



CORPORATE OFFICES
9280 Dutton Drive
Twinsburg, Ohio 44087-1932
330-963-5401
Fax: 330-425-8741
www.gedusa.com

Timothy B. McGlinchy
Executive VP of Engineering

United States Environmental Protection Agency
ENERGY STAR for Windows, Doors and Skylights Program
1200 Pennsylvania Ave NW
Washington, DC 20460

November 15, 2011

Subject: Stakeholder Comments from GED Integrated Solutions on ENERGY STAR® for Windows Version 6.0

Dear EPA Agency:

GED Integrated Solutions would like to thank you for the opportunity to offer our input to the proposed improvements to the ENERGY STAR for Windows, Doors, and Skylights Program.

GED continues to be a collaborative partner with our window and door manufacturing customers, providing machinery, software and component product solutions to manufacture energy efficient and cost effective windows for residential applications.

Considerations for Changes to Section V - Product Criteria:

- Climate Zone (Northern) - Low-E coated glass will be required for Dual IG in order to achieve a U factor of 0.25 -0.27. If a dual IG solution is implemented vs. triple insulating glass units, this promotes the use of Low E on surface 2 and 4, potentially causing condensation issues on surface 4. We suggest setting up condensation resistance performance criteria of 55 or higher to resolve this issue. Today there are several commercially available products in the industry that give advanced warm edge thermal performance and high condensation resistance for manufacturing Insulating Glass (IG) units.
- It is feasible today to manufacture a low cost high performance window utilizing current industry technologies that result in thermal performance of a U-Factor of 0.2. Although we see that the proposed criteria has been advance to increase performance in the Northern Zone from 0.30 to a range of 0.25 to 0.27, we feel there is practical solution and opportunity to advance



CORPORATE OFFICES
9280 Dutton Drive
Twinsburg, Ohio 44087-1932
330-963-5401
Fax: 330-425-8741
www.gedusa.com

our countries energy savings by increasing this performance value to a U-Factor 0.20.

We feel our position is valid for the following reasons:

- Data provided by Drucker Research demonstrated that the ENERGY STAR market share is currently 81% for windows
- There are over 80,000 double-hung window products in the NFRC Certified Product Directory with U-Factor's less than or equal to 0.25. This is considerable when noting that current programs and codes do not require products to be better than 0.30 U-Factor.
- Currently the ENERGY STAR "Northern" climate zone includes the IECC climate zones 5, 6, 7, & 8; Which means the current "Northern" zone is significantly greater than 50% of the country;
- The "EPA is looking to establish criteria that recognize the highest-performing doubles and bring a greater number of triple pane windows into the mainstream".
- The EPA's research has demonstrated that, based on currently available products and technologies, a significant reduction in U-Value is feasible.
- Although triple pane windows are considered relatively uncommon today, GED has demonstrated they can be cost effective with the latest manufacturing machinery product and processes that has been developed recently, combined with optimized window geometry.
- Implementation of the proposed ENERGY STAR changes in the fall of 2013 is less than two years away; this is a reasonable time for the industry to adapt to these changes. We suggest more stringent criteria are implemented now due to the length of time, effort and cost it takes to reach industry implementation on new revisions.
- A window U-factor of 0.20 or below can be achieved with multiple non-proprietary practical technologies



CORPORATE OFFICES
9280 Dutton Drive
Twinsburg, Ohio 44087-1932
330-963-5401
Fax: 330-425-8741
www.gedusa.com

It is suggested that these points promote that a U-factor of 0.20 can be established for the ENERGY STAR “Northern” climate zone that comprises of IECC zones 6, 7 & 8. IECC zone 5 would become the ENERGY STAR “North-Central” zone and the current ENERGY STAR “North-Central” zone would be renamed the “Central” zone.

GED Integrated Solutions - Stakeholder Proposed Version 6.0 ENERGY STAR Criteria for Windows		
Climate Zone	Maximum U-Factor	Maximum SHGC
Northern (IECC 6-8)	0.20	Any
North-Central (IECC 5)	0.25	Any
Central (IECC 4)	0.28	0.35
South-Central (IECC 3)	0.32	0.25
Southern (IECC 1 & 2)	0.40	0.20

Air leakage must be ≤ 0.3 cfm/ft²

Thank you again for the opportunity to provide suggested improvements to the ENERGY STAR[®] for Windows Version 6.0.

Please contact me if you have any further questions.

Sincerely,

Timothy B. McGlinchy
Executive VP of Engineering
(330)487-5061