

August 19, 2005

Mr. Jonathan Passe
ENERGY STAR Homes Program
US Environmental Protection Agency
1200 Pennsylvania Ave. NW
6202J
Washington, DC 20460

Dear Mr. Passe:

The New York State Energy Research and Development Authority (NYSERDA) is providing comments, through this letter, on the second round of the Environmental Protection Agency's (EPA) 2006 National Specifications for ENERGY STAR[®] Qualified Homes. NYSERDA has extensively supported and promoted the entire ENERGY STAR[®] platform throughout New York State for the past seven years. Most recently, in coordination with the Long Island Power Authority (LIPA), program efforts have been expanded onto Long Island.

In a short four years, NYSERDA and LIPA's New York ENERGY STAR[®] Labeled Homes (NYESLH) Program has successfully constructed more than 6,000 ENERGY STAR[®] homes primarily through small builders. Currently, our annual production of ENERGY STAR[®] Homes exceeds 10% of the market share for single-family new construction in New York State. These homes have historically not only exceeded the national specifications but, in 2005, include a hybrid approach that is based on a fixed HERS score AND a prescriptive set of performance standards. These performance standards are very similar to your proposed prescriptive specification, therefore we endorse the approach. Our more than 400 participating homebuilders have positively supported this hybrid approach. Additionally, in an effort to encourage builders to build and sell more efficient homes, we have incorporated a three tiered incentive structure based on ascending HERS scores.

NYSERDA supports the EPA's mission of increasing the efficiency and quality of ENERGY STAR[®] Qualified Homes nationally. Toward that end, we have some comments and recommendations to the proposed specification. In addition, NYSERDA and LIPA support many of the details and suggestions expressed in the Consortium for Energy Efficiency (CEE) comments as well.

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NYSERDA and LIPA's specific comments on EPA's proposed specification focus on the following items:

- 1. Health and safety:** Requiring a minimum air leakage rate of .35 ACHn, without incorporating a mechanical ventilation requirement, carries with it the very real threat of creating conditions in the home that will have a significant negative impact on the indoor air quality and, therefore the health and well-being of the home's occupants. It has been our experience in the NYESLH Program that combustion appliances, especially atmospherically vented DHW tanks, in homes achieving this air-tightness standard fail to draft properly, potentially exposing occupants to unhealthy levels of combustion gases including Carbon Monoxide (CO). For these reasons, the requirement for mechanical ventilation is non-negotiable and mandatory in our program.

First Round Recommendation:

EPA should require a ventilation standard as an integral part of this new specification.

Second Round Recommendation:

NYSERDA strongly recommends that a ventilation standard and combustion safety testing protocol be a requirement in the new specification. Serious issues can arise when homes are tightened to prescribed standards and mechanical ventilation is not installed. Not having proper ventilation can create very dangerous conditions within the home. This has been documented by the data collected in the tighter homes from the NYESLH and Home Performance with ENERGY STAR Program which has found numerous accounts of back-drafting of combustion appliances elevating ambient Carbon Monoxide levels above OSHA and BPI limits creating unhealthy indoor air quality. Another concern is the increased relative humidity during the winter months from a lack of sufficient air exchange which can reduce the durability of the structure and facilitate the growth of mold.

- 2. Fixed HERS Score:** The HERS score, as a core, consistent requirement of ENERGY STAR[®] Labeled Homes, has gained substantial traction in the marketplace. We feel strongly that, varying from a fixed HERS score, creates unnecessary confusion in the marketplace and may provide an opportunity for "gaming" the scope of energy efficiency improvements to the home.

First Round Recommendation:

Having non-negotiable trade-offs, such as air sealing and duct sealing, under the performance path, coupled with an 86 score should assure a consistent high performance home.

Second Round Recommendation:

NYSERDA does not believe trade-offs in energy efficient aspects such as air-sealing under the performance path shows movement in the right direction. If EPA is allowing states that are divided by multiple zones to choose a fixed score, NYSERDA will choose the higher HERS score. We have always strived to be above any national standard and support this specification.

- 3. Heating Equipment (Boilers):** The proposed EPA Minimum Efficiency Requirement (MER) of 85 % AFUE for boilers does not recognize the limited availability and cost effectiveness of this equipment in the marketplace. The original design within our NYESLH Program had set an MER of 85% for boilers. Availability and pricing issues were a concern, with even greater concern expressed by partner builders about the lack of durability and high maintenance needs of these products. Subsequently, the MER was revised downward to 84% AFUE in our program requirements.

First Round Recommendation:

We recommend EPA retain a level of flexibility on the Boiler MER specification.

Second Round Recommendation:

NYSERDA has, after addition research, found the boiler specification to be achievable. This is upon completion of a more detailed analysis across New York State on the availability and price of boilers and the fact that the more popular units being installed meet the new minimum requirement.

With respect to the 85% AFUE oil-fired furnace specification, NYSERDA also performed a detailed analysis on the price and availability of this type of equipment and found that the availability is limited. However, less than 1% of the homes built in the NYESLH Program utilize this equipment and therefore this specification does not represent a significant barrier.

- 4. Duct leakage:** The HERS infrastructure and HVAC industry struggle with consensus on what type of duct testing and leakage numbers are appropriate. NYSERDA strongly supports duct sealing, and recognizes the validity of a number of testing methods.

First Round Recommendation:

We encourage EPA to expand the potential testing methods and provide clear guidance on the various ways to quantify levels of duct leakage.

Second Round Recommendation:

NYSERDA suggests that the specification for leakage to outside be 6 CFM/100ft² for the prescriptive and performance paths. NYSERDA also recommends either removing the 9 CFM/100ft² total leakage specification or

raising the allowable limit until further studies are conducted on the leakage rates of ductwork construction methods utilized in the Northeast. NYSERDA still concurs with our first recommendation concerning testing methods and ways to quantify duct leakage. The new specification requiring a lower number for leakage to outside, (4 CFM/100 ft² prescriptive), does not work in the favor for construction in the Northeast where most HVAC consist of extended plenum sheet metal which may have many joints and connections. Based on the data collected concerning duct leakage on new homes from the NYESLH Program, duct leakage numbers are averaging just above 6 CFM/100ft² . In respect to total duct leakage in New York, since most systems are located within the conditioned space, the energy penalties from leakage to within the envelope are minimized. The waiver for duct testing in homes with ducts located within the conditioned space and tested infiltration less than 3ACH without requiring mechanical ventilation (see bullet #1) may result in very unhealthy indoor air quality and cause serious moisture and durability issues.

- 5. Windows:** The Proposed EPA 2006 ESLH requirement of 100% ENERGY STAR[®] windows in a home would exclude homes that have one or more ‘custom-shaped/flexframe’ windows as many of these windows are not NFRC rated. These types of windows are very prevalent in home designs today, due to consumer demand.

First Round Recommendation:

We recommend an ENERGY STAR[®] window area percentage requirement, which would allow a small number of custom windows to be allowable.

Second Round Recommendation:

Upon review of the new specifications, NYSERDA embraces the added note to allow a decorative glass percentage that nearly parallels the Energy Conservation Construction Code of New York State.

- 6. Water Heaters:** The EPA proposed MER of .60EF for Gas Water heaters creates similar issues to those raised for Boiler Heating Systems: pricing issues and lack of product availability. The NYESLH Program has had to make adjustments in the EF requirements based on availability.

First Round Recommendation:

We recommend a level of flexibility be offered by EPA in the MER requirement of Gas Hot Water Heaters.

Second Round Recommendation:

Upon completion of a more detailed analysis of wholesalers across New York State for the availability and price of domestic hot water heaters, the new minimum requirement specification is achievable.

- 7. Lighting and Appliances:** We encourage EPA to require ENERGY STAR[®] appliances and lighting fixtures as required measures. NYSERDA's main concern is continued lack of availability of ENERGY STAR[®] lighting products and replacement parts within the builder's normal supply chain. Specifically having ENERGY STAR[®] lighting fixtures as a requirement is an upstream way of impacting their market penetration. A strong manufacturer/retailer push by ENERGY STAR[®] lighting partners, coinciding with implementation of such a specification, will significantly improve availability and access to products.

First Round Recommendation:

We recommend a specific number of ENERGY STAR[®] lighting fixtures be required in every qualifying home and the above coordinated strategy be implemented as the new specification is introduced. Further, although the EPA proposal does not reference CFL's directly, it should encourage builders to install them in every permanent screw-based fixture in the new home.

Second Round Recommendation:

NYSERDA strongly recommends CFLs to be installed in every screw-based fixture and a percentage of fixtures are required in the performance path. The new specification does not mention CFLs and the savings by installing them in the prescriptive path or fixtures in the performance path.

- 8. Effective Date:** NYSERDA currently has contractual commitments with participating builders through March 31, 2006. We have a strong relationship with the New York State Builders Association that strives to achieve a six-month to a year notification process regarding program changes.

First Round Recommendation:

In order to implement a seamless transition period and maintain strong builder relations, NYSERDA encourages a phased in or "grandfathering" period prior to full implementation of the new specification.

Second Round Recommendation:

The draft mentions an effective start date of July 1, 2006 which would allow NYSERDA to adhere to it's obligation to more than 400 builders of notification in program changes.

Additional Recommendation Specifically relating to ENERGY STAR Manufactured Housing

NYSERDA recommends that the 2006 National Specification for ENERGY STAR Qualified Homes be applied to the manufactured housing market as well. In order to establish a level of consistency in achieving energy efficiency goals in the housing industry,

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the EPA needs to align the existing ENERGY STAR Manufactured Housing Specification with the proposed 2006 National Specification for ENERGY STAR Qualified Homes. At a minimum, the EPA should significantly raise the current standards for ENERGY STAR Manufactured Homes.

Again, NYSERDA would like to thank the EPA for the opportunity to comment on the second round of comments of the proposed 2006 ENERGY STAR[®] Qualified Homes specification. For more information regarding the NYESLH Program, visit www.GetEnergySmart.org. Please contact me or NYSERDA's Single Family Homes Program Manager Andrew Fisk at (518) 862-1090 ext. 3315 with any questions regarding these comments.

Sincerely,



Rick Gerardi, Director
Residential Programs

cc: David Lee (EPA)
Sam Rashkin (EPA)
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