



American Council for an Energy-Efficient Economy

WASHINGTON, DC

August 23, 2005

Rachel Schmeltz
ENERGY STAR Product Manager
Environmental Protection Agency
Ariel Rios Building, SW, MS 6202J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Ms. Schmeltz:

The American Council for an Energy-Efficient Economy (ACEEE) appreciates the opportunity to provide input on the proposal to revise the ENERGY STAR Central Air Conditioner and Air Source Heat Pump Specification (Specification). The comments and recommendations below supplement the statement of the Consortium for Energy Efficiency (CEE), which we have co-signed and support.

In particular, we wish to add to the arguments for a minimum 12 EER requirement for 2006 and beyond. Our concerns are grouped in three areas: Predicting the number and fraction of qualifying models, establishing the value of higher EER, and ENERGY STAR's evolving role in the marketplace.

Predicting qualifying number and fractions of models.

The upcoming (January 23, 2006) change to SEER 13 is requiring manufacturers to largely re-engineer their product lines and production planning. Every manufacturer is understood to be doing massive product redesigns to wring out costs of SEER 13 product, introduce new higher SEER product, etc. This means that predictions of 2006 (and beyond) model availability from published 2005 data (such as the ARI directory) are more uncertain than usual. We don't believe that the number of models that will qualify at either 11.5 or 12 EER can be predicted with much certainty. Indeed, the one prediction we are confident of is that the number of models at both levels in 2007 and beyond will depend on what is bought in 2006. In turn, this depends on the ENERGY STAR specification.

However, the 2005 ARI directories are the only available data. In this case, there are fewer models at EER 12 than 11.5, but the 2005 ARI data shows only a 11% drop-off for AC (a very modest drop) and even for HP more than 60% of otherwise eligible models still qualify. Manufacturers claim this drop will result in lower sales of Energy Star units, but this claim ignores the impact of utility programs that require EER 12. Utilities generally want the higher EER (see below). If EPA sets the spec at EER 11.5, it is likely that some utilities will not provide incentives for ENERGY STAR. EER 12 has the full support of most CEE utility members and would be fully promoted.

Value of EER

To utilities, reducing peak demand is worth somewhere in the range of \$1000/kW. That is an estimate of the costs avoided by not building new peak generation, plus the required reinforcements of transmission and distribution. In many cases, capacity constraints for the foreseeable future make avoiding peak demand even more valuable than saving energy. In this context, for a 3-ton central air conditioner with SEER 14, the difference between EER 11.5 (current proposal) and EER 12 (our preference) is about 0.13

kW on a 95°F day. This difference is much of the justification for rebates in CA, for example, since by itself a 0.13 kW peak reduction is worth roughly \$130.¹

EER	COP		
Btu/kW	kW/kW	kW demand	
36000		10.55	output
12	3.517	3.00	input
11.5	3.370	3.13	input
0.5	0.147	-0.13	kW.

Beyond the direct economic value of peak reduction, some commentators² have suggested that higher market sales are worth more in avoided air pollution than higher labeled performance. The intent of the argument is well-meaning, but in the particular case of EER its relevance is built on the assumption that the utility emissions profile is the same on a peak day as on average summer days. This is unlikely to be true, as peaks may require dispatch of the oldest and dirtiest plants to avoid brown-outs or worse. This is particularly true for in-basin emissions in areas like L.A., and would justify higher prices to reduce the peak.

Philosophical: What is the ENERGY STAR Mission?

To some extent the choice of EER is a basic decision about the direction ENERGY STAR wants to take. Does ENERGY STAR largely want to follow what is in the market (e.g. set an EER spec that just weeds out the poorest models) or does ENERGY STAR seek to lead and establish specifications that are achievable and can lead the market to higher energy savings? We urge EPA to take the latter course, since that is the course that will maximize energy and carbon savings in the long-term.

We understand and support the shared interest in a performance level that will remain constant for several years, to facilitate planning by manufacturing and utility partners. However, as alluded to above, the 2006 EER specification will determine the market and production plans for 2007 and beyond. That is a primary reason that the choice of 12 EER now is so important. Along these lines, one manufacturer³ raised the point that it is easier to meet an EER 12 with R-22 than alternative refrigerants. However, R-22 will be phased out by 2010, so we're only talking a limited share of the market for a few years. ACEEE believes that this is an acceptable price to pay for the significant savings that will result from a more heavily promoted Energy Star spec at the EER 12 level.

Please let us know if you have any questions about these comments or other issues.

Sincerely,

Harvey M. Sachs, Ph.D.
Buildings Program Director

¹ This skeleton of an argument does not do justice to the detailed economic analyses undertaken by utilities and regulators. It is intended to establish the value of peak reduction rather than quantify it for any particular utility.

² Notably Lennox.

³ Carrier