



Southwest Energy Efficiency Project

Saving Money and Reducing Pollution through Energy Conservation

March 30, 2005

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

Dear Ms. Schmeltz,

The Southwest Energy Efficiency Project (SWEEP) is dedicated to advancing energy efficiency in six states: AZ, CO, NM, NV, UT and WY. We appreciate the opportunity to comment on the proposed ENERGY STAR central air conditioner and heat pump specifications.

Residential air conditioning is a critical energy end use in the Southwest region. In the hotter part of the region (e.g., in Phoenix or Las Vegas), many households consume 6,000 kWh/yr or more of electricity for cooling. Air conditioning can represent half or more of total household electricity consumption. In the cooler part of the region (e.g., in Denver or Salt Lake City), households use less electricity for cooling but air conditioning penetration is growing rapidly. Increasing peak power demand driven by residential air conditioning, and declining electric system load factors, is a major problem for utilities throughout the region. Thus, the ENERGY STAR central air conditioner and heat pump program is an initiative that could be very important for promoting greater energy efficiency and improved utility system operation in the Southwest region.

SWEEP is helping to coordinate energy efficiency efforts in the southwest region. In this capacity, SWEEP has consulted with a number of utilities and energy efficiency experts in the region regarding the draft eligibility criteria for ENERGY STAR air conditioners and heat pumps. The feedback we received was factored into these comments and recommendations, and we believe there is broad support for our recommendations throughout the Southwest region. However, we did not seek to have other organizations endorse or sign onto our comments.

Equipment Efficiency Specifications

- The residential ENERGY STAR logo and branding that has occurred to date has been centered on product efficiency levels. It is important to maintain this approach in the market for consistency and set efficiency standards beyond those specified by federal requirements, assuming this is cost-effective for consumers as a whole, even if the energy savings for average consumers are limited. The energy savings will be significant in regions with above-average cooling demand, such as hotter portions of the Southwest.

- The proposed efficiency levels (consistent with CEE Tier 2 levels) are reasonable as a starting point. We expect that air conditioner manufacturers will develop and produce new high efficiency models after the SEER=13 standard takes effect in order to maintain their “premium product” lines. It is possible (and perhaps likely) that the availability of SEER 14 and 15 units will expand significantly and the cost premium for these units will decline after the new federal standard takes effect.
- We urge the EPA to consider revising the equipment efficiency specifications to SEER=15, EER=12.5 (consistent with CEE advanced efficiency levels) starting in as early as 2008. This change should be made nationwide if it is determined that such equipment is widely available and is cost-effective for typical air conditioner and heat pump purchasers. However, if these efficiency levels are only cost-effective in hotter portions of the country with above-average air conditioner use, we urge EPA to consider ENERGY STAR criteria that vary by region. Regionally differentiated criteria already are in place for ENERGY STAR fenestration products, and appear to be working well. Announcing now that these changes will be considered in the future could encourage manufacturers to strive for these higher efficiency levels as they redesign equipment and develop new products in the next few years.
- It is especially important to include and maintain EER requirements as part of the ENERGY STAR program. Requiring a high EER rating ensures that there is reasonable peak demand reduction in the southwest region (and elsewhere). Since the federal efficiency standards do not include an EER requirement, utilities need ENERGY STAR (or other) requirements that do include minimum EER in order to address their peak demand concerns. Given the importance of peak demand to many utilities, we strongly support a minimum EER of 12 for split system air conditioners and heat pumps and believe manufacturers will be able to produce qualifying products even at higher tonnages. Also, it should be recognized that the demand for higher tonnage systems should decline as equipment is sized properly. In addition, we suggest raising the minimum EER for single package equipment to EER of 12. This will provide consistency and reduce the potential for confusion that could occur if there are different EER thresholds for split systems and packaged equipment.
- Including the provision that the SEER/EER requirements be met by properly matched systems, defined as split systems where the individual condenser and coil have been rated by ARI, is a good idea. Poor matching of indoor and outdoor coils has been a significant problem in the field in the Southwest.

Equipment Installation Specifications

There is considerable evidence supporting the premise that air conditioner and heat pump sizing and installation practices are frequently suboptimal, leading to inefficiency and electricity waste. We support the addition of an equipment sizing and installation component to the ENERGY STAR program starting in January, 2007. However, we have a number of concerns about the draft proposal in this area.

- First, the equipment efficiency and installation specifications should be separated from each other. This would make the overall program much easier to implement and enforce as manufacturers would not be responsible for ensuring proper equipment installation, which in reality is very difficult if not impossible for them to do. Manufacturers would be much more likely to participate and embrace the program if they are only responsible for equipment efficiency levels, as is currently the case. This decoupling also gives utilities and other energy efficiency program implementers much more flexibility in program design. Some utilities such as those in cooler climates may find that it is cost-effective to promote the ENERGY STAR installation practices for all new CAC and heat pump installations (not just those that are high SEER/EER), but not promote ENERGY STAR equipment. Other program implementers may be interested in promoting ENERGY STAR air conditioning equipment individually or as part of broader ENERGY STAR product promotion, but may lack the resources to implement an installation practices program. Of course some (and hopefully many) utilities will be interested in promoting both high efficiency equipment and high quality installations. But decoupling the equipment efficiency and installation specifications makes sense from both the manufacturer/vendor and the energy efficiency program implementer perspectives.
- Second, we recommend that specific compliance requirements be incorporated as part of the installation specification. Utilities, state energy programs, and others need clear guidance regarding what will be required, both in terms of actual installation procedures and the percentages of installations that would need to be verified, in order to evaluate program feasibility and then effectively implement ENERGY STAR installation programs for their customers.
- Third, we are concerned about the requirements for third party verification. We suggest that this part of the program focus at least in part on training and certifying HVAC contractors to perform installations according to specific ENERGY STAR requirements (see point above). Contractors should be required to complete an ENERGY STAR approved course on proper installation practices before they can make actual ENERGY STAR installations. Utilities, manufacturers, trade associations, and other parties should be encouraged to offer this training and in addition conduct inspections to ensure that certified contractors are following the requirements if they say they are doing so. But we also suggest allowing certified ENERGY STAR HVAC contractors to promote and implement the ENERGY STAR installation procedures even if there is no local program offering to do inspection and verification; i.e., allow a self-verification option. If this is permitted, we suggest requiring that contractors provide homeowners a signed form showing the results of the sizing calculation, refrigerant charge test, and air flow test, if the contractor is claiming to perform an ENERGY STAR installation. EPA and others could advertise this requirement so that homeowners ask for and review the form. Furthermore, research could be carried out in the future to determine the degree to which self-verification is working (or not working) from the perspective of providing high quality installations on a consistent basis.

- In addition, ENERGY STAR should develop and disseminate energy savings calculators, similar to those available for other ENERGY STAR products, showing the range of potential savings to customers and utilities as a function of location, equipment efficiencies, and installation practices (proper sizing, refrigerant charging, and air flow), with consideration to savings persistence as well. The credible savings information generated by such calculators can help manufacturers, dealers, contractors, utilities and others promote qualifying equipment as well as high quality installations to consumers.

Thank you for considering these comments.

Sincerely yours,

A handwritten signature in cursive script that reads "Howard Geller".

Howard Geller
Executive Director