



September 28, 2012

Mr. Doug Anderson
Environmental Protection Agency
1200 Pennsylvania Avenue, NW Washington, DC 20460

The Honorable Senator Mark Kirk
524 Hart Senate Office Building, Washington DC 20510

The Honorable Senator Dick Durbin
711 Hart Senate Office Building, Washington DC 20510

The Honorable Representative Joe Walsh
432 Cannon HOB Washington, DC 20515

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.

While the ENERGY STAR program has successfully educated consumers on the tremendous energy savings of high-performance fenestration products; it is imperative that the ability to purchase these products remain at affordable levels, attainable to the average homeowner.

America remains in the midst of a devastating housing market that has dramatically reduced, and in many cases decimated the value of U.S. homes. As a result many Americans have now put off housing upgrades that ultimately may save money on energy costs, but are unaffordable at the outset. As the nation's housing economy plummeted, EPA expanded LRRP requirements which significantly increased the cost of window, skylight and door installations to homeowners.

During this severe and prolonged economic downturn, many American fenestration manufacturers have closed plants, merged operations or ultimately eliminated jobs to endure the 76% decline in single family new home construction and a paralyzed remodeling market. In fact, AAMA member companies reported a loss of 60,000 jobs from peak levels throughout the economic crisis.

While 2009-2010 sales were buffered and driven by a much needed tax credit, it became immediately apparent in 2011 (upon the removal of the tax credit) that homeowners were unable to continue to invest in these products without the reduction in price afforded through the tax credit.

It is imperative to note that the 2009-2010 stimulus program resulted in offering a 30% discount to homeowners purchasing windows and doors. The tax credit is no longer in effect. Therefore the data for 2009-2010 sales should not be used as a basis for the significant and drastic revisions proposed by the EPA to the ENERGY STAR program at this time.

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 double or triple pane windows to help reduce U.S. energy demand. However, it is essential to fully consider the financial position of the property owners to whom we are directing our efforts.

Given the ongoing volatility and uncertainty surrounding the U.S. economy, 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 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 encourages the use of any future fenestration criteria development program that is helpful to EPA in developing a process that proves easier and less costly to administer to all stakeholders. However, it is critical to maintain the current review process of a stakeholder's meeting, preliminary proposal, final proposal and comment period. 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.

While we are fully aware of budget constraints at the federal level, it is important to recognize that throughout the ongoing economic crisis, which continues to heavily impact fenestration manufacturers, stakeholders have continued to commit costly resources to maintain and develop the ENERGY STAR program. We entrust that EPA will fully consider how any changes to the program development will impact its ongoing success

If expected budget constraints will impede EPA's commitment to a process that has been carefully constructed to deliver a program of this magnitude; the participating stakeholders would likely agree to maintaining Version 5.0 until such time as federal budgets allow for full participation on behalf of EPA.

Structural Requirements

The AAMA NAFS Certification and Gold Label cover air leakage and operating force along with durability requirements. As EPA has now acknowledged that original data suggesting the use of NAFS certification was significantly understated, AAMA reiterates its positions that the current network of laboratories are fully-equipped to absorb any additional testing. Moreover, the recently introduced EPA Most Efficient Program also requires NAFS Certification. The two programs should not differ on this requirement.

Air Leakage

The primary method of requirement should be AAMA or other third-party certification labeling. Secondary route would be the inclusion of air leakage data exhibited only as a rating of $\leq .3$ on the NFRC temp label.

AAMA however, further stipulates that air leakage values are only valid with the prerequisite of operating force.

AAMA encourages EPA to eliminate the need for duplicative testing; therefore the air leakage performed as a part of NAFS testing would require the following changes:

- Create a field in the NFRC database to accept E283 test results as reported per NAFS requirements
- Accept data from labs cited by the NFRC IAs in their role of NAFS certifiers

Installation requirements

While AAMA understands the importance of proper installation of windows, skylights and doors, we recognize that installation methods can vary greatly by type of building construction and product manufacturer. Therefore, we request that the ENERGY STAR language be changed and limited to only the following statement: *"To qualify for ENERGY STAR, products shall have instructions for TYPICAL window, door and skylight installations like those identified in the AAMA InstallationMasters Program, readily available."*

While AAMA fully supports safety in all renovations, manufacturers cannot be expected to assume liability issues that will likely arise from the promotion of using lead test kits that continue to register exceedingly high false-positive results. Any LRRP information should be **developed by and solely attributed to EPA**, with a link provided to the EPA LRRP website to educate homeowners on the LRRP Program.

Use of NFRC Certified Products Directory

The CPD is not reflective of sales as it lists many products not currently in production. In fact the eight million products listed in the CPD reflect 25% greater than the actual number of units available for sale. Therefore any reference to the CPD leads to invalid assumptions and conclusions.

For example:

- In Figure 3, the double hung information cannot be correlated – (points below 0.29)
- Information garnered through the CPD should be reassessed to incorporate actual manufacturing costs

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.

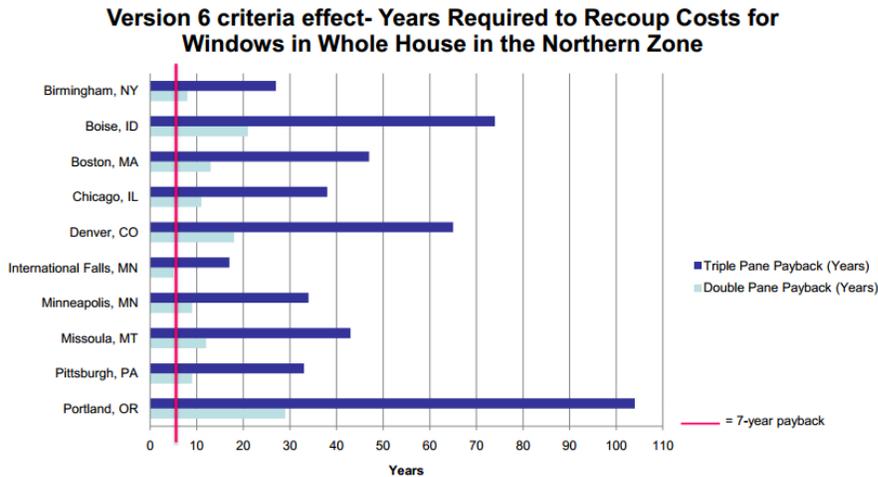
The exclusion of triple-pane windows in the EPA cost analysis, severely understates the conclusions made throughout the “Cost-Effectiveness” portion of Draft 1. Without the inclusion of data on triple-pane windows in Table 5, consumers will be misled on product payback and cost-effectiveness.

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.



Base window packages - “Window 311”

The 311 windows used at a U-value of .49 in the North Central, Central and South analysis are not representative of the large number of single pane windows installed within these climate zones. The analysis should be recreated and correctly interpreted to properly account for accurate product usage in these areas.

Tubular Daylighting Devices

TDDs should be split out into their own category with unique TDD-specific performance requirements. This would be supported by the fact that TDDs undergo physical testing methodologies that differ from traditional skylight products, and new annual performance metrics that are being developed by the NFRC will further set TDDs apart in their performance standards.

Additionally, modifications to the only available U-factor test apparatus have resulted in 60 to 90% increase for products that have current U-factor ratings. Since U-factor ratings are used as a primary measurement, SHGC values will also be impacted by changes to the test apparatus which will result in higher SHGC ratings as well. The proposed performance standards would prevent ANY TDD product from obtaining ENERGY STAR qualification.

Qualification Criteria: Spec Draft

Draft 6.0 language regarding qualification criteria should be revised as shown in underline/**bold** below.

Energy Efficiency Requirements: To qualify for ENERGY STAR, products shall have NFRC-certified **and labeled** U- factor and, where applicable, SHGC ratings at levels which meet or exceed the minimum qualification criteria specified in Tables 1-3. Windows and skylights shall meet the criteria for a given ENERGY STAR Climate Zone. Doors shall meet the criteria for a given glazing level. Dynamic glazing products shall meet the criteria while in the minimum tinted state for chromogenic glazing products or the “fully open” position for internal shading systems.

Proposed Revisions to Product Criteria

AAMA members fully support ENERGY STAR performance criteria for windows, doors, and skylights; however, it is imperative that criteria values are accurate for each climate zone, affordable to produce, and provide homeowners and manufacturers with a reasonable return on investment. Table 1 (below) exhibits manufacturer recommended U-Factor and SHGC levels based on production costs versus homeowners anticipated Return on Investment (ROI) in energy savings.

North Central U-Factor Criteria

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						
	U-Factor			SHGC		
Climate Zone	Current ES Criteria Maximum U-Factor	EPA Draft 1 Criteria	AAMA Recommendation	Current ES Criteria Maximum	EPA Draft 1 Criteria	AAMA Recommendation
Northern (IECC 5-8)	0.30	≤ 0.27 Tradeoff = 0.28	0.29 For simplicity, eliminate trade-off	Any	Any Tradeoff = ≥ 0.32	Any For simplicity, eliminate trade-off
North Central (IECC 4)	0.32	≤ 0.29	0.30	0.40	≤ 0.40	0.40
South-Central (IECC 3)	0.35	≤ 0.31	0.32	0.30	≤ 0.25	0.25
Southern (IECC 1& 2)	0.60	≤ 0.40	0.40	0.27	≤ 0.25	No lower than 0.25

Door Criteria

Doors do not follow climate zones like windows. A higher SHGC should be permitted for glass doors (> 50% glazing) so that homeowners can achieve uniformity in fenestration throughout the residence. Additionally, exterior overhangs are frequently used to shade this fenestration element.

EPA needs to follow the NFRC requirements for determining ½ lite and full lite doors.

DRAFT CRITERIA FOR DOORS						
Climate Zone	U-Factor			SHGC		
	Current ES Maximum	EPA Draft 1 Criteria	AAMA Recommendation	Current ES Maximum SHGC	EPA Draft 1 Criteria	AAMA Recommendation
Opaque	0.21	≤ 0.17	0.19	No Rating	N/A	No Rating
≤ ½ Lite	0.27	≤ 0.23	0.25	0.30	≤ 0.25	0.25
> ½-Lite	0.32	≤ 0.30	0.30	0.30	≤ 0.25	0.30

*Air leakage for sliding doors must be ≤0.3 cfm/ft²
 *Air leakage for swinging doors must be ≤0.5 cfm/ft²

Skylight Criteria

The proposed criteria for Skylights, appears to have been produced using a significant lack of analysis. With this proposal, EPA not only disregards the tremendous value of daylighting in reducing home energy usage and costs, but proposes criteria that can actually result in poorer energy performance. Furthermore, the criteria proposed will not result in significant national energy savings and is likely to cause significant, economical distress to skylight manufacturers and jeopardize the thousands of jobs affected by this sector.

AAMA believes that skylights should have been evaluated in a method similar to windows which used double-hung as a surrogate for all window types. EPA instead chose to lump all skylight types together which disadvantages the worst performing sub-types. AAMA suggests the use of curb-mounted skylights to conduct the analysis.

EPA has not justified the availability assumptions for skylights as was done for windows in section 3.2.2 of the analysis.

Any skylight made using identical materials to those used in the manufacture of qualifying double-hung windows should qualify under the final skylight criteria.

EPA does not provide data justifying significantly different SHGC criteria between windows and skylights (as in the two north zones), nor the same criteria (as in the two south zones).

AAMA believes the SHGC for skylights in the two south zones should be higher than for windows for the following reasons:

- Sloped installation results in a higher measured SHGC than the same product measured in a vertical orientation.
- The 2012 IECC set the prescriptive skylight SHGC at 0.30 where windows must be at 0.25.
- In many applications, reducing SHGC does not necessarily result in better energy performance because it is application dependent.

Additionally, lower SHGC's in northern climates usually results in poorer energy performance.

Payback calculations indicate the proposed criteria are not economically justified, especially in the southern zones, even using the understated incremental costs. These additional costs for discretionary products such as a skylight would likely preclude their use based on lengthy payback periods and minimal savings. Homeowners will no longer be able to afford skylights that qualify.

Much clarification is needed on the modeling tool used to develop product analysis to determine if it was accurate enough to assess all energy impacts of skylight products at NFRC standard slope. Not knowing which modeling tool was employed could unreasonably penalize the skylight category.

In consideration of the above comments, we submit the following revisions to the criteria for skylights.

DRAFT CRITERIA FOR SKYLIGHTS						
	U-Factor			SHGC		
Climate Zone	Current ES Criteria	EPA Draft 1 Criteria	AAMA Recommendation 2012	Current ES Criteria	EPA Draft 1 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

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 save our nation's precious energy, ENERGY STAR products must be affordable to all homeowners, from low-income homeowners, to the middle class to millionaires.

However, imposing demands which will ultimately prove to unnecessarily and dramatically increase the cost for everyone, including needlessly driving up the cost of manufacturing qualifying products, will significantly impact the ability of American homeowners to invest in energy-efficient products.

We do not support the EPA's decision to move forward with revisions to a program that has successfully directed consumers toward products that can be manufactured and sold at a price point which offers millions of homeowners an affordable opportunity to upgrade to energy-efficient technologies within the current economic climate.

The original goal of ENERGY STAR needs to remain in focus: to save energy.

The current EPA proposal has strayed significantly from the program's original intent. In these volatile economic times, and at this pivotal point in our nation's future, AAMA encourages EPA to adopt AAMA's recommendations, to ensure that the ENERGY STAR program is truly affordable and attainable to Americans from all regions, and all income levels.

Placing revisions to the ENERGY STAR program on hold for an additional twelve months offers an opportunity to monitor and reassess the economic climate. This extension can be utilized to make necessary adjustments to the NFRC CPD, allowing for more accurate assumptions to be utilized in both, the ENERGY STAR program and the pending Independent Verification Program.

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 prominent initial "R".

Rich Walker
AAMA President and CEO
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