



Via Electronic Submission

September 28, 2012

Doug Anderson
ENERGY STAR Home Improvement Program
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

Subject: ENERGY STAR® Program Requirements for Residential Windows, Doors, and Skylights – Version 6.0 Draft 1 Eligibility Criteria and Draft 1 Criteria and Analysis Report

Dear Mr. Anderson:

The Window and Door Manufacturers Association (WDMA) would like to provide the following comments for consideration by EPA on the ENERGY STAR for Windows, Doors, and Skylights – Version 6.0 Draft 1 Eligibility Criteria and Draft 1 Criteria and Analysis Report.

WDMA appreciates the opportunity to provide our comments. As you know, WDMA members have been long supporters of the ENERGY STAR program and have contributed substantially in growing the ENERGY STAR brand in the window, door and skylight sector.

To briefly preface our comments, they are based on several guiding principles that WDMA strongly believes are critical to the effectiveness of the ENERGY STAR windows, doors and skylights program. Those principles are also in line with the guiding principles of the ENERGY STAR program as a whole.

Specifically:

- Improving the energy efficiency of existing homes, particularly the replacement of the existing stock of single-pane windows, skylights (including converting plastic to glass) and glass doors with energy efficient products represents one of the greatest opportunities for reducing residential energy use in North America. The ENERGY STAR windows, doors, and skylights program should play a critical role in achieving that objective.
- Revisions to program requirements must not undermine the reasonable affordability or availability of ENERGY STAR fenestration products which is critically important to consumers in their decision to purchase them.
- Energy savings must also provide meaningful upfront savings in energy costs and reasonable payback periods if the program is intended to also drive consumer acceptance and use of energy efficient products.. Without the benefit of a reasonable rate of return on the decision to purchase ENERGY STAR products, the importance and value of the program to the consumer will be greatly diminished.
- Development and implementation of the Version 6.0 criteria must take into consideration the logistics and seasonality of product manufacturing, the time and resources necessary for

new product launches, and for this revision in particular, the extreme economic challenges that are currently being faced in the US.

- Program requirements should be streamlined to the extent possible, should allow adequate flexibility for options with minimal impact on energy performance to be added without affecting a product's qualification, and the program in general should better align with the Canadian ENERGY STAR fenestration program to remove unnecessary barriers to commerce.

With those guiding principles in mind, we offer the following comments:

Consideration of Structural Requirements

We continue to support the inclusion of new provisions in the Version 6.0 criteria that would require window, skylight and sliding door products to be tested and certified to applicable structural requirements, in particular the North American Fenestration Standard/Specification for windows, doors, and skylights – AAMA/WDMA/CSA – 101/I.S.2/A440 (NAFS) as a pre-requisite for ENERGY STAR qualification. We are therefore disappointed EPA does not intend on including such requirements in Version 6.0, for the following reasons.

First, we concur with EPA's belief that "a structural requirement could help ensure that consumers are purchasing quality fenestration," and while that may not "translate to immediate energy-savings benefit" it is directly related, especially as indicator of product quality and assurance of long term energy efficiency performance.

Second, while no single database for structural (and water penetration) certification similar to that for thermal performance exists as stated in the report, an inability on that basis to verify whether many or most existing ENERGY STAR qualified products are already certified to these critical performance attributes should not be a primary determinant for not requiring conformance with them. The same is true for EPA's concern that it would have to develop new educational content for consumers on how to read certification labels. We do not believe that would be burdensome, especially when such educational content could simply indicate to the consumer that an ENERGY STAR qualified product also ensures that the product has been tested and certified to additional structural and water penetration requirements required by building codes for new construction. We believe this would be a significant boost to consumer confidence in the ENERGY STAR brand.

Again, testing and certification to the NAFS is already required for compliance with the applicable structural requirements for these products by the International Building Code (IBC) and International Residential Code (IRC) -- ENERGY STAR qualified window, skylight and sliding door assemblies used in new construction must therefore be NAFS certified anyway. We believe that ENERGY STAR criteria needs to ensure that ENERGY STAR qualified products used in existing construction meet the same structural performance requirements as for new construction.

For those reasons, we believe that the ENERGY STAR program should also require water penetration resistance, in addition to structural and air leakage requirements in accordance with or consistent with NAFS. We believe that water penetration resistance is a critical durability attribute that should also be embodied in the ENERGY STAR program. The incorporation of water penetration resistance as well as structural requirements in the ENERGY STAR criteria is consistent with and compliments the incorporation of new air leakage requirements in Version

6.0, all of which we believe would add greatly to the strength and credibility of the overall residential windows, doors and skylights program.

Regarding the Agency’s concern that new requirements for NAFS certification could lead to a backlog at testing facilities and inundate WDMA resources, we believe such concerns, while appreciated, may be greater than warranted. We believe the Agency’s concern is based on a significant underestimation of the number of ENERGY STAR products that are already NAFS certified. As EPA indicated in the Analysis Report, there are sufficient accredited entities for testing and certifying products to NAFS.

Air Leakage

WDMA is supportive of including air leakage requirements in Version 6.0 under provisions that are consistent with the IECC, as proposed. As the agency has noted, this requirement can be met by most if not all fenestration product available on the market. We believe that ENERGY STAR criteria needs to ensure that ENERGY STAR qualified fenestration products installed in existing homes and buildings meet the same air infiltration performance requirements for fenestration installed in new construction. We believe the inclusion of air leakage requirements will add greatly to the strength and credibility of the residential windows, doors and skylights program.

Regarding the specific test requirements, ASTM E283 is the correct test method that must be specified for air leakage, however the way the requirement is to be incorporated into the Eligibility Criteria needs to be reconsidered.

Specifically, ASTM E283 is the test method only. NFRC 400 specifies additional conditions for performing the test and is only one path for accomplishing this. Another more universally used path is certification under the North American Fenestration Standard (NAFS), which also requires testing to ASTM E283 for air leakage and like NFRC 400, provides additional conditions for performing the test. Further, as indicated, air leakage testing in accordance with NAFS is actually the path most widely used by manufacturers. NAFS certification should therefore also be expressly provided for in the Eligibility Criteria in the same way NFRC 400 is.

The conditions specified by NFRC 400 and NAFS are necessary to ensuring and affirming testing has been conducted properly. We therefore recommend the section 4) Test Requirements in the Eligibility Criteria be revised to expressly state and clarify that the test method is ASTM E283 and that it must conducted in accordance with either NFRC 400 or NAFS. Table 6 in the criteria could be modified as shown (shaded) below to accomplish this.

Table 6. Test Methods for ENERGY STAR Qualification	
ENERGY STAR Requirement	Test Method Reference
U-Factor	NFRC 100
SHGC	NFRC 200
Air Leakage	ASTM E283 in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440-11

Regarding the label requirement, we support the requirement of displaying “≤ 0.3” and “≤ 0.5” on the NFRC temporary label accordingly, and recommend an additional option allowing manufacturers to include a statement on the label expressing the same as an alternative labeling method, e.g. “Air Leakage: Meets or exceeds an air leakage rate of ≤ 0.3”, for windows, sliding doors, and skylights, and “Air Leakage: Meets or exceeds an air leakage rate of ≤ 0.5” for swinging doors.

In addition, we urge acceptance of existing certification programs where air leakage testing is required, such as WDMA's Hallmark Certification Program, as a means of verifying qualification to EPA's air leakage requirement. In order to bear the WDMA Hallmark Certification logo, a manufacture must pass the required testing to the industry standard AAMA/WDMA/CSA 101/I.S. 2/A440, which as noted previously includes testing for air leakage(as well as water penetration, structural testing, etc.).

Regarding the inclusion of air leakage ratings in the NFRC CPD (Certified Products Directory) as is currently being discussed, we are strongly opposed to that approach. As we've commented in the past, this is currently not done because it would add needless, very challenging complexity and costs to the documentation practices manufacturers must already follow and more importantly, it simply isn't necessary.

Specific air leakage values beyond what is already required by most energy codes and what is proposed for Version 6.0 is aslo not a product characteristic used for product selection because air infiltration rates below 0.3 cfm/ft² have an insignificant impact on the energy performance of the fenestration assembly and overall energy performance of the home or building they are installed in. Furthermore, if a consumer or contractor wishes to obtain air leakage rate information for a specific product, it is readily available from the manufacturer. Therefore there is very little to no value to including specific air leakage rates in the CPD or for use as a search criteria in the forthcoming CPD-based ENERGY STAR search tool. We believe it would seldom if ever be used. In addition, including test results in the CPD would serve no purpose with respect to verifying compliance with the ENERGY STAR air leakage qualification criteria.

Installation Instructions

While we believe the current consumer guidance regarding proper installation provided by the ENERGY STAR program coupled with current building code provisions requiring manufacturers to provide installation instructions is adequate for ensuring installation instructions are provided or made available, we are not opposed to the inclusion of a qualification criteria requiring manufacturers to make installation instructions readily available on-line or package them with the qualified product. However, we are opposed to EPA specifying what must be included in the instructions as currently proposed for the following reasons.

First, each of the seven provisions ("i)" – "vii)") is ambiguous in terms of what would constitute compliance. This will cause confusion and lead to subjective and inconsistent application of the criteria, especially with no guidance on how compliance with them would be evaluated or verified, by who and when, etc.

Second, several of the provisions are simply impractical or unreasonable. For instance:

- item "i" requiring a listing of hardware and tools required for installation and further requiring identification of those provided by manufacturer and those that are not. Given the spectrum of tools and varying hardware that might be needed depending upon the particular circumstances of the installation, the fact some installers may use different tools for the same purpose, etc., this provisions would likely lead to more confusion than good guidance it is intended to provide;
- item "iii" would require manufacturers to provide information on potential lead based paint hazards and safe work practices if lead based paint is present for all installations regardless of whether or not the home is pre-1978 target housing. This will only add to

consumer confusion, create undue concern, and confuse and in effect expand the scope and application of EPA's Lead; Renovation, Repair and Painting Program rule. This issue is already adequately covered by EPA and by installers who are performing window, door and skylight replacements in pre-1978 target housing and should not be included as an ENERGY STAR qualification criteria; and,

- item "vii" essentially requires manufacturers to provide instruction variations for every type of installation and also account for any type of site specific circumstance that may be encountered. While some common variations could be provided for, it is not possible to account for all making this an unreasonable expectation in our opinion.

Third, for the reasons stated above this would also add significant administrative burden and cost to the operation of the program by EPA, and to participation in the program by manufacturers.

Fourth, installation instructions are of little benefit if they are ignored or not followed properly which is out of the control of the manufacturer despite whatever effort manufacturers make to provide them and disclaimers manufacturers may include with respect to following them.

Again, we are not opposed to the inclusion of a qualification criteria requiring manufacturers to make installation instructions readily available on-line or package them with the qualified product, but believe this can be accomplished without the added complication and problematic listing of criteria as currently proposed. Additionally, to reemphasize as noted above, building codes already require manufacturers to provide installation instructions.

If a requirement for installation instructions is incorporated into Version 6.0, we recommend deleting the proposed listing of items "i" – "vii", but maintain the charging language of, "To qualify for ENERGY STAR, products shall have installation instructions readily available online or packaged with the product. Electronic versions of instructions may be provided on the website of a retailer, manufacturer, and/or industry association."

Proposed Revisions to U-factor and SHGC Product Criteria

In general we believe the ENERGY STAR for windows, doors, and skylights program has reached a point where any revisions to the existing criteria need to be much more carefully considered than in past revisions. Efficiency requirements for fenestration have reached levels of diminishing returns in overall home energy efficiency and cost effectiveness, especially when considering the significantly greater costs for producing fenestration that must meet substantially more stringent requirements.

On the whole we believe the greatest gains to be made in improving cost-effective home energy efficiency exist with reasonable increases in stringency for the Southern, South-Central and North-Central climate zones, in particular the Southern zone. Our members are concerned that overly aggressive requirements, especially those currently proposed for windows and skylights for the Northern Zone will result in less affordable fenestration products that are yielding diminishing return, non cost-effective options for improvements in overall energy efficiency of the homes they are installed in, especially for replacement in existing homes.

Regarding the Agency's assessment of technological feasibility and product availability in relation to the product criteria currently being proposed, we continue to be concerned that the Agency's is relying too heavily on the product information contained in the CPD and assumptions of availability based upon what manufacturers offer in their product portfolios as an

indicator. Again, as the Agency knows, the CPD is not appropriate nor is it intended to be used for any of those purposes and while we appreciate EPA's attempt to better assess what products are actually manufactured and sold, this cannot be determined or assumed based on an aggregation of what manufacturers offer in their respective product portfolios. We believe that EPA has therefore incorrectly determined that the CPD is representative of products available for sale.

That said, we believe that any decision or assumption regarding whether changes in the program criteria are acceptably feasible, overly burdensome on manufacturers, or other assumptions about the industry's ability to produce affordable, cost effective fenestration products or actual energy savings that may result need to be reconsidered if they are based primarily or in large part on data contained in the CPD and assumptions based on manufacturers' product portfolios.

With those points in mind and based upon the feedback we have received from our members, we offer the following recommendations and comments on the specific criteria changes being proposed.

Windows

We believe that the proposed U-factors of 0.27 for the Northern Climate Zone and 0.29 for the North-Central Climate Zone are overly aggressive and unjustified at this time and we strongly urge EPA to reconsider them. While we appreciate the energy savings and cost analysis performed by the EPA, we do not believe that the analysis provided adequately justifies the proposed reductions in those two zones. We recommend setting the U-factor for the Northern Climate Zone at 0.29, or retaining the current 0.30, and setting the U-factor for the North-Central Zone at 0.31 or 0.32 for the following reasons.

First, the data sets that EPA has relied upon for determining average incremental and marginal cost increase are too limited. We are concerned that basing those cost increase calculations on data provided by only eight manufacturers may significantly underestimate the true average incremental and marginal cost increases necessary to an appropriately accurate analysis. Given the little background information on the cost surveying process employed by EPA and the feedback provided in response, it is uncertain whether those costs even accurately represent the top 20 manufacturers or top 100, let alone the hundreds of window manufacturers that are currently ENERGY STAR Partners.

Incremental costs can vary greatly depending on many factors which impact to what extent modifications are needed to a particular product design or line, manufacturing processes, supply chain, etc. Subjective assumptions about them should not be made to substantiate the feasibility of significant changes to eligibility criteria. For instance, EPA makes an assumption that surface four coatings or triple panes are not necessary. That is not true in many cases and we believe that EPA has disregarded that fact in its analysis.

Given these costs are fundamental to EPA's determination of cost effectiveness of proposed eligibility criteria, we believe the Agency should make a greater effort to secure more comprehensive cost increase data that can be soundly shown to be accurately representative before determining that a particular criteria change, in this case from a 0.30 to 0.27, is in fact cost effective and as easily feasible as EPA asserts. Based on the limited data EPA has used in this instance, that determination is subjective in our opinion and therefore should be reconsidered based upon additional comments received from manufacturers.

Second, it is difficult to discern on what basis or measure EPA used to determine that the cost increases, whether accurate or not, and the subsequent payback periods are cost-effective or acceptable. With respect to an explanation of the determination made by EPA that the cost increases to manufacturers resulting from the proposed criteria change are reasonable, there appears to be only the presentation of data in Table 5 included in the analysis report followed only by the brief statement, "The data in Table 5 demonstrates that the additional cost to manufacturers is reasonable." However there is no further explanation of that determination. We believe that a more substantive explanation should be provided to support that determination.

With respect to consumer payback periods for the increased costs, they are simply reported as calculated without reference to any benchmark. We believe that a more reasonable and acceptable payback period for cost increases resulting from criteria changes falls within the range of 7-10 years. The official payback period used by the National Association of Home Builders (NAHB) to determine the cost-effectiveness of amendments to residential energy code requirements is 10 years. Except in the Southern Climate Zone, the payback periods in nearly all other locations in the South-Central, North-Central and Northern zones somewhat to greatly exceed a 10 year payback. We believe that setting the Northern and North-Central U-factors at 0.29 or 0.30 and 0.31 or 0.32 respectively, will result in a more acceptable payback period while still achieving significant gains in energy efficiency, especially for the replacement market.

Third, the cost-effectiveness analysis appears to be based only on energy savings achieved by replacing single clear or double clear windows with windows meeting the proposed Version 6.0 criteria. While we agree this is an accurate representation of energy efficiency gains achieved through window replacement in existing homes with inefficient single and double pane windows, it is not representative of the gains that are achieved in new construction. The gains for ENERGY STAR qualified products used in new construction would be significantly diminished and the payback period significantly increased based on annual energy cost savings calculations using the difference between the energy performance of a (the) "standard" product (either ENERGY STAR version 5.0 or the 2009 IECC), consistent with the way EPA estimated the marginal cost increases. While roughly 70% of the current window market is replacement, new construction is still substantial and the current 30% new construction market share will grow as the economy and new home construction recovers during projected effective period for Version 6.0. We believe this should also be reflected in the cost analysis to better evaluate the overall impact of the proposed criteria.

Windows Equivalent Energy Performance

We respect, but disagree with EPA's reversal in proposing to remove the equivalency provision. We do not believe it adds sufficient value to the program to justify continuation of it, especially if the Agency is intent on avoiding "special treatment" of products as it has indicated in reasons for not proposing provisions for higher altitude or impact resistant products.

Furthermore, we agreed with the Agency's assessment and reasoning for removing the provision as presented in the Framework document and see no explanation or discussion in the Analysis Report of why EPA's assessment and proposed discontinuation of the provision changed. Was further analysis conducted?

Doors

Our primary concern with the door criteria is the proposed SHGC of 0.25 for doors with lites, especially for doors with half-lites or greater. As we stated in our comments in response to the Framework document, it will require mismatched glass packages which is problematic for manufacturers and also unacceptable to consumers. While we appreciate EPA's recognition of our concern and evaluating it further, the COG VT assessment used as the basis for that evaluation is not a proper measure for evaluating that concern because the COG VT can be substantially similar between glass packages with different coatings, while the visual appearance can be substantially different and very obviously apparent.

Furthermore, as shown by EPA's energy analysis, the gains in energy efficiency even with the added reduction in U-factors are minimal for doors with \leq 1/2-lite, and negligible for doors with \geq 1/2-lite, with very long payback periods. Maintaining the current 0.30 SHGC for doors would have very little impact on overall energy efficiency.

We therefore urge EPA to reconsider the proposed door SHGC's based upon a visual evaluation of actual specimens and again recommend the SHGC for doors remain at 0.30.

Skylights

As with the proposed window U-factors for the Northern and North-Central Climate Zones, we believe the proposed skylight SHGC's values for all four climate zones -- especially the imposition of any SHGC for the Northern Climate Zone -- and the U-factor of 0.45 for the Northern Climate Zone is overly aggressive and unjustified. We likewise strongly urge EPA reconsider them.

Again, while we appreciate the energy savings and cost analysis performed by EPA, we do not believe that the analysis provided adequately justifies these proposed criteria. We therefore recommend:

- maintaining a SHGC of 0.30 for the Southern and South-Central Climate Zones
- setting the SHGC in the North-Central Climate Zone no lower than 0.35
- maintaining a SHGC of "Any" for the Northern Climate Zone as it is for windows
- setting the U-factor for the Northern Climate Zone no lower than 0.50

First, the data sets that EPA has relied upon for determining average incremental and marginal cost increases for skylights appear to be even more limited than those for windows with no indication of how many manufacturers actually provided cost data. Like windows and for the same reasons stated, we are concerned the cost increase calculations based on limited input significantly underestimates the true average incremental and marginal cost increases that will be incurred, that the determination that they are reasonable and cost-effective is too subjective, and believe that the Agency should reconsider the proposed criteria based on more comprehensive cost increase data.

Second, citing our earlier comments on what we believe are more appropriate payback periods, the skylight payback periods reported in the analysis report not only greatly exceed

a more reasonable payback period of 7-10 years on the whole, they clearly show that the proposed criteria are simply not cost-effective period.

Third, there are inconsistencies with the technological feasibility and product availability analysis performed for skylights versus that performed for windows that we believe resulted in a disproportionately greater increase in criteria stringency for skylights than for windows and doors. Specifically, had the analysis for skylights been based upon a venting curb mounted skylight product for instance, which is comparable to a double-hung product used for the windows analysis, there would be far less justification for the currently proposed skylight criteria and far greater justification for the skylight criteria we are recommending above. The far greater drop in projected market share for proposed Version 6.0 skylights versus that for windows or doors clearly indicates the disproportionate impact on the skylight market as a result of the inconsistent analysis.

Fourth, there does not appear to be substantive analysis in the report justifying the proposed SHGC criteria for any of the four climate zones, especially for the Northern Zone. Nowhere in the report is there a discussion or evidence of why SHGC requirements are for the first time being proposed for the Northern Climate Zone or why the far reaching SHGC changes proposed for the North-Central Zone are lower than those for windows in that zone. Not only are both inconsistent with established energy codes and green building program requirements which incorporate different SHGC requirements than those for windows because of the additional daylighting benefits skylights provide, they seem to ignore those daylighting benefits as well as the passive solar heating benefits skylights provide in these climate zones.

For the reasons stated above, we strongly urge the Agency to reconsider the proposed skylight SHGC criteria for all four climate zones and the U-factor criteria for the Northern Climate Zone and recommend setting the criteria as proposed by WDMA above.

Products Installed at High Altitude

We are disappointed the Agency is not proposing any provision for products installed at higher altitudes. We maintain that a reasonable, limited allowance in U-factor in Version 6.0 would address the concerns raised by manufacturers who produce window, door and skylight products for installation in higher elevations beginning at 4000 feet. Again, the use of breather tubes remains the most common and proven method for properly ensuring that pressure changes in response to altitude changes do not result in damage or unacceptable distortion of the glazing assembly. We believe the ENERGY STAR criteria should account for that with an allowance in U-factor limited to 0.40 or less. This would adequately address these practical manufacturing concerns without significantly compromising energy efficiency in the fenestration product or energy performance of the home, especially for replacement in existing construction. Even if the elevation threshold for the allowance were set at 6000 feet, and with a U.S. population of less than 3% living in those regions, the market is still significant and it's critical that those consumers are provided with the broadest possible range in availability and affordability of ENERGY STAR products.

Regarding the reasons EPA has cited for excluding such a provision, we understand that some program administration additions would be necessary but don't believe they are as difficult complex as EPA asserts. Program staff and ENERGY STAR Partners could cooperatively work those details out with minimal impact on program costs, avoid market confusion, and under

existing enforcement responsibilities. With respect to the other available technologies and alternative paths cited by EPA, there appears to have been no analysis of actual product costs, projected cost increases employing special technology, or of market availability. Those issues remain a concern.

Finally, we disagree with EPA's characterization of providing the limited allowance we are recommending as an "exemption" which it is not, and which we are not recommending. We also disagree with the Agency's assertion that this would open the door for specialty products to seek special treatment. Again, that is a mischaracterization of the intent of including a high altitude provision. A precedent has already been set by the proposed continued inclusion of the U-factor trade-off allowance for windows in the Northern Zone. We therefore urge EPA's reconsideration of this matter for inclusion in Draft 2.

Impact Resistant Products

As with a limited allowance for higher altitude products and for the same fundamental reasons, we maintain that there should also be a limited U-factor allowance for impact resistant product in Version 6.0, at least in the Northern Zone because of the significant increases in U-factor stringency the agency is proposing. We believe this could be accomplished in the same manner as it could be for higher altitude products and likewise urge further consideration of this allowance for Draft 2.

Version 6.0 Timeline

After thorough reconsideration by our manufacturer members, above all we strongly urge that timeline for implementing the Version 6.0 criteria be extended with an effective date of January 1, 2015.

The time, financial and human resources necessary for a transition to new criteria including modifying production, qualifying and labeling new products, market assessments, modifications to marketing plans and materials, launching the new product lines, etc., are enormous. Such changes are challenging enough during good economic times, however during the unprecedented, extremely unhealthy economic conditions we are currently facing and expect to face for the foreseeable future, this transition is certain to be the most challenging ever encountered by the fenestration industry. This will be especially true for products in the Northern Zone based on the criteria changes that are currently under consideration, and even more true for all products in general because of new criteria such as air-infiltration and installation instructions that are being added to Version 6.0. Making certain industry has adequate time to prepare is essential.

Furthermore, while manufacturers can take preliminary steps in anticipation of expected program changes, most of the real work that is necessary to make the transition cannot begin until program revisions are finalized and released to program partners. A lead time of approximately 24 months from the time new requirements are finalized until they become effective is critical to a manufacturer's ability to effectively and smoothly plan for, produce, and market the new products. The period during which criteria is still being revised such as now, even with proposed criteria changes that are not likely to change, should not be included in that 24 month period as EPA is currently doing. EPA should avoid making subjective determinations about how much lead time is appropriate for manufacturers. Under the current timeline for

finalizing the criteria by March of 2013, an effective date of January 1, 2015 would still be less lead time than desired but would better accommodate that need.

We also believe there are other substantial benefits to be gained by establishing an effective date of January 1, 2015. In particular, better alignment with established manufacturing cycles and with revisions to the International Energy Conservation Code (IECC).

General Comments

Dynamic Glazing

In follow-up to our comments submitted on the Framework document regarding dynamic glazing, we were disappointed to see no discussion of the product/s or the unique considerations necessary for qualifying these types of products in the Analysis Report other than a very brief mention of electrochromic insulated glazing under "Emerging Technologies". Citing our dynamic glazing comments submitted in response to the Framework document, we strongly urge EPA to work cooperatively with industry to develop suitable qualification criteria so that these products are appropriately recognized for the energy efficiency benefits they provide.

Conclusion

In conclusion, we greatly appreciate this opportunity to provide our comments. In addition, we would welcome the opportunity to discuss them further with you in person prior to the Agency's finalizing the Draft 2 Eligibility Criteria and Criteria and Analysis Report. I will be following up with you separately on that request.

In the meantime, please let me know if you have any questions on any the matters raised in our comments.

Sincerely,



Jeffrey T. Inks
Vice President, Code and Regulatory Affairs

cc: WDMA Exterior Products Code Committee
WDMA Regulatory Affairs Steering Committee