



February 8, 2013

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The Honorable Senator Mark Kirk  
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The Honorable Senator Dick Durbin  
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The Honorable Representative Joe Walsh  
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**Re: ENERGY STAR for Windows, Doors, and Skylights – Version 6.0 Proposed Product Specifications**

On behalf of the 300 member companies of the American Architectural Manufacturers Association (AAMA) and the estimated 110,000 employees directly impacted by the proposed revisions to the ENERGY STAR program, we offer the following comments in response to Version 6.0.draft 2

Although we are appreciative of the work conducted by EPA to ensure that this program provides consumers with clear paths to energy efficiency, there continues to be a fundamental disconnect of the program's ultimate goals, between stakeholders and EPA.

An estimated 1 billion single pane windows remain in use in homes in the U.S. Stakeholders like AAMA and the EPA share the goal of replacing those with more energy efficient options like high performance double pane windows to help reduce U.S. energy demand. However, it is essential to fully consider the financial position of both, the product manufacturers and the property owners to whom we are directing our efforts.

The demand to exceed IECC 2012, results in prohibitive product cost increases which risks putting these products out of financial reach to the vast majority of today's recession-impacted consumers.

Further, a review of code adoption history, exhibits that just over half of the country has currently adopted the 2009 IECC. One state has adopted the 2012 edition. This is clear indication of the 4+ year lag in IECC adoption throughout the country. Based on this history, 50% or less of the country will have adopted IECC2012 requirements until 2016 and beyond.

Delaying the implementation of ENERGY STAR 6.0 does not risk the integrity or intent of the program. In fact, it maintains a product performance level that has proven to be instrumental in energy savings. According to the EIA's 2009 energy consumption results, demand for heating, cooling and artificial lighting have considerably decreased since 1993 and advances made in fenestration technologies have likely further substantially reduced consumption since 2009.

Homes where single-pane windows and outdated fenestration products remain, are vastly owned by those who can least afford the impact of increased product costs. The availability and affordability of currently marketed, high performing double-pane windows, energy-efficient doors, and daylight introducing skylights and TDDs needs to be maintained in order to continue the nation's and EPA's initiative to reduce energy consumption by replacing underperforming products.

Given the ongoing volatility and uncertainty surrounding the U.S. economy and the States' history of delayed adoption of IECC requirements, AAMA reiterates our position that the 6.0 version criteria proceed only with an open-ended implementation date of 2015, and revisited at that time to ensure a sustained relief in the housing industry and improved economic conditions.

Forcing the implementation of more rigorous criteria during the ongoing economic crisis should not result in jeopardizing the ENERGY STAR program or the capacity for manufacturers' and homeowners' to absorb the additional costs of program enhancements.

### **Future Fenestration Criteria Development**

AAMA appreciates EPA's response that it will continue to maintain an active dialog with stakeholders in future criteria development. We do want to ensure however, that the dialog continues to include the current review process of a stakeholder's meeting, preliminary proposal(s), final proposal and comment periods.

This review and comment process developed throughout the existence of the program is directly responsible for the continued success of the Energy Star for Windows, Doors and Skylights Program and will remain an instrumental process in developing future program iterations.

### **Air Leakage**

We ask that EPA recognize that products bearing the AAMA Gold Label have achieved or exceeded ENERGY STAR standards for air leakage values.

The AAMA NAFS Certification and Gold Label certification program tests air leakage and operating force along with durability requirements. By virtue of passing the rigorous structural, water and air leakage testing required by the AAMA Certification Program, each Gold Label product has achieved air leakage requirements at or above the level required by ENERGY STAR 6.0.

The primary method of Air Leakage requirement for AAMA-certified products should be the AAMA Gold Label.

The wide acceptance of the AAMA Gold Label Certification program is evident; over 18 million windows received AAMA Gold Label Certification in 2012.



### **Installation Documentation Requirements**

AAMA thanks EPA for both recognizing the need for broadening the installation instruction requirements to allow for typical installation(s) and removing the liability exposure of promoting the EPA LRRP. The introduction of the EPA's request to include information on proper product disposal should also allow manufacturers to similarly direct consumers to [www.epa.gov/recycling](http://www.epa.gov/recycling). It should also be made clear that this information should only be required on websites, and not on product labels.

**Table 5: Average Incremental Product Costs**

To accurately report incremental product cost effectiveness throughout the Northern Climate Zone, any analysis must include triple-pane windows in developing and correctly reflecting payback conclusions.

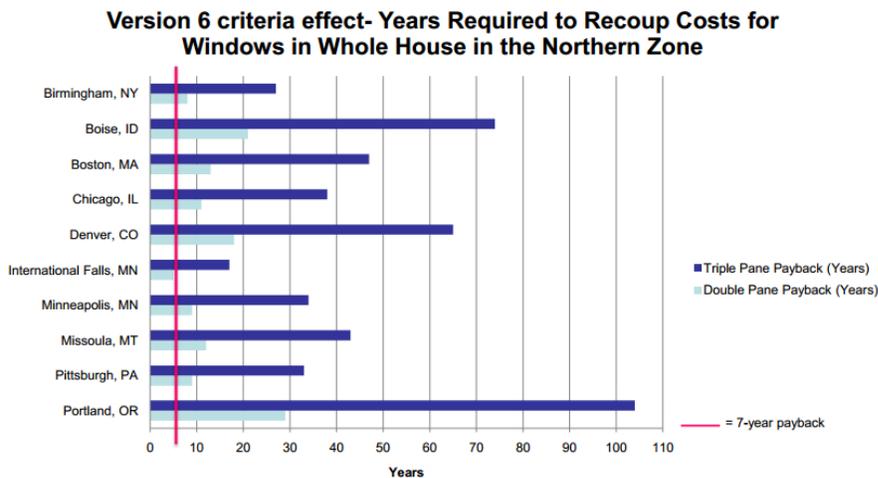
The exclusion of triple-pane windows in the EPA cost analysis, severely understates the conclusions made throughout the “Cost-Effectiveness” portion of Draft 1. Without the inclusion of data on triple-pane windows in Table 5, consumers will be misled on product payback and cost-effectiveness.

Based on an AAMA survey, the average cost increase over Best Selling ENERGY STAR windows resulted in more than doubling the estimated payback time. **In fact, the AAMA data proves the average cost to be more than double the EPA estimated \$34.00 cost increase.**

Zone	U-Factor	SHGC	Average Cost Increase over Best Selling ENERGY STAR Window	AAMA Developed Cost Increase over Best Selling ENERGY STAR Window
Northern	0.27	Any	\$34.00 \$173.00 (Incl. triple-pane)	\$85.38

Additionally, the data offered within Table 8: Calculation of Simple Payback, is detrimentally misleading to any audience who may utilize this chart to make assumptions regarding the value of ENERGY STAR Version 6. The inclusion of recoup costs based on the sale of the home, without expressly and obviously indicating this information within the body of the chart, will undoubtedly lead to erroneous conclusions. Much like manufacturers are closely monitored by the FTC to ensure that all product information is “apparent” and “clearly stated”, it is important that EPA expressly clarify any substantiating data that will be available for public review and analysis.

AAMA supports the inclusion of a chart which accurately depicts recoup costs in a format similar to graphic submitted by an AAMA member company during the August, 2012 Stakeholders meeting.



**North Central U-Factor Criteria**

While the EPA has responded that “there are many different viewpoints on what constitutes a “reasonable” payback period,” it must be understood that EPA’s theory is strongly divergent from consumers. Purchasers will not be prompted to make needed energy-efficient retrofits when presented with an unreasonable payback length of 20+ years or more.

AAMA members currently manufacture products that meet the 0.30 U-Factor, as required within the stimulus program criteria. Therefore, the substantial investment in resources necessary to achieve the additional miniscule benefit of 0.29 as proposed by EPA for the North Central Zone, doesn’t justify the major reconfiguration of fenestration manufacturing in the U.S. to achieve it. AAMA encourages EPA to change the 0.29 to a more reasonable and achievable 0.30.

DRAFT CRITERIA FOR WINDOWS				
	ENERGY STAR DRAFT 2 U-Factor	ENERGY STAR DRAFT 2 SHGC	AAMA Recommendation U-Factor	AAMA Recommendation SHGC
Northern	≤ 0.27	Any	≤ 0.28	Any
	= 0.28	≥ 0.32		
	= 0.29	≥ 0.37		
	= 0.30	≥ 0.42		
North-Central	≤ 0.29	≤ 0.40	0.30	0.40
South-Central	≤ 0.31	≤ 0.25	0.32	0.25
Southern	≤ 0.40	≤ 0.25	0.40	No lower than 0.25

**Door Criteria**

EPA’s decision to adjust the U-Factor maximum to 0.25 was sound and will now allow full-lite and ½ lite doors to use the same glass package. However, to ensure that the window trade-off options included within Draft 2 do not impede the ability to match the glazing color options of doors, we suggest the EPA establish a similar trade-off option for > ½-lite doors in the North Zone, using a U-Factor of 0.32 if the SHGC is ≥ 0.40. This change should significantly reduce the strong possibility of glazing color mismatch of residential fenestration.

Utilizing climate zone specific SHGC criteria additionally presents an issue for some manufacturers who do not currently use climate zone specific labeling. Millions of doors would require a cost-prohibitive labeling revision. Maintaining that all > ½-lite doors remain at 0.30 (exclusive of trade-off allowances) would significantly reduce the number of doors that would require a change to labeling requirements.

DRAFT CRITERIA FOR DOORS					
Glazing Level	ENERGY STAR DRAFT 2 U-Factor	ENERGY STAR DRAFT 2 SHGC	AAMA Recommendation U-Factor	AAMA Recommendation SHGC	
Opaque	≤ 0.17	No Rating	≤ 0.19	No Rating	
≤ - ½ lite	≤ 0.25	≤ 0.25	≤ 0.25	0.25	
		Climate Zone			
>-½ lite	≤ 0.30	Northern	≤ 0.30 trade-off = to 0.32 if SHGC is ≥ = 0.40	≤ 0.30 trade-off equivalent option is ≥ 0.40	
		North-Central			≤ 0.40
		South-Central			≤ 0.25
		Southern			

**SKYLIGHT CRITERIA**

Continuing to dismiss the overall benefits of daylighting on humans and the energy savings realized by reducing the need for artificial lighting has created an ENERGY STAR program for skylights and TDDs that continues to lead to prohibitive manufacturing costs, while significantly decreasing the advantages provided by these products. Studies have been conducted to show the value of introducing daylighting that the EPA can use to glean essential information. These analyses must be reviewed and the information must be used in order for skylight and TDD properties to be correctly developed by EPA.

**Skylight Criteria – Northern Zone**

In defending its position on differentiating SHGC criteria for windows and skylights in the Northern Zone, EPA states its concern for “possible consumer discomfort, especially in the summer months, because skylights receive more direct sun than windows.” The decision to increase criteria and subsequently production costs should not be made on a “possibility.”

Skylight manufacturers are far more familiar with the demands for consumer comfort and ensure that their products address this in order to maintain sales. Products are made with a focus on consumer satisfaction or they are not purchased. Until EPA has conducted a thorough analysis and can provide substance to this assertion, it is imperative that the documented benefit of heat gain in Northern Climates be the determining factor in SHGC requirements.

The effect of the direct sunlight derived from skylights is fairly small, based on the amount of glazing package. EPA did not seek to exceed the IECC criteria for SHGC in windows and has not adequately justified the reasoning for using this criteria for skylights. Any product made with the same configuration (glass package, i.e. thickness, and framing materials) of components should qualify.

Further, according to the EPA Most Efficient criteria for windows, SHGC in Northern Climate is viewed as a benefit, while EPA regards SHGC as a negative for skylights without providing an analysis or justifying this based on technical reasoning.

EPA needs to guard against bias in product categories by forcing one product category to use more expensive components than another product category. Skylights made using identical materials as qualifying double-hung windows should qualify under the final skylight criteria

A complete response from EPA on the background of this decision is necessary.

**Skylight Criteria – Southern Zone**

The rating system for SHGC measures only the percentage of potential heat gain through a fenestration product. EPA used SHGC in their response comment when it appears they meant to reference the amount of Solar Gain only.

EPA did not seek to exceed the IECC criteria for SHGC in windows and has not adequately justified the reasoning for using this criteria for skylights. A response from EPA on the background of this decision is necessary.

DRAFT CRITERIA FOR SKYLIGHTS						
	U-Factor			SHGC		
Climate Zone	Current ES Criteria	EPA Draft 2 Criteria	AAMA Recommendation 2012	Current ES Criteria	EPA Draft 2 Criteria	AAMA Recommendation 2012
Climate Zone	Maximum U-Factor	U-Factor	Maximum U-Factor	Maximum SHGC	SHGC	Maximum SHGC
Northern	0.55	≤ 0.45	0.50	Any	≤ 0.35	Any
North-Central	0.55	≤ 0.47	0.50	0.40	≤ 0.30	0.40
South-Central	0.57	≤ 0.50	0.55	0.30	≤ 0.25	0.30
Southern	0.70	≤ 0.60	0.65	0.30	≤ 0.25	0.30

**Payback Periods**

Until EPA recognizes the daylighting benefit of skylights and the resulting cost savings derived by making consumers less reliable on artificial lighting loads, EPA cannot justify the cost-effectiveness of lowering the SHGC to this level. EPA paybacks currently exhibit 22 – 71 years. Payback periods need to maintain a range that will attract consumers.

### **Skylight Analysis**

Cost effectiveness analyses were more limited for skylights than for windows and do not take into account regional differences and energy savings in each zone. EPA has been provided with cost data by a number of manufacturers that has not been considered in creating the cost/benefit analysis. A more expansive range of costs must be reviewed and utilized by EPA in developing this analysis. Triple pane (which is required in many areas by code) costs are excluded.

Skylight supply side is very regional in many cases. Few companies market their products nationwide. Based on the limited size of the dataset used, valid conclusions cannot be drawn.

RESFEN 5 assumptions do not address the daylighting benefits provided by skylights. Shading which was allowed for windows, was not allowed for skylights.

Additionally, by not subdividing the skylight analysis, very few existing curb mount CPD listings can qualify in all zones under the proposed criteria. More curb mount products need to qualify for ENERGY STAR and be broadly available in order to provide consumers that need a curb mount type with ENERGY STAR options

The assumptions in the referenced documents seem to be biased against modern skylights. We've analyzed RESFEN 5, and while understanding that no alternate tool exists, find the assumptions to be inflexible when attempting to develop an accurate analysis of all of the energy impacts of skylights, such as reduced heating, cooling and artificial lighting loads.

### **Certified Products Directory**

The CPD lists a high number of developmental products, therefore offers limited benefit in providing a feasibility analysis. By utilizing the CPD to inform the selection of criteria, the EPA has further incorrectly extrapolated skylight product availability; skewing cost criteria and availability issues

### **Technical Concerns**

EPA either didn't understand or didn't accurately address the original comments in their response. Responses to technical issues, which may not be understood by EPA, were ignored. Stakeholders have consistently expressed their willingness to assist EPA with specific information on manufacturing and consumer quality assurance that would assist EPA in reaching more coherent determination

### **Conclusion**

AAMA and its members are invested and concerned stakeholders in the ENERGY STAR program.

ENERGY STAR products should not be something that only the rich can afford for their homes. To reduce the strain on our nation's energy resources, ENERGY STAR products must be affordable to ALL homeowners.

The goal of ENERGY STAR should not waiver based on self-imposed time constraints to update the program. We also know that advancing beyond the IECC2012 is unnecessary as individual state adoptions will likely be deferred for several years.

EPA and stakeholders can take pride in the tremendous reduction in energy consumption already witnessed and documented across the program. A multitude of ENERGY STAR qualified, high performing, energy-efficient fenestration products are currently available at a price point attainable to many consumers. And as the economic crisis eases, many more will be able to invest in these products.

Placing revisions to the ENERGY STAR program on hold for an additional twelve months offers an opportunity to monitor and reassess the economic climate and allows manufacturers who are also climbing out of the worst economic conditions in 50 years to gradually invest in necessary and costly retooling.

In addition to sharing our comments with EPA, and members of the Congressional delegation in Illinois where AAMA is headquartered, AAMA members will also be sharing this input with members of their Congressional delegation in their respective states.

We fully appreciate the work and dedication of all involved in developing and supporting the ENERGY STAR program and aspire to maintain a program that assures its continued success. The members of AAMA remain dedicated to providing input to EPA to help create a workable, affordable program that achieves the goal of helping Americans save energy in their homes.

Thank you for this opportunity to comment on the proposed revisions to ENERGY STAR. We are available to further discuss any of our recommendations at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Rich Walker". The signature is fluid and cursive, with a long horizontal stroke at the end.

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