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From: David Paulus [mailto:dpaulus@wi.rr.com]

Sent: Thursday, October 09, 2008 7:35 PM

To: richard.karney@ee.doe.gov; Emily Zachery

Subject: Energy Star Revision Comments

Dear Mr. Karney and Ms. Zachery:

The proposed Energy Star revisions for windows and doors are well grounded from both an engineering and an economic viewpoint. The impact of the SHGC on annual energy performance in the northern climate is something that my company, WASCO Windows, has recognized for over a decade. Because we manufacture and install windows only for the Milwaukee and Fox River Valley markets in Wisconsin, we have always sought to offer high SHGC windows while retaining Energy Star-qualifying U-Factors. Combining a non-metallic spacer, a hard coat Low-E coating, 7/8" overall IG units with double strength glass and an argon gas fill has given our customers a window with very good energy performance without an excessive price. We are happy to say that all of our windows already meet the proposed 2009 criteria.

The Phase 2 criteria, although offering a great challenge to fulfill, represent a reasonable goal for improved energy performance. My initial calculations show that our casement and tilt & turn windows will need no major redesign to meet these standards, although 1" triple-pane glazing will be necessary.

WASCO's only concern with the Phase 2 criteria are double-hung windows ("vertical sliders"). As 95% of our window business is replacement windows, it is highly desirable to build a window that will fit into an existing 3.25" pocket. A 1" IG unit either leaves very little space for structure, or requires a frame to project outwards from the pocket, which diminishes glass area as the "working" part of the window now must fit inside the stops instead of the pocket. Nonetheless, we would discourage separate standards for either different window types or different applications.

WASCO would prefer to see air infiltration standards added, that would require testing and reporting to two decimal places (in units of cfm/ft<sup>2</sup>), with a maximum allowable of around 0.1 cfm/ft<sup>2</sup>.

WASCO would also like to the criteria to have an exception that allowed patio doors, whether sliding or swing, to use window standards rather than door standards. It seem strange to cap SHGC to 0.35 for fully glazed products in Climate Zone 5.

Best regards,

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