



October 27, 2004

Rachel Schmeltz
ENERGY STAR Product Manager
Environmental Protection Agency
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1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Ms. Schmeltz:

The CEE Residential HVAC Committee (Committee) appreciates the opportunity to provide input on options for revising the ENERGY STAR Central Air Conditioner and Air Source Heat Pump Specification (Specification). Because the scope of the Specification is unclear at this point, it is difficult to provide precise comments as the Committee's position will depend on the specific program contents selected by EPA. The Committee looks forward to the opportunity to provide specific comments on a future specification revision proposal when determination of the scope of the Specification is made. The comments and recommendations contained in this letter are supported by the organizations listed at the end of the letter.

The Committee strongly supports maintaining an ENERGY STAR specification for central air conditioners and air-source heat pumps that is differentiated and meaningful. Both "Nameplate" efficiency requirements (SEER, EER, and HSPF) and installation requirements are critical for achieving worthwhile energy savings on a large scale. The ENERGY STAR brand has proven to be a valuable marketing platform for high-efficiency HVAC equipment, as demonstrated by the high level of resources dedicated to promoting the brand by multiple stakeholders. Based on the large number of efficiency rebates paid for equipment with ratings greater than 13 SEER and the number of systems with ratings greater than 13 SEER listed in the CEE Directory of ARI-Verified Equipment, there should be ample equipment available that could be promoted as high-efficiency after the new federal standard becomes effective. An ENERGY STAR specification would enable consumers to easily identify and purchase this equipment.

HVAC energy efficiency programs have dedicated resources to promote the ENERGY STAR brand with an expectation that it would remain a platform for transforming the HVAC market. Suspending the CAC/ASHP program would lead to a conspicuous void in the marketplace, and would be detrimental to current and future efforts by EPA and its partners to encourage the production, installation, and maintenance of equipment in a manner that will save energy.

Comments and Recommendations

SEER, EER, and HSPF should remain equipment performance requirements within the Specification and reflect the most-efficient systems available at a range of capacities. For the ENERGY STAR brand to continue to represent superior performance, EPA should set performance requirements that differentiate the most-efficient products available. When drafting a specification revision proposal, the Committee requests that in addition to the performance levels contained in the straw man (CEE Tier 2), EPA also evaluate the incremental cost, energy savings, peak demand



reduction, and model availability at various capacities of the CEE Advanced Tier. While the Advanced Tier was set as a stretch target, programs have issued a large number of rebates at this level in some parts of the country.

The Committee supports efforts to improve HVAC installation practices, and commends EPA for evaluating options for doing so within the Specification. Taking steps to improve the installation of ENERGY STAR equipment will increase the health, comfort, safety provided to the consumer while increasing the energy efficiency of the system, and help to ensure consumers continue to associate value and quality with the ENERGY STAR brand. Available field studies indicate that proper installation yields a 20-30% gain relative to current practice. A stakeholder-supported definition of “quality installation” and the ability to identify a “quality installation” in the market place are necessary for ENERGY STAR to address installation. The Committee believes this can be achieved and that the Specification should contribute to enhanced system performance by addressing installation.

The Committee supports cost-effective equipment requirements that will lead to improved in-field performance, such as TXVs. Field studies referenced in the ENERGY STAR straw man indicate TXVs lessen the efficiency losses that result from improper refrigerant charge or air flow. While the Committee would prefer that the Specification be performance-based, the lack of an accepted in-field performance metric requires consideration of prescriptive requirements. These may include the items presented in the straw man (e.g. airtight access, on-board diagnostic indicators, and automated metering devices) if proven to offer energy savings in addition to those already accounted for by the “Nameplate” efficiency requirements. The Committee is not aware of any studies demonstrating the energy saving potential of these other equipment requirements and encourages EPA to provide evidence of the energy savings potential of any prescriptive requirement included in the Specification.

The Committee supports the intent of a technician certification requirement (e.g. NATE or BPI), but is uncertain whether the number of certified technicians that will exist in 2006 will be sufficient, or whether the practices of certified technicians will be significantly better than non-certified technicians given existing market forces. The Committee is committed to establishing a skilled technician work force that is capable of performing a quality installation. Certification programs are an important part of achieving that objective. The Committee recognizes an ENERGY STAR technician certification requirement would help to build an infrastructure of certified technicians; however, the Committee is not yet convinced an acceptable number of technicians will exist in the service territories of the Committee members to enable high levels of program participation. The Committee is very interested in continuing to work with manufacturers and other stakeholders to increase the number of certified technicians, with the goal of achieving an infrastructure that could support a future technician certification requirement.

The Committee believes that ENERGY STAR should implement a verification requirement within the Specification by the proposed effective date, but only if several issues are resolved. The Committee recognizes that some element of quality control in the form of in-field verifications will be necessary to significantly improve installation practices, and many of the Committee members include a verification component in their efficiency program. However, consensus on a nationally-viable process for verifying installations including the methods, tools, sampling tolerances, reporting of verification results, and performance requirements would need to exist. The Committee



is currently working to address many of these issues and is eager to work with EPA and other ENERGY STAR partners to determine an agreed upon process for verifying installations in the upcoming months.

If EPA determines these issues will not be resolved in time for the proposed effective date, then the Committee recommends inclusion of a verification component requirement for 2007, or a phased-in verification requirement to be initiated in 2006 and strengthened in 2007, but again only once the aforementioned issues have been addressed. The Committee does not believe that “self-certification” by contractors is a viable option for improving installation practices or ensuring quality because of the potential for abuse and lack of an enforcement mechanism.

A consumer education component regarding installation should be built into the Specification. The Committee believes that EPA could play an important role in empowering consumers to ask informed questions about an HVAC installation by developing literature templates describing the benefits and definition of a quality installation that could be distributed by all ENERGY STAR partners. This definition should optimally include some form of commissioning report that would enable a technician to demonstrate that equipment has been installed in accordance with manufacturers’ requirements for system charge and air flow. This effort could involve: 1) manufacturers shipping the literature with equipment and including it with equipment specification sheets, 2) quality contractors distributing it to their customers with a bid, and 3) efficiency program administrators including it with rebate information. This literature would provide a necessary common bond among ENERGY STAR partners, to ensure their respective efforts will empower customers to know when they have a quality installation as well as provide further credibility to contractors dedicated to providing a quality installation.

Supporting Organizations

Cape Light Compact
Connecticut Light and Power
National Grid USA (Massachusetts Electric, Nantucket Electric, Narragansett Electric)
New Jersey Office of Clean Energy of the Board of Public Utilities
NSTAR
Pacific Gas and Electric
Sacramento Municipal Utility District
San Diego Gas & Electric
Unitil
Western Massachusetts Electric Company