

David Raney
09-6-4

California Air Resources Board

Rulemaking to Consider Adoption
Of
Proposed Cool Car Standards and Test Procedures
For
2012 and Subsequent Model Year Passenger Cars, Light-Duty Trucks and
Medium Duty Vehicles

Submitted
For Consideration
At
June 25-26, 2009 Board Hearing

Comments of American Honda Motor Company, Inc.

Good morning, Madame Chairman, and Ladies and Gentlemen of the Board. My name is David Raney and I am the Senior Manager of Environmental and Energy Affairs for American Honda Motor Company, Inc., based at our corporate headquarters in Torrance, California. I am speaking on behalf of my company today but most importantly on behalf of our research and development engineers at Honda R&D and our production facilities both here and in Japan that will need to respond to this regulation once finalized. I thank you for the opportunity to comment on this proposal today.

I wish to thank the Staff for the consideration it has given to Honda and the rest of the automotive sector including our suppliers as we have worked together on this matter during the past year. We all have a much better understanding of the technical feasibility of various pathways to reduce the thermal load on motor vehicle interiors, as well as the potential benefit of these technologies. The Staff's responses to industry's comments and its realistic concerns are much appreciated.

One point of concern we believe is imperative for the Board to consider is that the most stringent component of this regulation, the requirement for front windscreens to meet a performance level of $T_{ts} < 40\%$ on 100 percent of our models in 2014 is simply not supportable at this point in time. Significantly, this performance level has not been confirmed by our R&D teams or in our understanding the engineers at any other major OEM. Fundamentally, it is

strongly supported by a single glass supplier with some added support by one other, who both have a tremendous amount to gain, and little to lose, by bringing to the Staff and Board their abundant optimism about their prototype product. OEMs are the primary stakeholders and respondents to this regulation, not glass suppliers. We ask that you bear this in mind when considering this proposal. Honda, nor any other OEM, can base future production plan on the claims of a single supplier.

We also ask the Board to consider the issue of lead-time needed by our engineers to respond to this regulation once finalized. This regulatory process has been somewhat arduous in that we are now on our fifth iteration of what was originally proposed last year subsequent to the decision to pursue the Cool Car Standard. This has presented a challenge to our research and development teams as they have tried to consider a moving target. We are at a point now in the consideration of the proposal where we must consider the following critical issues:

1. Technical capability of windscreen glass that can meet the proposed standard of:
 - a. $T_{ts} \leq 50\%$
 - b. $T_{ts} \leq 40\%$
2. Production capability of our suppliers to provide this glass for all models on a timely basis
3. Impact of new glass installation on all electronic components in our vehicles, both OEM installed and accessories, and subsequent elimination of any impact on customer convenience or satisfaction
4. The challenge of responding to a technology mandate as opposed to a performance-based standard with flexibility to respond as we effectively know how

Honda wants to clarify the following position we have on the current proposal relative to these primary issues, accordingly.

Best Approach to a Cool Car Standard

The best and most reasonable and effective approach would target a reduction of GHG emissions by pursuing a systems approach with the intent of reducing auto

air conditioning system work load during real world vehicle operation by implementing a performance based evaluation and test method.

Industry and ARB, in a collaborative way, should pursue development of a technically reasonable nationwide performance evaluation method. During that process of test procedure development, we would support a near term (2012-2015) approach of application of glass at a performance level of Tts < 60% on the front windscreen and all other glass including side and rear windows and the sunroof. We would also offer this on a nationwide basis.

If this is not chosen, we ask that the following be considered as a best case scenario which we could support for the near term.

Technical Capability of Windscreen Glass

It is our understanding that only two major suppliers of windscreen glass have professed to have the technical capability of meeting the proposed standard of Tts \leq 40%, although there is no glass that will achieve this level of performance in mass production in any part of the world. One of these glass manufacturers, PGW, Inc., a former division of PPG, is a current supplier to Honda but it is not our sole supplier. Our other two principal glass suppliers, are well aware of the content of this regulatory proposal and have met with Staff, but have confirmed to us that they have no certainty that they can produce glass to meet this level of performance.

We face two critical issues relative to this proposed regulation and our suppliers:

1. the absence of demonstrated technical capability of multiple suppliers to produce glass that can achieve Tts \leq 40% in production; and,
2. production capacity at each of those suppliers to meet 100% of our production demands.

The first issue is one of technical feasibility and the second is more related to risk management. We cannot support the proposal for Tts \leq 40% if we do not have confidence that at least two of our suppliers can each meet 100% of our production demand. That confidence does not exist today.

What We Do Support

Honda **does believe** that technical feasibility exists to comply with the proposed standard of Tts \leq 50%. Technology has been demonstrated for this glass accordingly and our suppliers have indicated the feasibility of meeting this requirement, as long as adequate lead time is given to ramp up production in line with our internal development and full model change plans.

Fundamentally, we support performance based standards that provide us flexibility to meet this requirement as our engineers deem most effective in terms of cost and total environmental benefit.

Production Capability of Our Glass Suppliers

Honda places considerable reliance on the technical performance and development of front windscreen glass on its multiple suppliers. We currently have three primary suppliers and always to seek other suppliers in the effort to continually enhance our quality, weight reduction with the intent of improved fuel efficiency, overall performance, and durability. We strive to maintain supply relationships from at least two suppliers to reduce the risk of supply disruption to our factories in the event of unforeseen and unpredictable events. We cannot rely solely on a single supplier to meet our needs.

PGW, Inc. as indicated above, is currently a Honda supplier, but as indicated earlier they are the only supplier that has stated that they have prototype technology that can meet $Tts \leq 40\%$. None of our other suppliers have indicated they can meet this performance criteria. We do not know when or if our other suppliers can develop this technology and make subsequent commitments to us relative to mass production capability. Therefore, we cannot commit to or support the proposed standard of $Tts \leq 40\%$ due to our concerns about meeting all of our production needs.

We do believe that we can introduce windscreen glass that complies with the $Tts \leq 50\%$ level, provided we are given enough lead time to do so. We cannot comply with the current proposal put forth by staff due to insufficient lead time. We have met with Staff and proposed the following alternative compliance strategy for phasing-in glass of this performance level:

Model Year	2012	2013	2014	2015	2016
% of Sales	20%	40%	60%	80%	100%

This alternative proposal is submitted and needed due to the principal nature of our development process. Fundamentally, this is driven by several factors associated with meeting the requirements of his new regulation:

- Evaluation of prototype glass meeting $Tts \leq 50\%$ and $Tts \leq 40\%$ on each near term model (1-3 months)
- Evaluation of the impact of this glass on electronic systems and components (6-8 months)

- Determining the need for modification to these systems or relocation of sensors (2-4 months)
- Relocation or redesign of systems or sensors and retesting (8-12 months)
- Production signoff (4-6 months)

This process must be followed for each model we make and it will take place in accordance with the scheduled model change for each model. Our models typically have five year model cycles so obviously, our full model change program is staggered. This is why the percentage phase-in schedule outlined above is needed.

We have approximately 30 electrical components and systems that are currently installed in our vehicles that need complete reevaluation in vehicles with the new glass installed. These systems include the Global Positioning System, mobile phone and hands-free Bluetooth systems, and keyless entry systems. If problems are encountered during this evaluation, relocation of sensors and wiring harnesses and redesign in many cases may be required. Each of these processes of evaluation can take minimum of 24 months for each model.

Honda has over twenty (20) models in production or under development in the 2010 – 2017 model year timeframe. Seven of these models are high production models and are in production with no full model change planned until model year 2016 or are under development with full model change planned in model year 2012. We have no opportunity to make windscreen changes or develop for this on any of these models. Therefore, 100 percent compliance of our sales with $Tts \leq 50\%$ is impossible for 2013 model year as proposed. As indicated earlier, the staggered nature of our development timeframe and limited engineering resources is the fundamental basis for our request for the extended phase-in period. We simply do not have sufficient engineering resources to redevelop all models at one time which is what is required by this proposal. This is the primary reason Honda and all other OEMs stagger model launches and development programs. It is fundamental to the way we run our business.

Impact of New Glass on Electrical Systems and Components

As expressed above, there are 30 electrical systems and components that may be affected by this proposal. We know they may be affected but cannot comment on how much or if they will definitely be affected. We cannot firmly commit to or support this regulation with any certainty of phase-in schedule until we have evaluated all of our products for this possible impact. The deletion glass provision included in the proposal does not satisfy or negate our concerns for the majority of these systems and components.

At the forefront of our concern is the potential negative impact on customer convenience or satisfaction. Following are some highlights of our concerns relative to just 3 of these 30 systems and components.

Electrical System	Concern	Estimated Resolution	Model Penetration
GPS	Loss of satellite signal results in ineffective mapping	Relocation of wire harness and signal sensor	18% OEM. Also offer accessory GPS system
Keyless Entry	Existing signals from keyfob unit ineffective rendering system inoperative	Redesign keyfob and interior receiver	97%

In summary, evaluating the impact of new windscreen glass on each of these 30 systems and components can take 6-8 months following finalization of this regulation. Responding to a need for redesign of these components and systems, can take a minimum of 24 months.

Summary

- We support a nationwide GHG performance standard that includes AC work load factor which should be the real goal of any cool car standard. Until then, $Tts \leq 60\%$ for all glass from 2012-2015MY is the preferred approach.
- $Tts \leq 40\%$ has **NOT** been demonstrated as technically feasible by a sufficient number of suppliers, therefore, it cannot be supported at this time.
- Honda, and most likely all of the OEMs, cannot and will not risk reliance on a single supplier of windscreen glass. Absent commitment from multiple suppliers (at least 2) that $Tts \leq 40\%$ is feasible technically and mass production, a proposal to require this glass cannot be supported.
- Honda thinks the staff proposal to require $Tts \leq 50\%$ glass on the windscreen is technically feasible if it is provided adequate lead-time. We support a phase-in of 20% / 40% / 60% / 80% / 100% of sales starting in 2012 and ending with the 2016 model year. This is the best case scenario.
- Honda would consider implementation of the $Tts \leq 50\%$ windscreen glass on our products in all 50 states, pending consideration of cost and other future emission standards.

Thank you for consideration of all of our comments today.