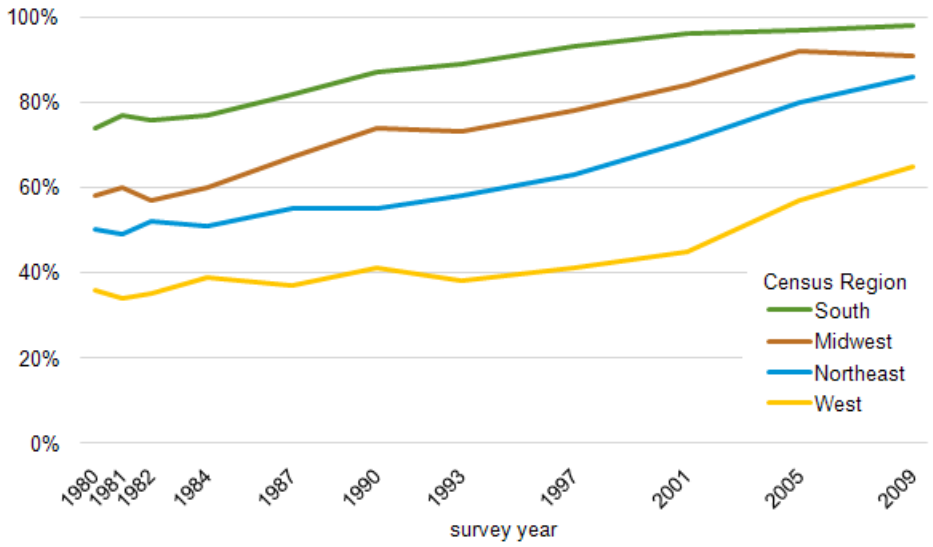

Figure 1: Percent of US homes with AC (Source: US EIA, 2009 RECS)[1]

This penetration of residential air conditioning is also reflected in the shipments analysis of the Department of Energy's technical support document for energy conservation standards for central air conditioners and heat pumps. Shipments of both split and packaged systems of central air-conditioners have generally grown steadily since 1972, with shipments of split system ACs generally being about ten times those of packaged ACs.[2]

NRDC recommends that EPA consider higher SEER value requirements. EPA should evaluate whether higher SEER values would provide cost-effective savings for consumers. Recently, CEE added an advanced tier for split system CAC of SEER 18 and EER 13. Additionally, in DOE's technical support document for energy conservation standards, it found that for blower-coil units (including a replacement air handler), values up to SEER 18 provided life cycle cost savings on a national basis and values up to SEER 21 provided life cycle cost savings in the hot humid region.[3] Installed costs have likely decreased since the time of this analysis, particularly with the upcoming standard effective date, which would mean life cycle cost savings are even higher.

EPA should also consider higher SEER and HSPF values for heat pumps. In its analysis for the energy conservation standard, DOE found that SEER 22 and HSPF 9.8 (the highest level analyzed) had positive average life cycle savings in the southern regions and

[1] http://www.eia.gov/consumption/residential/reports/2009/air-conditioning.cfm
[2] http://www.regulations.gov/#!documentDetail;D=EERE-2011-BT-STD-0011-0012 Chapter 9 Shipments Analysis, Table 9.2.1
[3] http://www.regulations.gov/#!documentDetail;D=EERE-2011-BT-STD-0011-0012, Chapter 8 Life Cycle Cost and Payback Period Analysis, Tables 8.4.7 and 8.4.9

that heat pumps with a SEER 21 and HSPF 9.6 had positive life cycle cost savings on a national average basis.[4]

NRDC continues to support the inclusion of a requirement for diagnostic and communications capability. We believe the inclusion of diagnostic and communications capability could increase field energy savings by identifying maintenance and repair issues early. In comments to the CAC/ASHP Version 5.0 Framework stakeholders stated that these features are found in top tier, higher end systems, representing the most expensive 10-15% of models. NRDC encourages EPA to evaluate whether these features actually represent a significant additional cost to the appliance or if they represent an upsell feature. Also, EPA should evaluate whether the ability to reduce field energy usage via these features outweighs the additional cost of the diagnostic and communications capabilities.

NRDC supports the changes proposed to align the definitions, sampling requirements and test methods with the federal requirements.

NRDC supports the inclusion of connected criteria for CAC and ASHP products, but EPA should not let the development of this criteria hold up the specification revision. Connected products provide opportunities for demand response and load management programs. Ensuring that a utility can connect directly with the appliance will better enable the utilization of connected features, helping to achieve additional benefits.

Thank you for the opportunity to submit these comments.

Sincerely,

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[4] http://www.regulations.gov/#!documentDetail;D=EERE-2011-BT-STD-0011-0012, Chapter 8 Life Cycle Cost and Payback Period Analysis, Table 8.4.14