

March 13, 2015

Doug Anderson - Program Manager  
ENERGY STAR for Windows, Doors, and Skylights  
U.S. Environmental Protection Agency

Sent via email: [windows@energystar.gov](mailto:windows@energystar.gov)

Dear Doug,

The Marvin Companies support the EPA in its effort to improve communications with the Fenestration Industry. Opening up this dialog with industry stakeholders well in advance of any criteria change recommendations is sure to result in greater cooperation. During this time we can comment on mutual topics of concern including those outlined by the EPA.

Marvin Companies also supports the stated goals, with one minor change, outlined on slide 6 of the December 12<sup>th</sup>, 2014 stakeholder meeting:

- Greater industry participation and collaboration.
- A process that is clearer and more predictable.
- Enhance (**and ensure**) the transparency of the analytical approaches used and the way criteria are proposed and developed.

Regarding the details of the Program Design, covered on slide 12 of the 12/12/14 presentation, we recommend revising and updating the first bullet to read as follows:

- “Identify and promote **cost effective, durable** products that reduce green house gas emissions by meeting **consensus** driven energy conservation standards.”

Included here are the Marvin Companies responses to the list of topics outlined by EPA during the stakeholder meeting. The topics include:

- ◇ *Specification Revisions Process*
- ◇ *National Energy Savings*
- ◇ *Market Product Performance*
- ◇ *Cost Effectiveness*
- ◇ *Product Availability*
- ◇ *Measurement and Verification*
- ◇ *Market Verification*

### ***Specification Revision Process***

With respect to the specification revision process we request from the EPA:

- Greater transparency on how the EPA plans to calculate the energy savings and payback for selected energy performance levels.

- Aggregating the data in a meaningful manner, demonstrating how incremental performance ratings and costs are being compared and then posting publically for review by all stakeholders.
- To establish a reasonable time frame to understand how ENERGY STAR Version 6.0 (2016) will impact the industry before setting new criteria. We do not expect to know this until late 2016.
- To establish a reasonable time frame for manufacturers to recoup investment costs for products that comply with Version 6.0 before transitioning to Version 7.0. The process to design, test and certify products and glazing packages and then see a return on that investment takes several years.
- Establish a minimum lead time of 24 months from the time Version 7.0 performance numbers are established and posted.
- Consider how to correlate the performance numbers to already published criteria found in the latest versions of the IECC.

### ***National Energy Savings***

Consider that the current program has made significant progress towards driving increased energy savings in new construction and that there are diminishing returns going forward with any proven technology currently available. Recognize that the IECC chose not to make substantial changes to the U-factor and SHGC performance numbers when publishing the 2015 version.

Based on that understanding, we recommend:

- Focus ENERGY STAR Version 7.0 on the replacement market segment to change out windows in large existing housing inventories consisting of single and dual pane clear glazed windows and doors.
- Limit EPA ENERGY STAR requirements to energy performance criteria that is currently in force (U-factor, SHGC). Reference other existing certification programs for those performance attributes deemed to be critical in a similar manner to how air infiltration has been implemented.
- Continue to allow equivalent tradeoffs between U-factors and SHGC. Use caution, understanding that it can result in some glazing configurations that may not be the most energy efficient for all environmental conditions.

### ***Maintaining Product Performance***

As we strive for greater thermal efficiency, there are times when other performance attributes such as air, water and structural can be compromised. When the race for thermal efficiency affects other code driven attributes including (especially) durability it is not in anyone's best interest. At times ENERGY STAR requirements give an unfair advantage to products that achieve a higher glass to sash/frame ratio. The EPA must understand that many products can meet the thermal requirements by using smaller mass profiles. This strategy can compromise:

- Security – narrow/weaker profiles.

- Long term air, water, and structural performance.
- Long term durability – there are two types of durability:
  - **Overall product durability;** and
  - **Insulating glass** durability.
- Driving thermal performance beyond the level that we fully understand, the durability of the IG product may not save energy due to premature failures (i.e. designs to reach ENERGY STAR or “stretch” energy performance codes may compromise durability).

EPA should reference and depend on other organizations, established test methods and independent certification bodies to validate non-thermal performances for windows, doors and skylights. The ENERGY STAR Program should only make reference to existing programs and test methods for support in validating/certifying these products. As EPA depends on NFRC for the thermal performance ratings – EPA should rely on other programs for non-thermal attributes.

For example:

NAFS - Air, water, structural, operating force and forced entry resistance etc.

- Approved certification bodies

### ***Cost-Effectiveness***

Consider the following strategies:

- Source data from multiple distribution channels including but not limited to:
  - Big box retailers
  - Installing retailers
  - Lumberyards and smaller retail centers
- Source data from various manufacturing models including but not limited to:
  - Large batch producers
  - Made-to-order producers
  - Small and large manufacturers, both regional and national brands
- Use a third party to collect the data and aggregate as needed to establish and maintain confidentiality.
- Consider use of manufacturer industry associations such as WDMA.

### ***Product Availability***

The NFRC CPD is not a reliable source to establish a base of product offerings.

- The information may give some indication of the range of products, but many listed are not available to order.
- There is no function available in the CPD to indicate sales volumes or market penetrations.

We recommend continued communication with the manufacturers to understand actual product offerings.

## ***Measurement and Verification***

Include products that are:

- High volume products that are intended to drive national energy savings (80% sales).
- Those products that are claiming they meet much higher performance.

## ***Market Differentiation***

ENERGY STAR does not differentiate the top performers effectively because the focus is on thermal first and foremost. Also, there is no consideration for material performance characteristics or long-term performance (even thermal) of a product.

- Product durability attributes are not considered in the ENERGY STAR equation, and therefore, the top performers who opt for higher performing materials for durability and duration reasons, are not recognized appropriately.
- There is a natural range in thermal performance based on framing materials. Those materials are chosen for strength, durability, aesthetics, and longevity along with their associated costs. The range needs to be recognized and supported within each category to create a program that encompasses the window and door market as a whole.
- There is a limitation of ENERGY STAR in recognizing top performers in the latest iteration. The latest version doesn't recognize the best solutions for the zones or quantify the actual heating/cooling gains that would be realized with the proposed numbers and glazing solutions.
- There is an oversight as to how performance and associated costs translate to consumer benefit and actual savings both short and long term.
- Energy payback alone is not our customers' main purchase decision, especially without a financial incentive. We know that energy savings are emerging but not a driving force for purchase alone.

Again, the Marvin Companies would like to thank the EPA in its effort to improve communications with the Fenestration Industry.

Respectfully submitted,

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