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Mukesh Rustagi
Director, Strategic Product Management
June 15, 2009

Chairman Mary Nichols
California Air Resources Board
1001 I Street
Sacramento, California 95814

Chairman Nichols,

We have reviewed the proposed regulation on Cool Cars and Reflective Glazing, as published by ARB on May 8, 2009 and would like to make the following comments:

Section 95603 a (1) and (2) – The regulation calls for windshields for 2012 MY and 2013 MY to have Tts less than or equal to 50%. We would once again like to point out that PGW is prepared to produce windshields that can meet performance levels of Tts less than 40% in this time period. We believe that by limiting the performance to the specified 50% or less Tts, ARB is sacrificing potential CO2 savings for the 2012 and 2013 Model Years. The CO2 reduction benefit of a windshield with Tts of 40% is twice that of a windshield with Tts of 50%, based on soak temperature data.

Section 95603 a (4) – The regulation calls for roofrites to have Tts less than or equal to 30%. PGW has a product that is currently commercial that surpasses this performance level even at a much higher visible transmittance than is typical in roof glazing. The technology used in this commercial product, when produced at a visible transmittance typical in the industry, would have a Tts less than 25%. Therefore, it is our recommendation that ARB use the same strategy as it did on the windshield and target a higher performance for the roofrites starting with the 2014 Model Year. We recommend a target Tts of 20% or less since that target is achievable with the same technology as will be used in the windshield for the 40% Tts. The impact of lowering Tts by an additional 10% would double the heat load reduction currently targeted by ARB for the roofrite.

Section 95603 a (5) – The regulation call for sidelites and backlites that meet a 70% visible light transmittance to have a 60% or less Tts when referenced to a thickness of 4.0 mm. It is our contention that higher levels of performance can be achieved with current and future technologies in both laminated and tempered constructions. Performance levels similar to the windshield can be met with all glazing in the vehicles. In addition to the solar benefit, changing the sidelites and backlites from tempered to laminated construction would also provide a reduction in weight as well as improvement in noise reduction. Laminated door glass can be as thin as 3.8mm. Laminated glass of 3.8mm thickness has a weight equivalent to 3.4mm tempered glass. Therefore, a vehicle that has average glass thickness greater than 3.4 mm thick glass would actually see a reduction in weight and therefore a fuel saving benefit independent of the solar performance. When combined with the solar performance, the CO2

reduction benefit is further enhanced. Although the cost to benefit ratio is the highest for the windshield, the sidelites and backlites are also cost-effective for the ultimate objective of reducing CO2. This opportunity is being abandoned by ARB and we strongly urge ARB to re-consider regulating the sidelites and backlites to higher levels of performance than the currently specified 60% Tts.

Section 95603 a (6) – The regulation calls for Tts of 40% or less for the sidelites and backlites that do not meet a 70% visible light transmittance. We would like to point out that the privacy glazing used in sidelites and backlites is the same as that used in roofrites. Since ARB is already willing to require Tts of 30% or less for the roofrite, we believe that at the minimum ARB should also require the same 30% or less Tts performance for the sidelites and backlites.

In conclusion, we believe the cost-effectiveness of the CO2 reduction from the use of glazing technology is far better than most alternatives. It is rare to have a technology that actually saves money for the consumer while also reducing CO2. The benefit of reducing the consumer cost of ownership, reduction of CO2, and the reduction of the national dependence on foreign oil make this one of the easiest implementation decisions for the environment.

We look forward to an aggressive implementation of the best technology to achieve the highest level of possible CO2 reduction.

Thank you.

Sincerely,

A handwritten signature in dark ink that reads "Mukesh Rustagi" followed by a slash and the letters "es".

Mukesh Rustagi
Director, Strategic Product Management
Pittsburgh Glass Works