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Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: ***Comments in Opposition to the Adoption of Cool Car Standards And Test Procedures – 2012 And Subsequent Model-Year Passenger Cars, Light-Duty Trucks, And Medium-Duty Vehicles; Title 16, Subarticle 9 Submitted on behalf of Garmin International, Inc.***

Dear Board Members:

I apologize for our late submission. This matter just came to our client's attention on June 22. However, the issue has huge implications for consumer safety that were not addressed by the staff report and need to be raised to your attention. We are asking at a minimum that your action be postponed to your next regular meeting for us to bring you data that is necessary for you to consider before you will result in automobile window glazing that will interfere with GPS devices and negatively impact the safety of the driving public. Staff has failed to consider reasonable alternatives to the glazing proposal. The issues that need to be addressed and for which we can bring you further data are:

A. Consumer Safety -- Most GPS devices will be negatively affected. GPS systems are used by consumers, law enforcement, ambulance services, fire departments, taxies and rental car agencies among others. The inability to use such devices is expected to have a significant effect on driver safety. It has taken significant technology advances to improve GPS devices so that they track predictably and reliably for these users. Any attenuation causes significant delays in receiving a signal and may cause the devices not work at all in some areas. This affects at least:

- GPS devices
- Cell phones
- Toll booth/EZ pass
- Ford Sync
- On-Star (perhaps)
- E911
- BlueTooth for hands-free phone
- WiFi
- Portable XM/ Sirius devices (perhaps)

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*Strategic Alliance
Tokyo-Office/Strategic Alliance

B. Deletion Window Mitigation -- The record of the rule-making proceeding contains no evidence of any testing and verifiable results to demonstrate that the deletion window will work to mitigate the negative effects of the window glazing on the instruments listed above.

- The record contains no evidence to demonstrate that required testing/study has been completed to verify which consumer products will be affected, nor the extent to which they will be affected by the glazing. Has any testing been done to determine the signal ability with the coated glass in a scenario where a consumer, law enforcement, and ambulance, etc. needs the ability to use a GPS or cell phone device in an urgent situation? We found none in the record. Deletion windows in the regulations would allow up to 30% of the windshield to be deleted from the glazing, but there is no known metric today to ensure that consumer electronics will work adequately with the deletion window. What testing was done? What were the results? What was the delayed response time in identifying the signal? The experience of Garmin engineering, in thousands of hours of product testing in a variety of circumstances, convince them that the adverse effects will be significant. Certainly, nothing in the record of the rule-making proceeding demonstrates with substantial evidence that a deletion window restricted to 30% of the windshield supports the conclusion that "staff does not believe that electromagnetic attenuation will be a problem." We strongly disagree. It will be a problem. It will be a big problem.
- Where is the location of the deletion window? On January 1, 2009, the GPS Windshield Safety Act became effective. It permitted the mounting of portable GPS units in specific areas of vehicle windshields. Windshield mounting was previously illegal in California. The new law specifies the GPS must be mounted within "a 7-inch square area in the lower corner of the windshield farthest removed from the driver (the passenger side) or in a 5-inch square area in the lower corner of the windshield nearest to the driver (the lower left corner of the windshield)." That means the most common and useful front-and-center GPS windshield mount is not allowed – and likely would mean the deletion window would NOT assist consumers in placing the unit in an area to receive signal because under this law they are prohibited from placing the unit in the top center portion of the windshield.
- Has anyone mounted a GPS device in the deletion window to determine whether it could contact the full number of satellites required in order to get accurate GPS positioning?
- Garmin has performed internal testing and found that these coatings can reduce the GPS signal up to 18 dB. This is a significant number causing signal delays of 15 minutes or more and if a vehicle is moving, causing the signal never to catch up. Garmin also knows that most GPS receivers now do not include external antenna capability due to cost and complexity in

hook up, causing performance issues. So even though an external receiver may be available for the consumer to purchase, the unit the consumer has doesn't have the capability to utilize it.

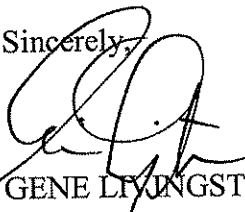
C. Alternative Coating Options -- The record contains no evidence to demonstrate that staff has done research to identify alternative coatings that do not interrupt consumer electronic signals. None are cited. Therefore, staff has not established that the current regulations are the best alternative to accomplish the desired results of less fuel use.

- Nothing in the record demonstrates that no coating can be designed to block the IR and UV frequencies that are responsible for the heat problem in the vehicle and not block RF frequencies used by useful technologies like GPS, cell phones, etc. It may be that the staff's suggested materials are "easy" to produce today, and that may be why they have been suggested. However, staff is obligated to demonstrate that additional research will not produce a better material coating that blocks only the frequencies that matter for solar gain and do not adversely affect the operation of valuable systems used in vehicles that serve to provide increased safety to drivers and passengers.

D. Fuel Savings May Not be Realized--The fuel savings realized from using GPS services such as traffic data to avoid traffic jams, direct route navigation avoiding extra driving, avoiding wrong turns, and from better fuel economy via ecoRoute is at least comparable to the fuel savings realized from coatings. The effect of the regulation could be to reduce the effectiveness and use of such devices with no reduction in fuel use and no reduction in greenhouse gas emissions. The best results would be realized from an effective coating that did not interfere in the effectiveness of the safety devices listed in A.

E. Conclusion--Garmin urges you to delay action on this proposed regulation until staff can explore with the Garmin engineers the adverse consequences of this proposed rule and can pursue a more effective alternative.

Sincerely,



GENE LIVINGSTON